the Betuwelijn
or the failure of democracy as we know it?

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Foreword

This thesis is the result of a research done at the Economics faculty of George Mason University in Fairfax Virginia. I, therefore, thank this faculty for its hospitality. Thanks to Professor Buchanan for letting me attending his seminar and thanks to Professor Boettke and Professor Tullock for their teachings on Austrian and Public Choice Economics. I thank also my supervisors – Professor Groenewegen, Dr. Correlje and Dr. Koppenjan from the Technical University of Delft for their useful criticism. But most notably, I want to thank Dr. Rustici, who supervised me at George Mason University; with his knowledge and enthusiasm, he motivated me to learn Economics.

During the process of doing research for my thesis I became more aware of the detrimental effects political decision-making can have on the long term enjoyed wealth and liberty. Insights that thus not only apply to the subject matter of this thesis – mega project budget overruns – but also to the current economic crisis which is followed by growing demands for protectionism, a surge in state spending, nationalisations of banks and scapegoating of ‘wicked’ capitalists. Hereby I want to remember the wise words of the first American president George Washington: “Government is not reason, it is not eloquence, it is force; like fire, a dangerous servant and a fearful master”.
Summary

The Netherlands have witnessed budget overruns in two mega projects that have been developed during the last two decades: the HSL-zuid and the Betuwelijn. Already during the implementation of these transportation infrastructure projects, costs have raised more than twice compared to their original estimation made at the moment the decision was made to build the projects. These budget overruns are not a phenomenon that has occurred only in the Netherlands; Flyvbjerg and his research team studied 258 transportation infrastructure projects in 20 nations across five continents with comparable data on construction cost development and concluded that budget overruns happened in almost nine of the ten mega projects. A salient characteristic of the phenomenon of mega project budget overruns is that most of the projects, just like the Betuwelijn and the HSL – Zuid, were publicly financed.

Flyvbjerg and his research team, next to the commission Duivesteijn (specifically for the Betuwelijn and HSL-Zuid), and other researchers have come up with a number of rivaling theories to explain these consistent budget overruns in mega projects; (1) the ‘project- and (2) the process management’ explanations, (3) the ‘psychological’ explanation, (4) the ‘parliamentary’ explanation and (5) the ‘lack of institutional accountability’ explanation. Based on the characteristics of the data of Flyvbjerg et al a number of explanations could already be disregarded, namely (1), (2) and (3). A number of theories could be put forward that are also expected to be able to explain the data in a unique way, namely Public Choice Theory (PCT), Austrian Economic Theory (AET), New Institutional Economics (NIE) and Old Institutional Economics (OIE).

The goal of this thesis is to determine which of those theories is best able to predict mega projects budget overruns. The choice for prediction as criterion and the determination of just one theory which is supposed to be best is done on instrumentalist grounds; the best theory must be able to be used for the design of policy recommendation to minimalize the chance of budget overruns from occurring in the Netherlands.

Based on methodological grounds and based upon the statistical data from Flyvbjerg and his research team NIE and OIE could already be disregarded before further testing. The remaining theories (four remaining rivalling theories at this point) are tested with respect to the case of the Betuwelijn and to further empirical data collected within this thesis.

The ‘lack of institutional mechanisms that enforce accountability’ explanation stresses that there are three main institutional deficiencies with the way mega projects are usually designed: (1) Under-involvement of the general public and of other stakeholder groups concerned by outcomes and the over-involvement of business lobby groups, (2) lack of identification of public interest objectives to be met by projects and (3) lack of clearly defined roles for government and involved parties.

The ‘parliamentary’ explanation claims that there are structural causes that hinder the Dutch parliament to fulfil their role as a check on the government concerning mega projects.
Public choice theory (PCT) explains in the following way; based on the logic of collective action it follows that only a small group of business actors, involved in the transport business, gets a significant influence on decision making in this sector of mega project development. Politicians use this demand revelation and the ability of these interest groups to shape public opinion in order to maximize their chance for (re)election. The translation of legislation, being the result of the previous process, into practice is the task of the bureaucracy. The bureaucracy, in its aim to maximize their budget and scope of authority, will try to maximize the chance of getting projects, which are under their jurisdiction, realized with a big as possible budget. This means that all the actors that are involved in the development of mega projects—interest groups, politicians and bureaucrats—have no direct rational self-interest in seeing that a mega project does not budget overrun thus limiting the chance of a mega project getting realized within budget. The AE perspective, as a theoretical possible explanation is also further elaborated upon in this thesis. However, this perspective is left aside later on since the empirical content is too little to form firm conclusions upon it. This does not mean that the Austrian perspective is not a viable alternative to account for the phenomenon of mega project budget overruns.

The PCT is tested, at this point in the thesis, with respect to the empirical material of the Betuwelijn and more general material with respect to the difference between public and private project performance and data concerning economic growth in several countries. PCT predicts the events that happened with respect to the Betuwelijn well; only a small number of business actors, of which ‘Nederland Distributie Land’ is the most important, dominates the decision making process by being very influential. Other interest groups also tried to influence the political process but were less successful because of their relatively late appearance in the public arena and their less influential institutional positions. During several governmental periods, the governing coalition parties used the demand revelation by these interest groups to shape their transport policies such that these matched this demand. At first, a Betuwelijn with minimal mitigating measures was proposed and later on—as other interest groups were active such as the environmental groups—the design of the Betuwelijn included measures to curb environmental impact on nature and local inhabitants. The bureaucracies—most notably the NS (Dutch railway provider) and the Ministry of Transport and Public Works (MTPW)—tried to maximize the chance of the Betuwelijn getting realized by means of biasing their research into expected positive effects of the Betuwelijn among other strategies.

The ‘parliamentary’ explanation fails with respect to designing a new framework to curb the problem of mega project overruns most notably because its success hinges on the assumption that members of parliament act in a ‘dualistic’ way; i.e. act as if they were not members of a political party but independent in accordance with the public interest. In reality, however, parliamentary members act as being a part of a political party and act in accordance to the interests of that party.

The ‘lack of institutional mechanisms to enforce accountability’ explanation predicts that the chance of mega project budget overruns would be significantly reduced by (1) improving the transparency of the decision making process by making all documents and other information available to the public and by inviting stakeholder and civil society groups at an early stage within that process,
(2) specifying performance indicators up front and by deriving them from public policy objectives and public interest requirements, (3) expliciting the regulatory regime before project appraisal and development and by (4) involving risk capital such that the project at least partly depends on private financiers. This explanation fails to take into account that it is not rational for the general public to get involved in a mega project decision-making process. It is only rational for small groups of actors or groups of actors that receive an outside incentive to get involved. With respect to the second recommendation and the third, it is claimed that public interest and public policy objectives must enter in pre set performance specifications and regulatory regime. However, politicians and bureaucrats have no rational self-interest in seeing that a mega project meets ‘public interest’ standards. Neither to formulate those, if this is at the detriment of maximizing their chance for re-election or maximizing the chance of getting the project realized. With respect to the fourth recommendation there is plenty reason to believe that involving risk capital, with respect to a part of the total financing of the project, would certainly not be enough to avoid Public Choice type problems that have been discussed just briefly hitherto.
# INDEX

<table>
<thead>
<tr>
<th>1. Problem Specification: Mega Project Budget Overruns; Their Effects and Explanations</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Introduction: The Dutch Mega Project Budget Overruns and their general effects</td>
<td>11</td>
</tr>
<tr>
<td>1.2 Mega project budget overruns in other parts of the world</td>
<td>13</td>
</tr>
<tr>
<td>1.3 Explanations and solutions for mega project budget overruns: A literature review</td>
<td>16</td>
</tr>
<tr>
<td>1.3.1 Technical Explanation: Project management not adequately developed</td>
<td>16</td>
</tr>
<tr>
<td>1.3.2 Technical explanation; the lack of process management in mega project development</td>
<td>17</td>
</tr>
<tr>
<td>1.3.3 Psychological Explanations</td>
<td>18</td>
</tr>
<tr>
<td>1.3.4 The role of the parliament as check on the government</td>
<td>19</td>
</tr>
<tr>
<td>1.3.5 Lack of institutional mechanism that promote accountability</td>
<td>20</td>
</tr>
<tr>
<td>1.4 Evaluation of explanations and proposed recommendations</td>
<td>22</td>
</tr>
<tr>
<td>1.4.1 Evaluation of the technical explanations: inadequate project and process management</td>
<td>22</td>
</tr>
<tr>
<td>1.4.2 Evaluation of psychological explanation</td>
<td>23</td>
</tr>
<tr>
<td>1.4.3 Evaluation of the parliamentary explanation</td>
<td>23</td>
</tr>
<tr>
<td>1.4.4 Evaluation of the improvement of institutional mechanisms</td>
<td>24</td>
</tr>
<tr>
<td>1.5 Alternative explanations: PCT, the AEP, OIE and NIE</td>
<td>25</td>
</tr>
<tr>
<td>1.5.1 Public Choice Theory (PCT)</td>
<td>26</td>
</tr>
<tr>
<td>1.5.2 The Austrian Economic Perspective</td>
<td>26</td>
</tr>
<tr>
<td>1.5.3 The New Institutional Economic Approach</td>
<td>27</td>
</tr>
<tr>
<td>1.5.4 The Old Institutional Economic approach</td>
<td>28</td>
</tr>
<tr>
<td>1.5.5 Choice of alternative Theories; a tentative conclusion</td>
<td>30</td>
</tr>
<tr>
<td>1.6 Research questions and research strategies</td>
<td>30</td>
</tr>
<tr>
<td>1.6.1 The formulation of the sub-questions and research strategies</td>
<td>31</td>
</tr>
<tr>
<td>1.6.2 Methodological considerations concerning the case study of the Betuwelijn</td>
<td>34</td>
</tr>
<tr>
<td>1.7 Conclusion and the structure of the report</td>
<td>34</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Methodology of Science: Testing a Theory</th>
<th>36</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Introduction</td>
<td>36</td>
</tr>
<tr>
<td>2.2 Logical positivism; introduction</td>
<td>37</td>
</tr>
<tr>
<td>2.2.1 Criteria of demarcation: what is scientific and what is not according to the logical positivists</td>
<td>37</td>
</tr>
<tr>
<td>2.2.2 The role and function of theory according to the logical empiricists</td>
<td>38</td>
</tr>
<tr>
<td>2.3 Logical empiricism; introduction</td>
<td>38</td>
</tr>
<tr>
<td>2.3.1 Demarcation principles of the logical empiricists: what is scientific and what is not?</td>
<td>39</td>
</tr>
<tr>
<td>2.3.2 The status and role of theories and theoretical terms</td>
<td>39</td>
</tr>
</tbody>
</table>
2.3.3 Function of theories: prediction or explanation or both?

2.4 The Induction problem and Popperianism
2.4.1 Problems with induction and confirmation
2.4.2 Popper’s falsifiability as demarcation criterion
2.4.3 The role of theories and their truth value

2.5 The realist – Instrumentalist debate
2.5.1 The role of theories and successfulness as demarcation criterion
2.5.2 Criteria for choosing among theories / hypotheses
2.5.3 The degree of descriptive realism of the assumptions underlying a theory
2.5.4 The role of assumptions in theory choice
2.5.5 Concluding the instrumentalist – realist debate

2.6 Complementarity, Rivalry and Ockham’s razor

2.7 Narrowing down the number of alternative theories

2.8 Conclusion; philosophy of science criteria

3. Public Choice and Austrian Economic Theory: The Essence
3.1 Introduction; the essence of a theoretical framework
3.2 Introduction into Public Choice Theory
3.3 Conditions of applicability for Public Choice theory and its statistical laws
3.3.1 Requisite initial conditions for Public Choice Theory
3.3.2 Statistical laws concerning actor interactions in the political market place:
3.4 Introduction: Austrian Economic Perspective
3.5 Requisite initial conditions for the applicability of Austrian Theory and its statistical laws
3.6 Conclusions: The essence of PCT and the AES

4. Case study: The Betuwelijn; Developments in short
4.1 The first governmental period; the appearance of the Betuwelijn on the political agenda
4.2 The second governmental period; the beginning of local public resistance
4.3 The second governmental period; the local debate becomes a national public debate
4.4 The Dutch Cabinet takes their final position; the third governmental period

5. The Budget overrun of the Betuwelijn: The Public Choice View
5.1 Introduction
5.2 Actor behaviour in the political market place
5.2.1 Voters and expected voter behaviour
5.2.2 Politicians and political behaviour
The Betuwelijn, or the failure of democracy as we know it?

5.2.3 Bureaucracies and the behaviour of the bureaucrat

5.3 The interaction between voters / voter groups
5.3.1 Collective action
5.3.1.1 Reasons to form organizations
5.3.1.2 Large common interest groups and the possibility of collective action
5.3.1.3 Small groups and collective action
5.3.1.4 Other factors affecting collective action
5.3.1.5 A Hypothesis of collective action concerning mega project development in the Netherlands

5.3.2 The case of the Betuwelijn and the logic of collective action
5.3.2.1 Identification of the common interest groups that are expected to involved
5.3.2.2 Collective action during the first governmental period; the agenda setting phase
5.3.2.3 The second governmental period; the NS makes its plans public
5.3.2.4 The second and third governmental period; the local debate becomes a national public debate
5.3.2.5 Common interest groups that did not engage in collective action concerning the Betuwelijn

5.3.3 Conclusion; collective action and the case of the Betuwelijn

5.4. The interaction between politicians and voters
5.4.1 The Dutch Election process: from the elections to the governmental accord
5.4.1.1 The role of the ‘Tweede Kamer’, ‘Eerste Kamer’, provinces and local government
5.4.1.2 The national elections: the ‘Tweede Kamer’ of ‘De Staten Generaal’
5.4.1.3 The provincial and local elections
5.4.1.4 The formation of the Dutch cabinet and formulation of the governmental accord
5.4.2 An Economic Theory of Democracy applied to the Dutch electoral system
5.4.2.1 The role of uncertainty in elections
5.4.2.2 The role of persuasion in the electoral process as a result of uncertainty
5.4.2.3 Other types of voters and types of persuaders
5.4.2.4 Government’s need for non government intermediaries
5.4.2.5 The necessity of acquiring information to influence government policy
5.4.2.6 The cost of communication
5.4.2.7 Why influencers are better informed than voters
5.4.3 Hypotheses on the interaction between the Dutch voter and politicians
5.4.4 The case of the Betuwelijn and the interaction between voters and politicians
5.4.4.1 Politicians representing the governing coalition and their defence of the Betuwelijn
5.4.4.2 Interest groups and favour buyers trying to influence public opinion concerning the Betuwelijn
5.4.4.3 The impact of communication cost and rivalling voter groups on the opinion impact
5.4.5 Conclusion; the interaction between politicians and voters

5.5 The interaction between politicians in the Netherlands; the parliamentary process
### 5.5.1 The relevant Dutch institutions concerning the interactions between politicians

- **The production of laws in the Netherlands: The legislative Process and involved actors**
- **Laws and procedures for the appraisal and development of mega projects**
- **An Economic Theory of Democracy applied to the Dutch parliamentary system**
- **Public choice theory: The role of governmental intermediaries**
- **Party Politics; a political party as a single rational actor?**

### 5.5.2 An Economic Theory of Democracy applied to the Dutch parliamentary system

- **Public choice theory: The role of governmental intermediaries**
- **Party Politics; a political party as a single rational actor?**

### 5.5.3 Hypotheses concerning the interaction between politicians in the case of the Betuwelijn

### 5.5.4 The case of the Betuwelijn and the interaction between the Dutch Politicians

- **Voting behaviour of political members of the coalition parties in the Netherlands**
- **Politicians as representatives of the popular will concerning the Betuwelijn**
- **Conclusions relevant tot the interaction of Dutch politicians concerning the Betuwelijn**

### 5.5.5 The case of the Betuwelijn and the interaction between the Dutch Politicians

- **Voting behaviour of political members of the coalition parties in the Netherlands**
- **Politicians as representatives of the popular will concerning the Betuwelijn**
- **Conclusions relevant tot the interaction of Dutch politicians concerning the Betuwelijn**

### 5.6 The interaction between bureaucrats and politicians and bureaucrats and voters

- **The relevant Dutch institutions concerning Bureaucratic behaviour**
- **The budgetary process in the Netherlands**
- **The committee system: political institution that oversees bureaucratic operations**
- **Public hearings: institutions concerning the interaction between voters and the bureaucracy**
- **Public choice theories concerning bureaucracy behaviour**
- **Bureaucratic dominance; the traditional view**
- **An alternative model of legislative choice**

### 5.6.3 Hypotheses on the interaction between bureaucracies, political actors and voter groups concerning the Betuwelijn.

### 5.6.4 The case of the Betuwelijn and bureaucratic behaviour

- **Shifts in policy proposals concerning the Betuwelijn**
- **Bureaucratic strategies to maximize the budget**
- **Conclusions concerning the bureaucratic behaviour**

### 5.7 Public Choice conclusions concerning the Betuwelijn

### 6. Theory Choice: rivalling theories put to the test

- **Introduction**
- **Rivalling theories put to the test**
  - **The parliamentary explanation**
  - **The lack of institutional arrangements that enforce accountability**
  - **The Public Choice explanation of mega project budget overruns**
- **Conclusion; theory choice**

### 7. Conclusion: The Failure of Democracy as we know it
## References

### IV. Appendices

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Forecasters talking about forecasting ‘mistakes’</td>
<td>176</td>
</tr>
<tr>
<td>B</td>
<td>Economic of Institutions’ four layer model</td>
<td>178</td>
</tr>
<tr>
<td>C</td>
<td>The conventional approach to project development</td>
<td>179</td>
</tr>
<tr>
<td>D</td>
<td>Contemporary Philosophy of Science critiques and models</td>
<td>181</td>
</tr>
<tr>
<td></td>
<td>D.1 Contemporary critiques on traditional positivism</td>
<td>181</td>
</tr>
<tr>
<td></td>
<td>D.2 Contemporary Philosophy of science; the growth of knowledge tradition</td>
<td>182</td>
</tr>
<tr>
<td></td>
<td>D.3 Kuhn; the Structure of scientific revolutions</td>
<td>183</td>
</tr>
<tr>
<td></td>
<td>D.4 Feyerabend’s anti-methodology</td>
<td>184</td>
</tr>
<tr>
<td></td>
<td>D.5 Imre Lakatos: the methodology of scientific research programs</td>
<td>185</td>
</tr>
<tr>
<td></td>
<td>D.6 Conclusion; the contemporary philosophy of science critique</td>
<td>186</td>
</tr>
<tr>
<td>E</td>
<td>‘Trace – MER (Milieu-Effect Rapport)’ procedure</td>
<td>187</td>
</tr>
<tr>
<td>F</td>
<td>‘PKB (Planologische Kernbeslissing) – procedure’</td>
<td>188</td>
</tr>
<tr>
<td>G</td>
<td>Performance comparison between private and public provision of goods</td>
<td>189</td>
</tr>
<tr>
<td>H</td>
<td>The budgetary Process of the Netherlands</td>
<td>195</td>
</tr>
<tr>
<td></td>
<td>H.1 The preliminary process; the creation of the budget</td>
<td>195</td>
</tr>
<tr>
<td></td>
<td>H.2 The parliamentary process concerning the national budget</td>
<td>197</td>
</tr>
<tr>
<td></td>
<td>H.3 The execution of the budget</td>
<td>197</td>
</tr>
<tr>
<td></td>
<td>H.4 Budget control and responsibility</td>
<td>198</td>
</tr>
<tr>
<td>I</td>
<td>The relation between Economic Freedom and Prosperity</td>
<td>199</td>
</tr>
<tr>
<td></td>
<td>I.1 Early studies inquiring into the relationship between economic freedom and prosperity</td>
<td>199</td>
</tr>
<tr>
<td></td>
<td>I.2 Surveys into the relation between economic freedom and prosperity</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>I.3 Competitiveness studies</td>
<td>202</td>
</tr>
<tr>
<td></td>
<td>I.4 Regression function linking freedom indicators and prosperity</td>
<td>203</td>
</tr>
</tbody>
</table>

## Abbreviations used

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>206</td>
</tr>
</tbody>
</table>
1. Problem Specification: Mega Project Budget Overruns; Their Effects and Explanations

“As projects grow bigger, the magnitude of budget overruns also increases. Some mega projects are becoming so large in relation to national economies that budget overruns may result in destabilization of the financial structure of a country” (Flyvbjerg, 2005, p.7)

This introductory chapter contains an analysis of the scope and magnitude of the problem of mega project budget overruns. After the introduction in which two budget overruns in the Netherlands are described, an analysis will be made of whether this problem is only apparent in the Netherlands or whether this phenomenon is also apparent in other parts of the world. A literature overview will be made with respect to what researchers see as the explanation and solutions for the problem of mega project budget overruns. Based on the previous analysis, a theoretical gap will be identified based on the literature overview and subsequently alternative explanations are put forward. The chapter finishes with the research questions, objectives, and a preliminary sketch of the research methodology and an overview of the structure of the report.

1.1 Introduction: The Dutch Mega Project Budget Overruns and their general effects

The Netherlands have witnessed budget overruns in two mega projects1 - very large investment projects - that have been developed during the last two decades: the ‘HSL-zuid’ and the ‘Betuwelijn’. Both projects, huge in their scope, were initially planned at around 2 billion Euros. However during the implementation of these projects in the last decade, costs have risen more than twice compared to their original estimation made at the moment of the decision to build the projects (see table 1.1).

<table>
<thead>
<tr>
<th></th>
<th>Initial estimation</th>
<th>Estimation in 2003</th>
<th>Percentage rise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Betuwelijn; estimated cost for completion (Euros)</td>
<td>2,335 billion</td>
<td>4,809 billion</td>
<td>106%</td>
</tr>
<tr>
<td>HSL-zuid; estimated cost for completion (Euros)</td>
<td>2,659 billion</td>
<td>5,943 billion</td>
<td>124%</td>
</tr>
</tbody>
</table>

Table 1.1: The ‘Betuwelijn’ and the ‘HSL-zuid’ budgeted costs in 2003, source: Commission Duivesteijn (CDa, 2004)

1 “Mega projects are very large investment projects. The US Federal Highway Administration defines mega projects as major infrastructure projects that cost more than US$1 billion. Some mega projects, like Boston’s Big Dig at $15 billion or the Channel tunnel between France and the UK at $10 billion, cost several times this minimum definition of a mega project. Other projects that cost less than $1 billion are sometimes also called mega projects; it depends on the context, because a, say, $500 million project in a medium-sized town may be considered ‘mega’, whereas this would not necessarily be the case for a similar-sized project in a major world city. ‘Mega’ also implies the size of the task involved in developing, planning, and managing projects of this magnitude” (Flyvbjerg, 2007). In this report we refer to this description when we discuss mega projects.
The importance of these mega projects was defended more than twenty years ago, by the alleged improvement they would bring to the Dutch economy (CDa, 2004). The Betuwelijn, for instance, is designed to connect the port of Rotterdam with the German industrial heart. The justification for the construction of Betuwelijn, from an economical perspective, originated from the ‘mainport’ concept in which logistics was dubbed an important economic sector for the Netherlands. In this mainport concept, Rotterdam and Schiphol International Airport, were recognized as vital hubs in international transport (CDa, 2004, p.17). The widespread idea was that concentrations of economic activity would further develop around the mainports. This concentration of economic activity involves transport, logistics, trade, but also industry and other services. To support the mainports in their function as vital hub, sufficient hinterland connections, such as rail, road and waterways, would be necessary. This idea is summarized thus in an important spatial planning document in 1988 (‘Vierde Nota Ruimtelijke Ordening’):

“Recent developments have shown that relatively fast growing economic centres in Europe are located more to the south then the traditional centres. That is an important starting point for policies that are focussed on strengthening Schiphol and Rotterdam as mainports….. In order to contain and improve the Dutch position, it is vitally important to improve the quality of the services and to keep the inland connections up to date and to the highest standards” (CDa, 2004, p.17)

The then current Dutch minister of Transport and Public Works (TPW), Carla Peijs, opened the first part of the Betuwelijn in July 2004. In 2007, the Betuwelijn was finally finished which marked the end of more then 15 years of debate, planning activities, research and construction. This railway connection has not been without controversy however; after the project was put on the political agenda in 1990, the project has survived much criticism. Many experts in the field have questioned the strategic importance and its economic viability and private companies did not seem to be interested in participating in the project. The Dutch government, however, whatever its composition, always managed to guide the project through the parliamentary decision making process (CDa, 2004, p.5). Now that the Betuwelijn has been completed, it becomes clear that the Betuwelijn is not going to be profitable to exploit. The Ministry of Transport and Public Works (MTPW) has to subsidise the exploitation of the railway for the next 5 years in order to have the exploitation break even. This will cost the MTPW around 30 million Euros each year (NRC, 14-12-2006).

The HSL-Zuid, the other mega project in the Netherlands that overran its budget, is a rail project designed to connect Amsterdam and several other Dutch cities with Brussels and Paris via a high-speed rail connection (HSL-Zuid, n.d). The economic justification for the construction of the HSL-Zuid originated from the idea to form a European network of high-speed rail connections. This idea was based on the successes the Japanese system of high-speed rail connections yielded. From the 1970s onwards, the strategic importance of Dutch participation in a European high-speed rail network was propagated for in several national and international policy reports. This alleged strategic importance was that the high-speed rail connection would compete with a large part of the intra-European flight
connections (CDb, 2004, p.15). The process of preparation, decision making and implementation of the HSL-Zuid took almost 25 years. Currently the Dutch part of that network, the HSL-Zuid, is nearing its completion. The period from 1984 onwards was a period of mixed feelings towards this project: Initially there was a lot of optimism towards this project but as time went by this enthusiasm fainted away. This is partly due to the turbulent preparation, decision-making and implementation processes. These processes were dominated by a very strict posture of all different Dutch governments that have worked on the ‘HSL-Zuid’ project. This strictness was apparent in the way all the governments that worked on the project, throughout the years, did not want to make any concessions on their preferred HSL-Zuid variant (CDb, 2004).

Despite all promises, the two Dutch mega projects did not live up to their expectations so far. In other words, many resources have been wasted with the construction of the Betuwelijn and the HSL-Zuid. Table 1.1 shows that the costs in both projects already overran their budget twice in 2003, even before their completion. Estimates that are more recent come up with even higher figures. These cost overruns should not be taken lightly. Flyvbjerg (2005, p.6) describes the general adverse effects mega project budget overruns can have:

- They lead to a pareto – inefficient allocation of resources, i.e., waste;
- They destabilize policy, planning, implementation, and operations of projects;
- The problem is getting bigger since projects are getting bigger.

The first point refers to the negative rate of return of large mega projects. This means that investments are not yielding enough benefits to break even; resources thus have been wasted that could have been invested on projects that might have yielded better returns. The destabilization effect of budget overruns refers to the reactions budget overruns meet in terms of political debate. The political discourse that arises because of the budget overruns can result in even further delays in the project’s implementation. Finally, as projects grow bigger, the magnitude of budget overruns also increases. Some mega projects are becoming so large in relation to national economies that budget overruns may result in destabilization of the financial structure of a country (Flyvbjerg, 2005, p.7).

1.2 Mega project budget overruns in other parts of the world

Mega projects are of course not only developed in the Netherlands; enormous sums of resources are being spent on mega projects across the globe. Given this fact, however, little systematic knowledge exists about the costs, benefits and risks involved concerning the development of mega projects (Flyvbjerg, Holm, and Buhl, 2005, p.131; Morris and Hough, 1987, p. 15). The essence of this knowledge gap, according to Flyvbjerg et al (2005, p.131), is that the literature lacks statistically valid answers to the central and self-evident question whether mega projects perform as forecasted. Flyvbjerg and his research team filled this information gap by conducting major studies in the

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4 The literature is not void of studies into mega project budget overruns. “Where such studies exists they are characteristically small N-research; that is single case studies or they cover a sample of projects too small or too uneven to allow systematic, statistical analyses” (Flyvbjerg et al., 2005, p.131). The study of Flyvbjerg et al thus allows a statistically backed answer on the question whether budget overruns are systemic or mere coincidence.
The Betuwelijn, or the failure of democracy as we know it?

His study includes a sample of 258 transportation infrastructure projects in 20 nations across five continents with comparable data on construction cost development (see figure 1.1 and table 1.2).

![Figure 1.1: Cost escalation (constant prices to the 1995 level) in 258 transport infrastructure projects (Flyvbjerg, Holm and Buhl, 2003, p. 78)](image)

<table>
<thead>
<tr>
<th>Type of project</th>
<th>Europe</th>
<th>North America</th>
<th>Other geographical areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of projects</td>
<td>Average cost escalation (%)</td>
<td>Average cost escalation (%)</td>
<td>Average cost escalation (%)</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>Number of projects</td>
<td>SD</td>
</tr>
<tr>
<td>Rail</td>
<td>34.2</td>
<td>25.1</td>
<td>19</td>
</tr>
<tr>
<td>Fixed links</td>
<td>43.4</td>
<td>52.0</td>
<td>18</td>
</tr>
<tr>
<td>Roads</td>
<td>22.4</td>
<td>24.9</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>25.7</td>
<td>28.7</td>
<td>61</td>
</tr>
</tbody>
</table>

Table 1.2: Geographical representation of project performance per category of project (Flyvbjerg, 2003, p.81)

The data cannot only be broken down in geographical categories (Table 1.2) both also in type of project (Rail, Fixed link and road projects; see Flyvbjerg et al, 2003, p.73). The dichotomy between public and privately financed projects, however, cannot be made within the sample since the overall majority of the mega projects are publicly financed. Flyvbjerg and his research team draws the following conclusions based upon the empirical work they have done (Flyvbjerg et al., 2003, p.78):

- Cost escalation happens in almost nine out of 10 projects. For a randomly selected project, the likelihood of actual costs being larger than the forecasted costs is 86%. The likelihood of actual costs being lower than or equal to forecast costs are 14%.
- Actual costs are on average 28% higher than forecasted costs.

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5 Most mega projects are large infrastructure projects
6 More detail on the statistical categories within the sample can be found in Flyvbjerg et al. (2003,p.77-77)
• The thesis that the error of overestimating costs is as common as the error of underestimating costs is significantly rejected. Forecast costs are biased and the bias is caused by systematic underestimation.

• The thesis that the numerical size of the error of underestimating costs is the same as the numerical size of the error of overestimating costs is rejected: Costs are not only underestimated much more often than they are overestimated or correct, costs that have been underestimated are also wrong by a substantially larger margin than costs that have been overestimated.

Flyvbjerg et al (2003, p.78) conclude that the error of underestimating costs\(^7\) is significantly much more common and much larger than the error of overestimating costs. Underestimation of the costs at the time of the decision to build a mega project is rather rule than exception for large transport infrastructure projects. Frequent and substantial cost escalation is the logical result. The large sample of projects studied contains projects from not only a lot of geographical areas but also from a large period of time, from 1920 until 1987. This allows for the analysis of mega project performance over time: “If project promoters, forecasters and decision makers learn from the past one might expect improvement\(^8\) in the performance of mega projects over time” (Flyvbjerg et al., 2003, p. 81). Figure 1.2 shows a plot of the year of decision to build against the percentage of cost escalation. The figure does not indicate any effect of time on the percentage of cost escalation; in other words, no learning seemed to have occurred. Statistical analyses support this conjecture: the thesis that the year of decision has an effect on cost escalation cannot be supported (P=0.22, F-test)\(^9\). It is very strange that apparently no learning is taking place in the sector of mega project development, especially if the amounts of resources that are spend to realize such projects are so large. We might expect that project promoters and forecasters are smart people and should be able to learn as other people do: “However, perhaps they have learnt everything there is to learn?” (Flyvbjerg, 2003, p.84)

\(^7\) Most of the research is based on replies to questionnaire. According to Flyvbjerg this is likely to create a conservative bias in the data. In other words the mega project cost overruns are arguably higher then the result of the study indicates: “A number of reasons can be given for this observation: (1) projects that are managed well with respect to data availability may also be better managed in other respects, resulting in better then average performance, (2) the very existence of data may contribute to the improved performance of the project,(3) managers of projects with bad track records are expected to have an incentive not making the data available; managers of projects of projects with a good track record have an incentive to do the opposite, (4) even if managers give data they have an incentive to give data that makes their project as favorable as possible and (5) differences in the representatively of different sub-samples may also result in non representative data” (Flyvbjerg et al, 2003, p. 76)

\(^8\) This may be measured by year of decision to build a project or by year of completion. The year of completing a project is historically more manifest than on year of decision to build. Data in the study of Flyvbjerg et al was available on the year of decision to build for only 111 of 258 projects in the sample, whereas data for year of completion were available fro 246 projects. According to Flyvbjerg et al. it is better to use year of decision to build rather than year of completion; the latter includes length of implementation phase which has influence on cost escalation, causing confounding (Flyvbjerg et al., 2003, p.82)

\(^9\) Several other tests have been carried out in which different categories have been used (e.g. rail, road etc). No statistical significant results were established (Flyvbjerg et al., 2003, p.83)
1.3 Explanations and solutions for mega project budget overruns: A literature review

The million-dollar question is of course; what causes the systemic bias in mega project cost overruns? This paragraph gives an overview of the explanations that are given in the current literature concerning the phenomenon of mega project budget overruns. Also, the different solutions that the different scholars propose are discussed. The explanations and proposed solutions fall into three main categories that will be addressed consecutively: (1) Technical explanations; (a) project management is not adequately developed, (b) process management is overlooked as a management tool in mega project development, (2) Psychological explanation, (3) Political – Economic explanations; (a) inadequate parliamentary control on government decision-making concerning mega projects and (b) lack of institutional mechanisms that promote accountability. Explanation 3(a) is taken from the research the Commission Duivesteijn did in 2004 regarding the two Dutch mega projects (see paragraph 1.1). Therefore, the explanations and solutions this commission put forward might only be relevant to the Dutch situation. This paragraph discusses all the explanations and the proposed solution that appear in the current literature.

1.3.1 Technical Explanation; project management not adequately developed

The principle task of project management is to accomplish a project to technical specification, in budget, on schedule. Morris and Hough (1987, p.20) among other authors wonder why despite all the thousands of papers, hundreds of books and years of discussion, project management is patently not performing adequately. Some authors suggest developing better forecasting and predicting models. Morris and Hough (1987), however, suggest that the very frequency of overruns across so many different economic sectors indicates that there must be other reasons as well. They indicate that analysis of the reasons quoted in the reports for the mega project budget overruns suggests that the causes for these overruns are generally to be found in areas that have traditionally not been the concern of project management. According to Morris and Hough, it would thus seem feasible that if we want to manage our projects better we must learn to manage these other factors more effectively.
Such factors include government or client induced changes, increased order quantities, increased safety requirements, interest charges, land acquisition charges and so on (Morris and Hough, 1987, p.20). Next to these factors that are internal to a project, Morris and Hough (1987, p.20) also claim that many budget overruns also happen because of circumstances 'external' to the project such as price escalation, government action, strikes, corporate decisions, or acts of God (a fact which according to Morris and Hough most of the research and teaching in project management seems to ignore).

1.3.2 Technical Explanation; lack of process management in mega project development

Project managers’ demands for better predictions and tools for control have put forward by many scientists. However, in the literature there has been a fundamental criticism to this focus on improving project management tools to curb the problem of mega project budget overruns (Veeneman, 2004, p.8). The criticism is focused on two aspects of mega project management. First, the ability to provide accurate predictions is challenged by some authors (Petroski, 1992; Dörner, 1997). Many situations in which mega projects are developed are unique, through the innovative technology, the size of its application, the environment in which it is applied, etc. The predictions, which are so crucial to project management, are based on the understanding of proven technology and the environment in which it has been applied over the years (Veeneman, 2004, p.9). Veeneman claims that the uniqueness of a project’s technology, institutional or physical environment can weaken predictability of mega projects. He goes on by claiming that it is hard enough to predict cost, time and tasks of a project in a stable but unique situation, let alone projects in an unstable situation. This assumed stability itself is thus a false assumption.

Second, management’s control in mega project development is difficult due to a number of reasons. Veeneman (2004, p.9) claims that the extreme specialisation of engineers in mega projects allows them to close of their habitat, thereby hampering control by managers and peer engineers. In addition, the phasing of procurement, allocation, and execution in mega project development creates a lock in. The choice for a specific contractor for instance is made based on his tender, and therefore the contractor is locked into the project. The main means of control according to Veeneman (2004, p.9), which is the choice for a specific contractor, has been made early in the decision making process.

Process management is less established in the literature on mega projects (Veeneman, 2004, p.9). The notion of process management was first developed for public decision-making, but according to Veeneman (2004, p.9) it also applies to mega projects. Process management starts from a different point than project management: “It incorporates that surprises will occur in projects. As a system is more complex10, development and construction will have to harness more for surprises and the predictions are necessarily less accurate. As predictions become more fallible, project management strategies loose their strength” (Veeneman, 2004, p.9). Process management, as opposed to project management, builds on the variety in perspectives and interests, but also builds on the variety of capacities that the various parties have. Process management tries to manage the interactions

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10 Complexity rises as interactions (functional and spatial, linear and feedback) proliferate and understanding of those interactions diminishes (through indirect or abundant information, overall lack or fragmentation of knowledge) (Veeneman, 2004, p.9)
between people to overcome the problems that might arise from unpredictability and the lack of control in projects (see also Law and Callon (1992) in Bruijn et al. (2002)). In addition, process management develops a framework to commit the actors involved to deal with the problems. So, as project management gives controlling as a strategy, process management gives connecting as a strategy, connecting people / actors to each other and to the project. From a process management perspective it is useful to build long-term connections of those involved to the project. The difference and focus of process management compared to project is summarized thus by Bruijn (2002): “While project management seeks clear and delimited task definitions to allow for control, process management seeks shared responsibilities and wider commitment, crossing the borders of the work breakdown structure”. Unsound predictions and strict control are here the main culprits in the project management perspective. In process management the main two are strategic behaviour and group think. According to Veeneman (2004) and Bruijn (2002), the process management approach can help to complement the project management approach and thereby improving the performance of mega projects.

Thus the technical explanations – the project and process management explanations - account for the problem in terms of imperfect forecasting techniques, inadequate data, honest mistakes, inherent problems predicting the future and exercising control in mega projects, lack of experience on the part of the forecasters, etc.

1.3.3 Psychological Explanations

Psychological explanations account for cost overruns and benefit shortfalls in terms of what psychologists call the planning fallacy and optimism bias. Such explanations have been developed by Kahneman and Tversky (1979), Kahneman and Lovallo (1993), and Lovallo and Kahneman (2003). In the grip of the planning fallacy, planners and project promoters make decisions based on delusional optimism rather than on a rational weighting of gains, losses, and probabilities. They overestimate benefits and underestimate costs. They involuntarily spin scenarios of success and overlook the potential for mistakes and miscalculations. As a result, planners and promoters pursue initiatives that are unlikely to come in on budget or on time, or to ever deliver the expected returns. Over optimism can be traced to cognitive biases, that is, errors in the way the mind processes information. These biases are thought to be ubiquitous, but their effects can be tempered by simple reality checks, thus reducing the odds that people and organizations will rush blindly into unprofitable investments of money and time. A tool that can be used to get forecasts right concerning mega projects is the so called ‘reference class forecasting method’ (Lovallo and Kahneman, 2003; Flyvbjerg, 2003).

Reference class forecasting consists in taking a so called “outside view” on the particular project being forecasted. The outside view is established based on information from a class of similar projects. The outside view does not try to forecast the specific uncertain events that will affect the particular project, but instead places the project in a statistical distribution of outcomes from this class of reference projects. The following steps have to be taken as planner within a mega project using the reference class-forecasting model to avoid the optimism bias (Flyvbjerg et al, 2003, p.17):

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11 Work breakdown structure: a tool to break down a complex project into simple demarcated tasks
1. Identification of relevant class of past projects. The class must be broad enough to be statistically meaningful and narrow enough to be comparable with the specific project the forecaster is making forecasts for.

2. Establishing a probability function for the selected reference class that is identified in the first step.

3. Comparing the specific project with the reference class distribution in order to establish the most likely outcome for the specific project.

According to the psychological explanation, this approach of reference class forecasting allows for a reality check in making forecasts, which could help reducing the problem of mega project budget overruns.

1.3.4 Political – Economic explanations; the role of the parliament as check on the government

The Dutch parliament assigned, in 2003, an independent commission — The commission Duivesteijn — to investigate the causes of the budget overruns of the Betuwelijn and the HSL-Zuid. The commission had the assignment to come up with a new decision making framework that would allow the Dutch parliament to prevent these kinds of mega project budget overruns from occurring. This framework should be able to allow the parliament to improve her role and ability to control the government during the decision-making procedures concerning mega projects (CDd, 2004, p3). The commission thus only focussed on parliamentary decision-making concerning mega project development in the Netherlands. The decision to do so was justified with the following line of argumentation:

“The commission made a decision to focus on parliamentary decision making only. Some people might have expected more — and the reconstructions of the ‘Betuwelijn’ and the ‘HSL-Zuid’ certainly allow for it — but the commission does not say anything about the how the government and the bureaucracy should manage large projects. This is not the main assignment of the commission, but it is also not — however there are lots of things that can and should be better —the core of the problem” (CDd, 2004, p3)

In the report, the commission Duivesteijn (CD) claimed that there are structural causes that hinder the parliament to fulfil their role as a check on the Dutch Government concerning mega projects (CDa-b, 2004, p3). As a result, three areas relating to decision-making procedures of large infrastructure need improvement to enhance the parliament’s possibility to perform the role as a check on government decision making process (CDd, 2004, p.22):

1. The possibilities of the parliament to direct decision making and the ability to control the policies of the government need to be aligned better with crucial decision-making stages concerning mega project decision making.

2. The quality of the information that the parliament receives needs to be more accurate, which allows the parliament to have a more realistic image of the current goals, risks and project progress.
3. The parliament’s ability to process information needs to be improved; the parliament needs better possibilities to judge the incoming information\textsuperscript{12}.

Changes in regulation and laws are unavoidable to accomplish these ends according to the CD. The implementation of those recommendations need changes in current regulation and laws, however, this should not be a big obstacle since the parliament has the formal powers to implement the changes that are proposed by the commission Duivesteijn.

1.3.5 Political – Economic explanations; lack of institutional mechanisms that promote accountability

The mega projects that have been analyzed (see paragraph 1.2) by Flyvbjerg et al were almost all appraised and developed according to one approach. Flyvbjerg et al (2003, p.86) call this approach: the conventional approach (see Appendix B for the steps in project development). The essence of this approach is that mega projects are typically financed with public money, or backed up by sovereign guarantee\textsuperscript{13}. Flyvbjerg et al (2003, p.91) argue that the conventional approach, which is used in most nations and contexts, are not the appropriate institutional framework for the appraisal and development of mega projects. According to Flyvbjerg et al an appropriate institutional framework, namely a framework that would provide for transparency and other checks and balances to enforce accountability, does not exist for the development, planning, implementation and operation of mega projects. Flyvbjerg et al (2003, p.91) identify three main institutional deficiencies with the conventional approach: (1) Under-involvement of the general public and of other stakeholder groups concerned by outcomes and the over-involvement of business lobby groups, (2) lack of identification of public interest objectives to be met by projects and (3) lack of clearly defined roles for government and involved parties.

Firstly, the conventional approach to decision-making of mega projects tends to be characterized by close interaction between the political and government establishment on the one side and private business on the other (Sorenson in Flyvbjerg, 2003, p.88). Citizens who are affected, other stakeholder groups who are concerned with the outcome of the process and the general public are not involved enough according to Flyvbjerg. This lack of public involvement, combined with the involvement of special-interest groups who stand to benefit from the mega project, increases the risk of capture of the decision making process by these special interests. Capture by special interest groups often results in feasibility studies that do not take into account the public interest since the special interests are dominant (Flyvbjerg, 2003, p.88).

Secondly, Flyvbjerg et al (2003, p. 89) argue that another problem with the conventional approach lies in its preoccupation with technical solutions. In mega projects, political parties, government administrations or various lobby groups often tend to promote or block specific technical solutions. Different involved actors will argue that for instance a bridge or a tunnel should be built, or vice versa. The pro and contra positions tend to be based on a very small number of aspects of the problem. Flyvbjerg et al (2003, p.89) argue that it is important to develop a planning process that is less

\textsuperscript{12} The commission’s precise recommendations can be found in: CDd, 2004, pp88-132.
\textsuperscript{13} Sovereign guarantee means that whatever cost overruns are going to occur, financial streams are secured through the public financial system to make up for those cost overruns.
concerned with the technical solutions and information about these. This planning process should have more focus in the early stages on the requirements concerning public interests such as the economic performance, environmental sustainability and safety of the mega project (Flyvbjerg et al, 2003, p.90). Flyvbjerg et al (2003, p.90) claim that it is not until consensus has been reached on these issues that it is meaningful to start identify the technical solutions that would be able to meet the requirements concerning the public interest.

Thirdly, Flyvbjerg et al (2003, p.90) raise the argument that in the conventional approach the roles of various parties to the mega development process are not clearly defined. In the conventional approach, the government is in charge of every step of the process. The government consequently plays a host of roles (both being promoter of the project and guardian of the public interest), according to Flyvbjerg et al (2003, p.90) some of them in essence are conflicting. Flyvbjerg et al (2003, p.90) raise the question whether government can act effectively as both promoter of a project, and the guardian of public interest issues such as the protection of the environment, safety and of the taxpayer against unnecessary financial risks. Their answer on this question is negative.

The lack of accountability in the appraisal and development of mega projects, caused by the three types of institutional deficiencies discussed in hitherto, is characterized by the absence of arrangements concerning: (1) measuring how objectives of a mega project are being met, and (2) rewarding good and penalising poor performance. Flyvbjerg et al (2003, p.123) propose four basic instruments of accountability to deal with the shortcomings in those institutional mechanisms and thus to enforce accountability: (1) Improved transparency of the decision making process, (2) performance specifications should be decided up front, (3) explicit formulation of regulatory regime should be done before the project appraisal and development and (4) risk capital should be involved.

With regard to improving transparency (1), Flyvbjerg et al suggest that the test of public scrutiny is the main means for enforcing accountability in the public sector. Flyvbjerg et al (2003, p.123) argue that all documents and other information concerning a mega project should be made available to the public. Stakeholder and civil society groups should be invited to participate from an early stage in feasibility studies and decision-making. Flyvbjerg et al also consider making independent peer reviews a part of every aspect of the project.

Furthermore, all performance requirements with respect to a project should be, as far as possible, decided up front (2), before considering various technical alternatives and before appraising the project (Flyvbjerg et al, 2003, p.123). Performance specifications should be derived from policy objectives and public interest requirements to be met by the project.

The regulatory regime 14 (3) should be set up as far up front as possible in order to force government to review carefully the issues under the heading and identify all the costs before any decisions are made.

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14 By regulatory regime Flyvbjerg et al mean: the economic rules regulating the construction and operations of a project, other economic rules with significant bearing on the financial and economic performance of the project, and the rules regulating the complementary investments which will be required in order to ensure a rational use of a project (Flyvbjerg, 2003, p.124)
And last, the decision to go ahead with project should according to Flyvbjerg et al, where at all possible, "be made contingent to the willingness of private financiers to participate without sovereign guarantee\(^{15}\) for at least one third of the total capital needs of a project". This would result in more realistic risk assessment and in a shift in risk from ordinary citizens to groups to groups (such as investment firms) which are better to protect themselves against risk. The pressure on the performance of the project would be higher as lenders and possible stockholders and stock market analysts would monitor the projects performance and projected forecasts in terms of profitability. Flyvbjerg et al argue that the involvement of risk capital does not mean that government gives up or reduces control of the project. What Flyvbjerg et al mean is that government can more effectively play the role it should be playing, namely as the ordinary citizen’s guarantor for ensuring public values such as safety, environment, economic viability and distribution of risks are met (Flyvbjerg et al., 2004, p.124).

1.4 Evaluation of explanations and proposed recommendations

Now that an overview is given of the explanations and cures that appear in the literature, concerning mega project the following question arises: How well does each of the five explanations of the problem of mega project budget overruns, which are mentioned in the last paragraph account for the data on cost overruns and benefit shortfalls presented in paragraph 1.2? Based on the data accumulated in Flyvbjerg’s et al study into mega project performance, three of the five explanations can be disregarded at this point in this report. The rest of the explanations will be used to identify the current theoretical gap.

1.4.1 Evaluation of the technical explanations: inadequate project and process management

Explanations regarding the lack of project management performance have gained widespread credence among forecasters and planners (Morris and Hough, 1987; Flyvbjerg, Holm, and Buhl, 2002, 2005). The process management explanation, however, is a more recent one (Veeneman, 2004; De Bruijn et al, 2002). According to Flyvbjerg et al, it turns out, that the project management explanation could mainly be upheld because until now samples have been too small to allow tests by statistical methods (Flyvbjerg et al., 2005, p.131). This same line of reasoning also applies to the process management approach. The data presented in paragraph 1.2, which come from the first large-sample study in the field, serve to reject the project / process management explanations of mega project budget overruns. Such explanations do not fit the data well. First, if budget overruns were truly caused by project management inadequacies, simple mistakes, and inherent problems with predicting the future and complexity of mega projects, we would expect a less biased distribution of errors in forecasts around zero. In fact, Flyvbjerg et al have found (see paragraph 1.2) with high statistical significance that for four out of five distributions of forecasting errors, the distributions have a mean statistically different from zero. Second, if imperfect management techniques, inadequate data, and lack of experience were main explanations of inaccuracies, we would expect an improvement in

\(^{15}\) Sovereign guarantee means that whatever cost overruns are going to occur, financial streams are secured through the public financial system to make up for those cost overruns.
accuracy over time, since in a professional setting errors and their sources would be recognized and addressed through the refinement of data collection, forecasting methods, etc (Flyvbjerg, 2004, p.84). Substantial resources have in fact been spent over several decades on improving data and methods (see Morris and Hough, 1987, p.20). Still the data of Flyvbjerg et al show that this has had no effect on the accuracy of forecasts. Third, two studies succeeded in getting forecasters to talk about forecasting errors in projects they were involved in. These studies indicate the rationale behind these forecasting errors (Flyvbjerg and Cowi, 2004; Wachs 1990; see appendix A). It seems that these errors are not a result, imperfect forecasts, unpredictability, and lack of project control but of deliberate strategic misrepresentation.

1.4.2 Evaluation of psychological explanation

According to Flyvbjerg et al (2005, p.11) the psychological explanations better fit the data (see paragraph 1.2): “The existence of optimism bias in planners and promoters would result in actual costs being higher and actual benefits being lower than those forecasted”. Consequently, the existence of optimism bias would be able to account for the bias found in the data of Flyvbjerg et al (see paragraph 1.2). After all, there is a large body of experimental evidence for the existence of optimism bias (Buehler, Griffin and MacDonald, 1994; Buehler, Griffin, and MacDonald, 1997; Newby-Clark, McGregor and Zanna, 2002). The first problem with this explanation is that the experimental data are drawn from simple, non-professional settings. This is a problem for psychological explanations, because it remains a question whether they are general and apply beyond such simple settings. According to Flyvbjerg (2005, p.11);

“Optimism bias would only be a credible explanation of underestimated costs and overestimated benefits in mega project forecasting if estimates were produced by inexperienced forecasters. In other words: persons who were estimating costs and benefits for the first or second time and who were thus unknowing about the realities of infrastructure building and were not drawing on the knowledge and skills of more experienced colleagues. Such situations may exist and may explain individual cases of inaccuracy. However, given the fact that in modern society it is a defining characteristic of professional expertise that it is constantly tested through scientific analysis, critical assessment, and peer review, it seems unlikely that a whole profession of forecasting experts would continue to make the same mistakes decade after decade instead of learning from their actions. Learning would result in the reduction, if not elimination, of optimism bias, which would then result in estimates becoming more accurate over time”.

The presented data (paragraph 1.2) of the study of Flyvbjerg clearly shows that this has not happened. Secondly, the studies done by Flyvbjerg, Cowi (2004) and Wachs (1990) show that the forecasters, that have been interviewed, show that the forecasting mistakes are deliberate, rather then a honest mistake resulting from the optimism bias.

1.4.3 Evaluation of the parliamentary explanation

The Commission Duivesteijn (CDd, 2004, p.8) asserts that the Dutch parliament can improve their position as a check on the government, concerning mega project development, considerably if the
The Betuwelijn, or the failure of democracy as we know it?

The parliament wants to. The commission, therefore, calls upon the parliament to take their responsibility as a check on the government by implementing the proposed recommendations (CDd, 2004, pp.83-122). The crucial point of the parliamentary explanation is whether the parliament wants to make use of their improved capabilities\footnote{The parliament has adapted most of the recommendations of the Commission Duivesteijn in 2005 (Parlement & Politiek, 2007)} to check government policy concerning mega projects or policies in general. The commission Duivesteijn asserts that a new framework for parliamentary decision-making concerning mega projects to enhance parliamentary oversight assumes a “self-conscious” and “dualistic”\footnote{The majority of the parliament supports the cabinet’s policies in principle but every member, whether they are member of the coalition or the opposition is supposed to judge the cabinet’s plans on their own account.} way of parliamentary action.

However, the politics of coalitions is inherent to the Dutch political system. The governing coalition – the government – enjoys, in principle, the support of the majority of the parliament since this majority consists of members of the same parties as the members in government. When this was not the case, the democracy would be less stable. The governing coalition would be insecure about passing legislature since they could not automatically count on the parliamentary support of their party members. According to the Commission Duivesteijn the parliamentary decision making processes of the HSL- Zuid and the Betuwelijn could be characterized thus; “the parliament behaved monistic as opposed to dualistic; the coalition parties in the parliament supported the government policies at critical moments in the decision making of the mega projects” (CDd, 2004, p.75). If the majority of the parliament - because they are a member of a coalition party - have no interest on being very critical on proposed policies concerning mega projects, then it seems unlikely that even a parliament with excellent information processing capabilities and strict control on the decision-making process, would help to minimize the likelihood of mega projects budget overrunning.

The cases of the HSL-Zuid and the Betuwelijn show at least, saliently enough, that this is recognized by the Commission Duivesteijn. The parliament decided to support the government’s policy concerning the Betuwelijn and HSL – Zuid at the most crucial moments in the decision-making process. Whether this presumed responsibility for a member of parliament - to behave in a dualistic manner - is a realistic account of the parliamentary process in the Netherlands, on which the parliamentary explanation hinges, is subject of investigation later on.

1.4.4 Evaluation of the improvement of institutional mechanisms

Flyvbjerg et al (2003) explain the budget overruns in terms of the lack of institutional mechanisms that exist in a lot of countries and contexts to ensure accountability. The lack of accountability seems a correct observation since it apparently profits to skew the forecasts in such a way that costs are underestimated and profits are overestimated to get the project approved by the decision makers (see appendix A; Flyvbjerg, 2005, p.15). The data of the empirical study of Flyvbjerg et al (see paragraph 1.2) underlines this apparent lack of accountability by showing that in the last seventy years no learning has taken place concerning how to curb the problem of mega project budget overruns while their way to appraise and develop these projects has not changed. Flyvbjerg et al identify three main institutional deficiencies with the conventional approach to mega project development. The institutional
mechanisms Flyvbjerg et al (2003; pp.107-136, 2005, p.143) propose to improve the performance are based on these main deficiencies (see paragraph 1.3.5; Flyvbjerg et al., 2003, p.91) and concern (1) improving public transparency, (2) up front specification of public interest performance indicators, (3) up front formulation of the regulatory regime and (4) the involvement of risk capital. These recommendations, which are based on the institutional deficiencies, however, show that Flyvbjerg et al (2003) make some implicit assumptions. Concerning the measure to improve transparency (see paragraph 1.3.5; Flyvbjerg, 2003, p.123) an implicit assumption is made that the general public or civil society groups are interested in informing themselves about all documents and information that is made available on mega projects. But, what if members of the public or civil society are not interested in informing themselves in the issues concerning mega projects? Or, if most people find it too costly to investigate budget overruns? The other recommendations - the proposal to agree upon public interest performance indicators and a regulatory regime up front and to involve risk capital – are aimed at enabling the government to play the role as the guardian of the public interest (see paragraph 1.3.5; Flyvbjerg, 2003, p.123). These recommendations contain an implicit assumption that politicians, that are supposed to act out of the public interest, are actually willing to act in accordance of public interest. But what happens to the viability of the recommendations made by Flyvbjerg et al if behaviour of the politicians - who have to come up with the public interest performance indicators or a regulatory regime - is best approximated by a concern not in public interest but in their own self interest?

1.5 Alternative explanations: PCT, the AEP, OIE and NIE

In choosing alternative theories to account for the problem of mega project budget overruns the following criteria of applicability are used; (1) the conditions in which the theory is supposed to be applicable has to include the phenomenon of mega project budget overruns and (2) the theories have to have a distinct explanation of the phenomenon at hand to be chosen. The second criterion implies that a theory has to start from a different set of assumptions in order to provide a different and distinct explanation of the same phenomenon. The first alternative theory, which will be discussed (paragraph 1.5.1), is Public Choice Theory (PCT) since this theoretical framework rests on different assumptions than the two previously mentioned theories (Flyvbjerg et al, and the Commission Duivesteijn) as we shall soon see. Next to PCT, the Austrian Economic Perspective (AEP), Old Institutional Economics (OIE) and New Institutional Economics will be discussed as alternative theories. As a preliminary test for the applicability of these different alternative theories, the same procedure as in the latter paragraph will be used to establish whether those theories are accurate enough to be considered for further analysis. The theories will be tested whether they are in accordance with the empirical material arrived at by Flyvbjerg et al.

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18 PCT; Public Choice Theory, AEP; Austrian Economic Perspective, OIE; Old Institutional Economics and NIE; New Institutional Economics.
19 Next to the mentioned alternative theories (see footnote 17) there seem to be no other alternative existing theoretical frameworks available in the social sciences that are able to provide an explanation for the phenomenon of megaproject budget overruns.
1.5.1 Public Choice Theory (PCT)

Public choice is the study of non-market decision-making, or simply put the application of economics to political science (Mueller, 2003, p.1). The subject matter of Public Choice is the same as that of political science: the theory of the state, voting rules, voter behaviour, party politics, bureaucracy, and so on. The methodology is that of economics however. The Betuwelijn, HSL – Zuid and the vast majority of the studies in the sample of Flyvbjerg et al are a result of non-market decision-making so Public Choice should be applicable to give an account on the phenomenon of mega project budget overruns (MPBO). Public choice theory, in contrast to Flyvbjerg and the commission Duivesteijn, when analyzing non-market decision-making and resource allocation, explicitly assumes that people in government as well as out of government act in accordance to their rational self-interest. Flyvbjerg et al and the Commission Duivesteijn, however, as noted before, assume that government officials can behave in accordance with the public interest if only the institutional deficiencies that prevent this from happening are corrected. This means that Public Choice Theory (PCT) is able to come up with a distinct – distinct from Flyvbjerg et al and the Commission Duivesteijn – explanation of the phenomenon at hand. The PCT explanation of MPBO being a branch of Neoclassical Economics will be in the form of an end state prediction that results from decision-making processes in the public institutional environment under the behavioural assumption of rational-self-interest of all involved actors. Policy failures in the PCT explanation are seen as a mismatch between the public incentive structure and assumed human behavioural tendencies. Since the vast majority of mega projects that have been analyzed by Flyvbjerg et al were publicly financed, in other words realized in a public institutional environment, it can be concluded that the empirical evidence, at this point, is not in contradiction with the PCT explanation.

Concluding, PCT is able to come up with an accurate distinct account of MPBO since (1) the conditions of applicability hold, (2) the PCT explanation is based on different behavioural assumptions, and the PCT, at this moment, is not in contradiction with the empirical material of Flyvbjerg’s study.

1.5.2 The Austrian Economic Perspective

The other theory that should provide an explanation of mega project budget overruns is based on the Austrian Economic School. For Public Choice theory to be able to make inferences about public economic reality, unlike the Austrian Economic Perspective, the assumption concerning actors behaving according to their rational self-interest is a necessary element. The Austrian Economic School (AES) can make inferences about economic reality without making an assumption whether actors behave according to their rational self-interest or to the public interest. The assumption that the AES makes concerning human behaviour is the following (Von Mises, 1949, p.232). Every human action is purposeful, which means that human action is not necessarily aimed at the public interest or at the rational self-interest per se (see paragraph 3.2 for further comments on the Austrian Economic Perspective). Another important assumption of the Austrian Economic Perspective is the assumptions concerning knowledge upon which economic decision are based. The knowledge from which
economic calculus is never for the whole society given to a single mind, which could work out the implications and can never be so given. The problem of a devising a rational economic calculus is “determined by the fact that the knowledge of particular circumstances of which every individual must make use never exists in concentrated or integrated form but solely as dispersed bits of incomplete and frequently contradictory knowledge which all the separate individuals possess” (Hayek, 1945, p.519). Upon the previous statement it can be concluded that the economic problem that society faces is a problem of “how to secure the best use of resources known to any of the members of society, for ends whose relative importance only these individuals know” (Hayek, 1945, p.520). Concerning the conditions of applicability, that hold for AEP the following can be said; all economic decision-making in a society is subject to analysis of Austrian Economics (see paragraph 3.4). The phenomenon of mega project budget overruns will thus be explained in terms of the inability of the involved members of society to secure the best use of the resources that were used for the realization of a mega project due to poor use of knowledge of particular circumstances. This knowledge problem, as it is called by Hayek, caused by the dispersed nature of knowledge of particular circumstance, can be alleviated by the functioning of market institutions. Since the vast majority of mega projects that have been analyzed by Flyvbjerg et al were publicly financed, in other words; financed in a situation in which market institutions were not dominant in the sector of mega project development, it can be concluded that the empirical evidence, at this point, is not in contradiction with the Austrian Economic explanation.

Thus at this point the following can be concluded with regards to the AEP: (1) given that the AEP is able to formulate a distinct explanation, (2) given the fact that the conditions of applicability hold and (3) given the fact that it is not possible, at this point, to disregard the AEP based on the empirical material arrived at by Flyvbjerg et al, the AEP is expected to come up with an accurate distinct explanation about mega project budget overruns.

1.5.3 The New Institutional Economic Approach

New Institutional Economics (NIE) sets out to explain how different institutions coordinate transactions. Why are firms coordinating certain transactions internally and not via a market contract with a supplier (Groenewegen, 2001, p.6). According to Rutherford (1994), two streams can be distinguished within the NIE tradition: (1) Game Theory and (2) Transaction Cost Economics. Game Theory describes economic and social situations as if they were games of strategy. By a game of strategy an abstract set of rules is meant, rules that constrain the behaviour of players. The outcome of the game is based on the actions taken by the players within the playing field that the rules specify. The rules specify (1) who the players are, (2) the order in which players will make their moves, (3) the choices that will be available to the players, (4) the information that is available to the players and (5)

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20 The problem of the economic calculus is the problem of what is best use of the available means to the ends existing in society (Hayek, 1945, p.519)
21 Knowledge is used by Hayek (1948, p.51) as knowledge of how different commodities can be obtained and used and under what conditions they are actually obtained and used.
22 “AES developed a general analysis of human decision making as such or a general theory of human choice by rational man. Thus the AES broadened economics into a philosophy of means” (see page 44) .
the utility each player will receive depending on the choices of all the players in the game (Schotter, 1994). According to Groenewegen (2001, p. 6), Game Theory can predict the optimal equilibrium solution in ‘games’ that are played as one shot cooperative games in which the pay-off (utility) can be expressed in an one dimensional variable. Game Theory, however, is unable to predict one optimal outcome whenever a game can be characterized as a non-cooperative repeated game. The development of a mega project can be seen as a non-cooperative repeated game, which means that the conditions of applicability of Game Theory in the case of being able to come up with a distinct explanation for the phenomena of mega project budget overruns.

The other stream within NIE is, as indicated before, Transaction Cost Economics (TCE). TCE sets out to explain how different institutions coordinate transactions: why are firms coordinating certain transactions internally and not via a market contract with a supplier (Groenewegen, 2001, p. 6). Within TCE, transaction is the basis unit of analysis upon which different governance structures – such as vertical integration, classical market contracts or subcontracting relations – in which those transactions take place, are judged in terms of cost effectiveness. In this way, TCE economics can explain why certain transactions are matched by certain governance structures. The problem of mega project budget overruns can be seen in terms of TCE. The phenomenon of mega project budget overruns would then be explained as mismatch between the governance structures used in developing such project with the type of transactions involved. However, TCE as an explanation does not fit the data, provided for by Flyvbjerg et al. The line of argument for the latter follows the one that is used by Flyvbjerg et al (see page 14) to disregard the ‘technical explanation’: First, if budget overruns were caused by inadequate matching of certain types of transactions with certain governance structures, we would expect a less biased distribution of errors in forecasts around zero. Second, if a mismatch between the type of transaction involved and the type of governance structures were the main explanation of inaccuracies, we would expect an improvement in accuracy over time, since in a professional setting errors in choosing the right governance structures would be recognized and addressed.

1.5.4 The Old Institutional Economic approach

Another approach that is also able to come up with a distinct explanation of the phenomenon of mega project budget overruns is Old Institutional Economics (OIE). The purpose of the framework is to understand processes of change, of institutional development (Bush, 1991). According to Groenewegen (2001, p. 19) the objective is not the prediction of an optimal end state, such as in Game Theory, but “the understanding of complex processes of institutional dynamics”. The complexity at which the OIE is focused can be presented by the four layer schema of Williamson (1998; see appendix B). In Williamson’s schema concerning the Economics of Institutions it is apparent that OIE is encompassing insights from Neoclassical Economics / Agency Theory (see layer 4; appendix B), Transaction Cost Economics (Layer 3), Economics of Property rights (Layer 2) and Social Theory (Layer 1) in trying to understand the process of institutional dynamics. In this way the broader institutional environment – such as customs, roles, traditions and norms – in which economic decision are taken are taken on board, as well as the interactions between the various levels (see appendix B).
According to Agassi (1975), this all-encompassing approach (taking into account the institutional environment and all the interactions between the economic actor and its institutional environment) has implications for the modelling of the actor: “methodological individualism is replaced by methodological interactionism”. Methodological interactionism claims that the social is more than a simple aggregation of individuals and that the social context influences and conditions individual behaviour (Rutherford, 1994, p.36). Public Choice Theory and the Austrian Economic Perspective are, in contrast to the OIE framework, methodological individualist in nature. Besides this ‘methodological’ difference between PCT, the AES and the OIE, another important difference can be identified; this difference relates to the way actor behaviour is modelled. In PCT and the AEP, the actor is thought of as being rational-self-interested which means in its simplest formulation that “atomistic economic agents pursue their own rational-self-interest: that consumers (or households) seek to maximize utility and that firms seek to maximize profits” (Caldwell, 1982, p.146). In the OIE framework, however, the actor is modelled differently; rather then being fully rational actor behaviour is characterized by the term-bounded rationality. Bounded rationality, invented by Simon (1987), refers to “rational choice that takes into account the cognitive limitations of the decision maker – limitations of both knowledge and computational capacity” (Simon, 1987, p.266). Economic agents within the bounded-rationality-framework thus do not utilise maximize utility but satisfy which means that human beings when devising strategies for making decisions use heuristic reasoning rather then strategies that are aimed at finding the optimal solution (Sent in Maki, 1998, p.37). For our purpose –selecting alternative theories that are able to account for the phenomenon of mega project budget overruns – it is important to know that the methodological differences (methodological interactionism and bounded rationality) between OIE and the other alternative theories (especially with PCT, the AES and the NIE) allow for a distinct explanation of the phenomenon of interest in this thesis. The phenomenon of mega project budget overruns within the OIE framework will be explained thus. The economic decisions that have led to the realization of a mega project will be analyzed within the OIE while taking into account the broader institutional environment – not only the formal institutions (see appendix B; layer 2) but also the informal institutions (see appendix B; layer 1) - in which the project has been realized. The latter is done while taking into account the insight derived from the notion of bounded rationality. At this point, it is enough to say that the OIE is able to give a distinct account of the phenomenon at hand. It is important to realize that the OIE framework while doing so favours realism (Groenewegen, 2001, p.18) of its accounts rather then abstraction, which characterizes the PCT and AES for example. This difference in style is especially apparent in the OIE’s focus on broader institutional context in which economic decisions are taken and in its use of bounded rationality in modelling actor behaviour.

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23 The Austrian Economic Approach as well as Public Choice Theory are methodological individualist theories. Methodological individualism / Atomism rests on a number of ontological claims about social reality: (1) “that society is composed of and does not exist over and above individual human beings, (2) that social processes are completely determined by processes involving individuals , and (3) that all the economically or socially relevant properties of individual persons are monadic, that is are properties that do not involve either other individuals or social entities such as groups or institutions. A logical weaker version of (3) would allow non – monadic properties of individuals so long as they involved only non essential or external relations” (Kincaid in Maki, 1998,p.295).
1.5.5 Choice of alternative Theories; a tentative conclusion

In this paragraph, four new theoretical frameworks have been presented as theories that are able to account for the problem of mega project budget overruns, namely PCT, the AEP, OIE and NIE. All these theoretical frameworks are able to provide a distinct explanation of the phenomenon of mega project budget overruns. However, not all of those theories are in accordance with the empirical material provided by the research of Flyvbjerg et al. According to this test, both streams within the NIE – Game Theory and Transaction Costs Economics - can be disregarded at this moment. This means that Public Choice Theory, the Austrian Economic Perspective and Old Institutional Economics are all hopeful as of this moment, next to the explanation of Flyvbjerg and the explanation made by the Commission Duivesteijn. In chapter 2, methodological choices will be made concerning theory choice – how to choose which theory (-ies) to account for a phenomenon – such that it will possible to disregard certain theories, that seem promising as of this moment, on methodological grounds.

1.6 Research questions and research strategies

So far, the problem of mega project budget overruns is established as a global phenomenon. A literature overview is made to give an outline of the current available explanations. The explanations that have not already been disregarded based on the available evidence provided by the empirical study of Flyvbjerg et al have been analyzed to identify any theoretical gaps concerning the subject matter. In choosing alternative theories to account for the problem of mega project budget overruns the following criteria of applicability are used: (1) the conditions in which the theory is supposed to be applicable has to include the phenomenon of mega project budget overruns and (2) the theories have to have a distinct explanation of the phenomenon at hand to be chosen. Based on this analysis, Public Choice Theory, the Austrian Economic Perspective and the Old Institutional Economics explanation have been put forward in the previous paragraph to fill the existing theoretical gap.

At this point of the analysis, the research questions and strategies will be identified. These questions form the basis of the report. The main question relates to identifying the causes of mega project budget overruns and subsequently the formulation of solutions - based on the identification of those causes – in order to minimize the likelihood of future mega project budget overruns in the Netherlands. The main research question of this report is thus:

What is the best theory, among the rivalling theories, or what are good complementary theories to explain the phenomenon of budget overruns and what solutions can be derived from that (those) theory (theories) which can be implemented in the Netherlands in order to minimize the likelihood of future mega project budget overruns?

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24 It is assumed at this point that this is a correct procedure – establishing whether the theory is in accordance with empirical material - to select or disregard theories with respect to a phenomenon in reality. The issue of the correctness of this assumption, among other assumptions, made will be briefly discussed in paragraph 1.6 and will be dealt with in chapter 2 in which all the assumptions made in chapter 1 will be discussed in terms of their correctness.

25 These two possibilities – a theory can be chosen as the best among rivaling theories and theories can be chosen as being complementary because they can provide insights in different aspect of the same phenomenon - are part of a debate which will be discussed in chapter 2. Based upon this debate a stance will be taken so that either rivalry or complementarity is chosen with respect to theory (-ies) choice.
In order to answer this question, it is first necessary to answer the questions that immediately arise from the main research question. For instance, how can one know what the best theory is, or good theories are in order to explain a certain phenomenon in reality? Should one choose one theory or more complementary theories to account for a phenomenon in reality? All the sub questions that logically arise from the main research question have to be answered first in order to come to an answer on the main research question.

1.6.1 The formulation of the sub questions and research strategies

The first sub question that arises from the main research question is already briefly mentioned in the previous paragraph. It relates to how one can know what the best theory is, or good complementary theories are, in explaining a certain phenomenon in reality. Also the question whether to choose one ‘best’ theory or more ‘complementary’ theories to account for a phenomenon is addressed;

1. Which criteria can be found in the literature that allow one to establish a theory as the best theory or as one of the good complementary theories for explaining a certain phenomenon in reality?

In this question the assumption is made that theories explain, rather than something else such as predict, phenomena in reality and that the best theory, or one of the complementary theories, is a theory that explains a certain phenomenon in reality (most) accurately. The research question itself will be changed if, during the process of answering the first sub question, it becomes clear that the best or complementary theory is not a theory that explains a phenomenon (most) accurately. Another assumption has also been made up to this point about what is meant by (most) accurate. An assumption upon which in paragraph 1.4 three theories of the seven alternative theories have already been disregarded. The previous is done based upon the assumption that their incompatibility with empirical data provided mainly by the study of Flyvbjerg et al, is sufficient reason to do so. If it becomes clear that this incompatibility with empirical data proves to be insufficient grounds to disregard theories, then the three theories that have been disregarded in paragraph 1.4 will be tested again. This will be done along the lines of the criteria established as a result of the answer on the first sub question. This means that the alternatives theories – PCT, the AEP and OIE – are also subject to this philosophy of science criteria. Whenever these alternative theories do not prove to be compatible, they will be omitted from further analysis.

In order to answer the first question, the philosophy of science literature will be reviewed in terms of what criteria there can be found to determine the accuracy of a theory for a certain phenomenon.

The next sub research question relates to Public Choice theory, the Austrian Economic Perspective and the Old Institutional Economics explanation; of course, it is assumed here that these three theories are in accordance with the philosophy of science criteria. All the mentioned theories that are mentioned and do not meet philosophy of science criteria will be omitted if necessary.
At this moment, as noted before, it is only known that these theories are expected to give a different account for the problem of mega project budget overruns since they have different starting assumptions. In order to come to an explanation of mega project budget overruns, it is imperative to know what the essence is of those theories in terms of their necessary assumptions and conditions of applicability.

2. What is the essence of ‘Public Choice’ Theory, the ‘Austrian Economic’ Perspective and the ‘Old Institutional Economics’ explanation in terms of their necessary assumptions and conditions of applicability?

Public Choice Theory, the Austrian Economic Perspective and the Old Institutional Economics explanation are theories that are not solely designed for explaining mega project budget overruns; PCT is the study of non-market decision-making and resource allocation, the AEP explains all economic behaviour in a society and OIE’s purpose is to understand institutional dynamics. This means that the appropriate models\(^{26}\) have to be chosen from the two bodies of theories, which are applicable to the problem of mega project budget overruns:

3. Which Public Choice, Austrian Economic and Old Institutional Economics models are able to provide an explanation\(^{27}\) for mega project budget overruns?

In order to answer the second and third sub questions a literature review is done of the theories that are in accordance with the philosophy of science criteria as established as a result of answering sub-question 1. In addition, experts from George Mason University (Prof. Rustici, Prof. Boetkke, Prof. Buchanan, and Prof. Tullock) are informally asked to give their account on these questions. Once these models have established they have to be applied in order to test whether they are able to give an accurate\(^{28}\) explanation of mega project budget overruns. The budget overrun of the Betuwelijn is used to provide as a test for the theories since a lot of empirical material is available about this case (mainly reports made by the Commission Duivesteijn, available policy documents and research done into the case of the Betuwelijn conducted by various scholars);

4. What are the Public Choice Theoretical, the Austrian Economic and Old Institutional Economics explanations of the budget overrun of the Betuwelijn and are those explanations accurate (see footnote 27)?

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\(^{26}\) The distinction between theories and models is introduced here; in this report it is meant that theories contain a body of models that all work under the same assumptions of the overarching theory. For instance; Public Choice Theory studies non-market decision making and resource allocation while a Public Choice model concerning bureaucratic behavior studies a more specific phenomenon within the overarching Public Choice paradigm.

\(^{27}\) If a theory is able to provide an explanation it means that its assumptions necessarily include the phenomenon itself

\(^{28}\) Accurate means that the particular theoretical explanations is in line with the empirical reality concerning the relevant phenomenon
The research strategy which is used is thus a case study design; “a research design from which insights can be gained of one or some by time and spatial limited objects or processes” (Verschuren and Doorewaard, 1995, pp 154-155). If the model(s) of Public Choice Theory and/or the Austrian Economic Perspective and/or the Old institutional Economics explanation is/are able to provide an accurate explanation of the budget overrun of the Betuwelijn\(^{29}\), it becomes relevant to determine whether it is possible to generalize the explanation of the case of the Betuwelijn to the general phenomenon of mega project budget overruns.

5. **Is there sufficient reason to be able to generalize the ‘Public Choice’ theoretical and ‘Austrian Economic’ Perspective and the ‘Old Institutional Economics’ explanation to account for the phenomenon of mega project budget overruns as it occurs across the world?**

Three, two or one of the alternative theories will be compared with the existing rivalling theories concerning their ability to provide an accurate account of the phenomenon of mega project budget overruns, if there is sufficient reason to generalize one or more of the alternative theories. What is meant by ‘sufficient’ will be discussed in the next paragraph.

6. **Which theory or theories provide the best explanation or good explanations – given the criteria found as a result of answering sub question 2 - for the phenomenon of mega project budget overruns?**

Once the best theory or good complementary theories have been established, it becomes possible to use that theory or those theories to formulate solutions that help to minimize the chance of mega project budget overruns from happening in the Netherlands;

7. **What can be learnt from the best theory or good complementary theories in explaining the phenomenon of mega project budget overruns – as established as a result of answering the fifth sub question - which can be helpful in minimizing the likelihood of future budget overruns occurring in the Netherlands?**

The solutions that arise from the best theory or good complementary theories concerning mega project budget overruns are used to come up with a new design considering the environment\(^{30}\) in the Netherlands in which mega projects are developed. At this point, it is not yet clear what kind of design (Technical or Institutional design) would be able to provide a solution for the problem of mega project budget overruns in the Netherlands since the ‘best’ theory or good complementary theories have yet to be established.

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\(^{29}\) Here the assumptions is made that generalization of a theoretical explanation of a case is only possible if the theoretical explanation is accurate with respect to that case.

\(^{30}\) Environment is used in widest sense of the world; in this instance it means: All the aspects involved in mega project appraisal and development.
1.6.2 Methodological considerations concerning the case study of the Betuwelijn

In the previous paragraph, it is briefly mentioned that a case study will be used to determine whether the PCT, the AEP and the OIE are able to come up with an accurate explanation for the budget overrun of the Betuwelijn. If those theories are able, the question becomes whether these explanations can be generalized to account for the phenomenon of mega project budget overruns as it occurs worldwide. It is often said that there is limited space for generalisation based upon case study research (Swanborn, 1987; De Jong, 1999). This is because the phenomena studied within the social sciences are much more complex and experiments are much harder to control or to replicate then the phenomena studied in the natural sciences. This does not mean that striving for generalisation based on a case study is useless; the more careful the cases are selected, the better generalisations can be made (Pestman, 2001, p.40). In this report use is made of the empirical data from Flyvbjerg's study (see paragraph 1.2) which shows that the vast majority of projects that experienced budget overruns were appraised and developed according to the ‘conventional approach’ (Flyvbjerg et al., 2003, pp 86-87). The Betuwelijn, as well, is a mega project appraised and developed according to this conventional approach. This strategic case study choice thus makes the statistical conclusions that have been made by Flyvbjerg et al to be applicable to the Betuwelijn as well. Another reason why the Betuwelijn has been chosen for a case study, besides its identity as a mega project appraised and developed according to conventional approach, is (1) that it can serve as a confirmation or falsification instance for the parliamentary explanation and (2) because of the abundance of empirical material that is available on the case.

Besides choosing cases carefully by trying to control for the independent variables and the availability of empirical material, strategically selected cases should also be imbedded into a theoretical conceptual model to increase their scientific significance (Pestman, 2001, p.41). The case studies done by Flyvbjerg et al have already been embedded into a number of theoretical frameworks in paragraph 1.3; except into the parliamentary approach because this explanation is specific for the situation in the Netherlands and for the cases of the Betuwelijn and the HSL – Zuid.

In sum, case study research is more valuable whenever the results can be generalized. This is the case when there is opportunity to (1) strategically choose a case such that it shares a certain identity with cases within an empirical study upon which statistical significant inferences are possible and (2) to use the logical considerations of an existing theoretical framework to accommodate the case. The Betuwelijn seems such a case since it (1) shares the identity with the vast majority of cases studied by Flyvbjerg et al of being a project appraised and developed according to the ‘conventional approach’ and (2) the Betuwelijn as a phenomenon falls within the scientific domain of PCT, AEP and OIE.

1.7 Conclusion and the structure of the report

In this introductory chapter, the problem of mega project budget overruns is established, not only as a Dutch phenomenon, but also as a worldwide phenomenon. A number of explanations on this phenomenon are described in the scientific literature. Based on the vast empirical study done by Flyvbjerg et al, a number of those explanations can be written off based on their incompatibility with empirical data. Besides writing off certain theories, a number of theories are also identified as theories
that possibly are able to account for the phenomenon of mega project budget overruns. This process of identification is done based on two criteria: (1) The conditions in which the theory is supposed to be applicable has to include the phenomenon of mega project budget overruns and (2) the theory has to have a distinct explanation of the phenomenon at hand to be chosen. Of course, the theory has to be in line with the empirical material provided for by Flyvbjerg et al. as well. As a result of this, three new theoretical frameworks are identified that fulfill these criteria: Public Choice Theory (PCT), the Austrian Economic Perspective (AEP) and Old Institutional Economics (OIE).

The goal of this process of theory identification / the goal of this thesis is in fact (1) to determine what the best (good) theory (-ies) is (are) to account for the phenomenon of mega project budget overruns and (2) most importantly to use the insights from that (those) theory (-ies) to develop a solution that will minimize the chance of a mega project budget overrun from occurring again in the Netherlands.

The structure of the research follows the logic of the research questions that are presented in paragraph 1.6; chapter two gives an overview of the philosophy of science literature in order to answer the question what criteria to use to determine which theory is the best theory to explain a phenomenon in reality. Chapter 3 contains the essence of the remaining alternative theories (at this point PCT, the AEP and OIE) which are described (1) in terms of their basic assumptions and (2) of what the conditions of applicability are for those theories. A short chronological description of the decision-making and development process of the Betuwelijn is given in chapter 4. This short introductory outline in the case of Betuwelijn forms the basis of the alternative theoretical explanations that remain after chapter 2. These chapters (chapter 5 and 6) contain the relevant theoretical models of those theories and relevant empirical data derived from the case of the Betuwelijn in order to test these models. Both chapters will end with a conclusion of whether the theoretical explanation is able to give an accurate account of the budget overrun of the Betuwelijn. Subsequently, one or more theory (-ies) will be entered in the analysis of chapter 7 concerning which theory (-ies) is (are) the best (good) theory (-ies) to explain the phenomenon of mega project budget overruns. The criteria in order to come to the previous conclusion are derived from the conclusion of chapter 2. The theory (-ies) which prove(s) to be the ‘best’ (good) theory (-ies) in explaining the phenomenon of mega project budget overruns will be used to formulate solutions. These solutions are worked out in chapter 9 and are aimed at minimizing the likelihood of mega project budget overruns from occurring in the Netherlands.
2. Methodology of Science: Testing a Theory

“Viewed as a body of substantive hypotheses, theory is to be judged by its predictive power for the class of phenomena which it is intended to explain. Only factual evidence can show whether it is ‘right’ or ‘wrong’ or, better, tentatively ‘accepted’ as valid or ‘rejected’.” (Friedman, 1953, p.8)

“Progress in positive economics will require not only the testing and elaboration of existing hypotheses but also the construction of new hypotheses. On this problem there is little to say on a formal level. The construction of hypotheses is a creative act of inspiration, intuition, invention; its essence is the vision of something new in familiar material. The process must be discussed in psychological, not logical, categories; studied in autobiographies and biographies, not treatises on scientific method; and promoted by maxim and example, not syllogism or theorem” (Friedman, 1953, p.43).

In this chapter, the philosophy of science literature is reviewed with relevance to the question how one can determine which theory is the best theory in explaining a phenomenon in reality. An overview is being made of 20th-century philosophy of science until the contemporary period of philosophy of science; this period is being addressed in appendix C.

2.1 Introduction

In chapter 1 an overview is given of the available explanations in the literature of mega project budget overruns as a phenomenon that not only exists in the Netherlands but also in other parts of the world. Until this point three of the seven rivalling explanations have been written off before the analysis made in this chapter; the empirical data provided for by the extensive study done by Flyvbjerg et al is not compatible with the implications of those three theories (the project-, process- and the psychological explanations; see paragraph 1.4). This means that until this point the presumption has been made that theories can be written off based on their not being compatible with empirical data (see paragraph 1.6). Another presumption with relevance to philosophy of science that has been made up is that the best theory explains the phenomenon in question most accurately. These presumptions will also be reviewed in the course of this chapter.

Up to now, there are thus four rivalling theories – seven if the first presumption did not proof to be correct – left to be the most accurate theory in explaining the phenomenon of mega project budget overruns. Two of the four theories – Public Choice Theory and the Austrian Economic Explanation – have been put forward based on the implicit and explicit assumptions made in the parliamentary and political – economical explanation. These assumptions concern the behaviour of political actors in general and members of the Dutch parliament in specific; Public Choice Theory explicitly assumes rational self-interested behaviour for all actors involved in non-market decision-making, unlike the two other rivalling explanations, while the Austrian Economic Perspective does not need this behavioural assumption to generate its theoretical model of economic reality. Thus, the identification of a theoretical gap for a certain phenomenon in the previous chapter is done based on the implicit and explicit assumptions underlying the existing explanations since different using starting assumption necessarily lead to explanations of a certain class of phenomena.
In this chapter, as indicated in the previous chapter, an analysis is made of the criteria that exist in the literature of philosophy of science to establish the best theory to explain a phenomenon in reality: In paragraph 1.6 the following question has been formulated:

*Which criteria can be found in the literature that allow one to establish a theory as the best theory or as one of the good complementary theories for explaining a certain phenomenon in reality?*

The following periods from the philosophy of science tradition are reviewed in relevance to the previous research question; Logical Positivism (paragraph 2.2), Logical Empiricism (paragraph 2.3), Popper’s contribution to positivism (paragraph 2.4) and attention is being paid to the realist – instrumentalist debate (paragraph 2.5). All these periods are reviewed with the question on what the theorists within a certain period thought, what was scientific and what not, and what is the role of theory or theoretical statements within science. The contemporary philosophy of science literature has been excluded in the main report, but is briefly reviewed in the appendix (B), since it produced no single unified alternative approach to the models presented in the various periods of positivism (Caldwell, 1982, p.69). In paragraph 2.6, a conclusion is drawn with relevance to the previously stated research question.

2.2 Logical positivism; introduction

The logical positivism movement arose around 1925 when physicist and philosopher Moritz Schlick at the University of Vienna organized a discussion group of philosophically minded mathematicians and scientists (Caldwell, 1982, p.11). The members of the discussion group – labelling themselves the Vienna Circle – were influenced by European philosophers in the empiricist tradition. The members of the Vienna circle stated that the task of philosophy was to analyze knowledge statements with the aim of making such propositions clear and unambiguous. In other words, the aim of philosophy, according to logical positivists, is logical analysis, and its subject matter is the empirical or positive sciences (Caldwell, 1982, p.13). The attributions empirical or positive refer to the notion that there is only knowledge from experience, which rests on what is immediately given by sensory perception. According to Hahn, Carnap and Neurath (1973, p.309) it is this knowledge of the immediately given which determines the limits for the context of legitimate science. By applying logical analysis to the empirical material, the scientific effort could reach the goal of science, which is the unified science according to Hahn, Carnap and Neurath.

2.2.1 Criteria of demarcation: what is scientific and what is not according to the logical positivists

The logical positivist program contrasted sharply with metaphysical systems of German philosophy (Caldwell, 1982, p.13). One of logical positivist major claims is the notion that all metaphysics is meaningless. Meaningfulness (or cognitive significance) is defined by the logical positivists as being attributable to those statements which are either analytic (tautologies or self – contradictions) or synthetic (factual statements which may be verified or falsified by evidence). This
criterion of meaningfulness excludes metaphysical statements\(^{31}\) from being meaningful since there are neither analytic nor subject to empirical test (e.g. synthetic). The logical positivists thus defined the limits of science by the criterion of meaningfulness. Metaphysical statements, however, are not said to have no relevance at all to human behaviour; they are meaningless with respect to the advance of science because metaphysical propositions\(^{32}\) do not contribute to the advance of knowledge according to the logical positivists. The way in which the logical positivist tried to separate meaningful from meaningless statements is known by the verifiability criterion: A statement has meaning only to the extent that it is verifiable. Verifiability implies testability, since one must be able to test whether a synthetic assertion / hypotheses is true or false. What is true or false according to the Logical Positivists depends thus on observational evidence (Caldwell, 1982, p.14).

2.2.2 The role and function of theory according to the logical empiricists

The insistence of logical positivists on the importance of empirical data or direct observational evidence, as indicated in the previous paragraph, has a number of implications. The most important implication concerns the scientific status of theories: All lot of theories include entities such as atoms, protons, or magnetic fields; all entities that cannot be verified by observational evidence directly (Caldwell, 1982, p.14). Theoretical statements positing their existence were declared to be nonsense expressions by logical empiricists. This position was supported by physicists Ernst Mach, who viewed theories positively as useful, economical tools for the representation and classification of phenomena, but who granted no independent scientific status to theoretical entities – such as atoms, photons etc. - and further called for the eventual elimination of theoretical terms from the language of science. Thus, theories or theoretical statements according to most logical positivists had no scientific meaning other then their usefulness of organizing empirical material (Joergensen, 1951, p.73).

2.3 Logical empiricism; introduction

The logical positivists who broke new ground in philosophy according to Caldwell (1982, p.19) believed that their contributions held great promise for “solving and clarifying problems in philosophy and in the sciences”. From the mid-1930s through the mid-1950s, however, a more temperate positivist position emerged (Caldwell, 1982, p.19). This position is less radical empiricist compared to the position of logical positivism. The logical positivists argued, as seen in the last paragraph, that a sentence had to be capable of complete verification by empirical evidence to be considered meaningful. By the mid 1930s, it became evident that this criterion was too radical since it rules out that statements of universal form are meaningless / non - scientific and therefore to be avoided in science (for example statements: ‘all ravens are black’). Statements of universal form are often used in the specification of general scientific laws. “Such statements are not conclusively verifiable because one exception could falsify them, and no number of verifying instances can guarantee that such a counter instance will not be found” (Joergenson, 1951, p.21).

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\(^{31}\) Metaphysical statements refer to statements that are not immediately given by sensory perception.

\(^{32}\) The denial of the existence of a transcendent external world (a world beyond immediate observation) would be just as much a metaphysical statement as its affirmation. Hence the consistent empiricist does not deny the transcendent world, but shows both its denial and affirmation is meaningless (Hempel, 1959, p.115).
2.3.1 Demarcation principles of the logical empiricists: what is scientific and what is not?

It thus became clear that the criterion of verification was too radical by declaring statements of universal form to be unscientific. The search for a criterion of demarcation thus continued after the logical positivist’s criterion failed to be satisfactory. Around 1935 Rudolf Carnap stressed the importance of distinguishing between truth and confirmation: “While truth is an absolute concept independent of time, confirmation is relative concept, the degrees of which vary with the development of science through time” (Joergenson, 1951, p.73). Carnap explained his criterion as follows:

“We cannot verify a law, but we can test it by its single instances…. If in continued series of such testing experiments, no negative instance is found but the number of positive instances increases then our confidence in the law will grow step by step. Thus, instead of verification, we may speak here of gradually increasing confirmation of the law’ (Carnap, 1936, p.425)

The notion of confirmation soon became accepted as providing a workable approach to the question of what distinguishes scientific from non-scientific. In other words, the notion of confirmation became the criterion of demarcation. Hypotheses (inferences about reality or assertions) are scientific when it is possible to test these hypotheses by creating test instances that could confirm or disconfirm the hypothesis. Hypotheses could be confirmed or disconfirmed; thus, hypotheses could be ranked according to their degree of confirmation relative to their available evidence (Caldwell, 1982, p.22).

2.3.2 The status and role of theories and theoretical terms

In the 1940’s and 1950s most logical empiricists in contrast to logical positivists rejected the view of Ernst mach (see paragraph 2.2.2) which holds that theoretical statements are useful but should be eliminated from science. Logical empiricist philosophers from that time eventually settled on the notion that theories are a dictionary or an interpretative system, “which contains not definitions but statements to the effect that a theoretical sentence of a certain kind is true if and only if a corresponding empirical sentence of a specified kind is true” (Caldwell, 1982, p.24). Thus the logical empiricists granted theoretical sentences – however under the previously mentioned criterion – the status of scientific. The formal structure of a theory in the logical empiricist’s tradition is that of a mechanical calculus according to Caldwell (1982, p.25), or a ‘hypothetic-deductive’ (H-D) system: “A theory contains axioms or primitive sentences and theorems or derivative statements. The axioms may refer to observables or theoretical terms”. “The structure of a theory can be described as a deductive system which contains hypotheses arranged in order of levels. Higher level hypotheses will often refer to theoretical entities and act as axioms of the theoretical system while the lower level hypotheses describe observable phenomena and are the propositions which may be tested against reality for the purpose of evaluating the theory” (Caldwell, 1982, p.25). The system gains empirical meaningfulness only when the system is provided with lower level hypotheses, which describe observable phenomena33. Theories as a whole are tested by comparing their deducted consequences (in other words, lower level hypotheses) with the observed data. It does not count against a theory if all

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33 In recent literature, ‘correspondence rules’ is used more frequently and are considered synonymous with hypotheses which describe observable sentences.
of its terms cannot be given empirical counterparts via correspondence rules (lower level hypotheses that describe observable phenomena) since it is generally the case that certain terms remain to be undefined or just partially defined into observations statements (Caldwell, 1982, p.26). In this way, the problem that theories contain non-observable statements is circumvented by allowing sentences containing theoretical terms to gain meaningfulness indirectly (Caldwell, 1982, p.25). Theories and theoretical terms are thus no longer regarded as unscientific in logical empiricism. Theories are scientific / meaningful if they contain hypotheses (the lower level hypotheses) which describe observable phenomena that can be tested in reality. This is a significant change of position with regard to the meaningfulness of theories and theoretical statements compared to logical positivism.

2.3.3 Function of theories: prediction, explanation, or both?

At the end of the 19th century and for the first decades of the 20th, the dominant view was that theories or theoretical systems do not explain phenomena but are instead economical and eventually eliminable tools to organize complexes of phenomena, as indicated in the previous paragraph. Establishing correlations among phenomena is what science can and should do according to Comte, Mach and other logical positivists (see paragraph 2.2). The view that explanation had no role in science was gradually dismissed by logical empiricists in their covering law models of scientific explanation. Hempel and Oppenheimer advanced an account of what later came to be called the ‘deductive nomological’ model (D-N) model of scientific explanation (Caldwell, 1982, p.28). Every valid explanation in this model has two parts: an ‘explanandum’ and an ‘explanans’. By the ‘explanandum’ the sentence is understood that describes the phenomenon to be explained; the ‘explanans’ pertains to the class of sentences which are adduced to account for the phenomenon (Hempel and Oppenheim, 1948, p.321). The ‘explanans’ consists of a list of conditions which must obtain for a theory to be applicable and sentences representing general laws. The ‘D-N model’ asserts that any legitimate scientific explanation must be expressible in the form of deductive argument in which the ‘explanandum’ is a logical consequence of group of sentences called the ‘explanans’. “The deductive nature of explanation stresses that if the initial conditions along with the general laws are present, the phenomenon described by the ‘explanandum’ must occur. This logical necessity is due to the restriction that only laws of universal form are allowed in scientific explanations” (Caldwell, 1982, p.29). Hempel and Oppenheimer admit that the concept of a general law is a bit problematic since many scientific explanations make use of statistical laws. This means that these scientific explanations could not be properly accounted for by the ‘D-N model’. Hempel therefore came up with a second ‘inductive – probabilistic’ (I-P) covering law model to describe statistical type of explanations. The ‘explanans’ in the I-P model is now comprised of sentences describing the requisite initial conditions along with statistical laws. “This confers upon the ‘explanandum’ statement a high logical probability” (Hempel, 1963, p.110). Hempel’s covering law models did not receive universal support, especially two assertions encountered heavy opposition. The first assertion is the so-called symmetry of explanation and prediction. Explanation and prediction are structurally symmetrical according to Hempel. The only difference is a temporal one: “in case of an explanation, the phenomenon has already occurred, whereas in case of a prediction, it is in the future. This implies that every explanation must be a
potential prediction” (Caldwell, 1982, p.29). Hempel’s second assertion is that the two covering law models (D-N and I-P) adequately describe almost all legitimate explanations in both natural and social sciences. This assertion in particular met heavy opposition. Despite the heavy opposition against the covering law models, logical empiricists have been able to come up with a framework to judge theories on their meaningfulness. According to Hempel and Oppenheim (1948), theories are meaningful / scientific when they fit the framework of the covering law models. When a theory fits a covering law model, that means that every explanation is a prediction. The only difference between an explanation and a prediction is a temporal one as indicated before.

2.4 The Induction problem and Popperianism

The previous overview showed that the positivist tradition within the philosophy of science underwent numerous transformations in its development from Comte and Mach, through the radical empiricism of the logical positivists of to the more recent and less radical contributions of Hempel and Oppenheim. In logical empiricism, there is still a heavy emphasis on observation, prediction, and the incorrigibility of the data, but the crucial importance of theory and theoretical statements is acknowledged as we have seen in paragraph 2.2, as opposed to the logical positivists (Caldwell, 1982, p.36). This paragraph discusses the problems of the confirmation principle as a way of demarcating meaningful / scientific from meaningless / non-scientific statements and theories as the logical empiricists use. The issues that are discussed here are induction problems and popper’s criticism of the empiricists’ focus on confirmation.

2.4.1 Problems with induction and confirmation

Measuring the strength of arguments is the primary task of inductive logic. Inductive logic attempts to rank the relative strength of confirmation of inductive arguments. Thus, a formulated inductive logic is essential if a tentative choice has to be made among competing hypotheses according to their relative degrees of confirmation and disconfirmation. Constructing and justifying an inductive logic has not proven to be a simple task according to Caldwell since there are a number of problems associated with it (1982, p.39). The first problem is illuminated by the paradox of the raven is brought up by Hempel to show the problem of what to count as a confirming instance in test situations. Hempel notes:

“Thus, we shall agree that if A is both a raven and black, then (A) certainly confirms S1: ‘all ravens are black’. And if D is neither black nor a raven, D certainly confirms S2: ‘all objects that are not black are not ravens’. Since S1 and S2 are equivalent, D is confirming also for S1, any object that is neither black nor a raven. Consequently, any red pencil, any green leaf, any yellow cow, etc., becomes confirming evidence for the hypotheses that all ravens are black” (Hempel, 1945, p.391).

Not all philosophers of science accepted this paradox and proposed several approaches to determine what counts as a confirmation instance for a certain hypothesis. The next problem, known as the Goodman paradox or the new riddle of induction, was introduced by Nelson Goodman in 1953. Goodman believes that the true problem of induction is neither that of justification (as brought up
originally by Hume and to be discussed next), nor Hempel’s paradox of the raven, but rather the 
question: How do we know which regularities are projectable? (Goodman, 1965, pp.59-72). Inductive 
logic projects observed regularities into the future. However, there is a problem here: not all observed 
regularities are projectable, some are only spurious correlations. Proposed solutions to the riddle rest 
on the ability to distinguish between ‘law like’ and accidental sufficient conditions’ (Caldwell, 1982, 
p.40). The traditional problem of induction, or Hume’s problem, concerns our ability to justify inductive 
inferences. “This problem has been stated in a number of different ways: What is the justification for 
the belief that the future will largely be like the past? Can the claim that a universal theory is true be 
justified assuming the truth of certain number of test or observation statements? Hume’s answer to 
any of these formulations is clear: no rational justification of induction is possible” (Caldwell, 1982, 
p.41).

2.4.2 Popper’s falsifiability as demarcation criterion

All of the arguments above concern the ability to justify and implement an inductive logic, which 
could determine the relative strengths of arguments or hypotheses, based on their confirmation by 
evidence according to Caldwell. In other words, the above concerns the confirmation principle of the 
logical empiricists. The desirability or necessity of formulating an inductive logic is unquestioned in the 
hitherto described examples of problems with induction and confirmation (Caldwell, 1982, p.41). Karl 
Popper (1959), however, criticizes the confirmation criterion in a different way compared to the 
philosophers who have brought several paradoxes associated with the logic of induction. He believes 
that a preoccupation with highly probable hypotheses is exactly the worst way to approach science; 
“Science advances by bold conjectures and critical refutations, not by repeated attempts at 
confirmation of hypotheses”. He asserts that the theories with the lowest empirical content are those 
with the lowest probability of confirmation. Theories with high empirical content are the theories, which 
could be tested more severely. Popper suggested ‘falsifiability’ as a demarcation criterion for 
separating scientific statements from the non – scientific statements (Caldwell, 1982, p.42). Popper 
thus replaced the logical empiricist’s demarcation principle as a demarcation principle for ‘falsifiability’. 
This means that confirmation instances – according to Popper are easy to find – should only count as 
such if they are the result of a genuine attempt to refute, or falsify, a theory. Good theories according 
to Popper make “risky predictions; legitimate tests are serious attempts at falsification” (Popper, 1959, 
p.36).

2.4.3 The role of theories and their truth-value

Popper’s view on theories is that scientific theories begin as bold conjectures about real world 
problems. Theories are considered scientific if they can be subjected to severe and critical tests; in 
short, a scientific theory is scientific when it is falsifiable (Caldwell, 1982, p.43). Theories that can be 
subjected to severe and critical tests are said to have more empirical content and are to be preferred 
according to Popper. A well-confirmed theory is not a more probable theory: according to Popper 
probability and content vary inversely. Science according to Popper seeks improbable theories, which 
are capable of surviving critical tests. On these grounds, Popper rejects the confirmationist goal of the
empiricists, which is trying to discover theories, which have high inductive probabilities (Popper, 1959, pp.215-220). Caldwell questions whether it is viable to promote and multiply theories with high empirical content and low probability, if the chances are great that most of them are false. This problem cannot be resolved by suggesting that scientist search for true theories - as a fallibilist Popper thinks that - although the truth might be reached, it is impossible to say that truth has been reached. If truth cannot be recognized even if it is found, in what sense is it possible to say that the enterprise of science can be aimed at the search for truth ? (Caldwell, 1982, p.44) Popper proposed a solution to these problems, and his response involves the notion of verisimilitude. Popper believes that objective truth exist and follows the definition of truth as correspondence to the facts. According to Popper, true scientists search for theories with a high degree of verisimilitude, or truth likeness. Verisimilitude combines the notions of truth and content. In this way scientist could measure the verisimilitude of two theories, comparing them for relative truth content and falsity content (Popper, 1965, pp.215-250). In Popper’s methodology, theories are tested against and falsified by basic statements or singular observational occurrences, which must refer to reproducible effects. What then happens when a theory is falsified by a test? (Caldwell, 1982, p.44) An instance of falsification forces scientists to reassess theory, assumptions, initial conditions, and the data that is used to test the theory. Something will be modified and hopefully the theory will be improved. However not every modification of a theory is an improvement. In fact, any falsified theory can be saved by various adding ad hoc hypotheses, modifying definitions, questioning the merits of the experimenter who came up with the finding, which contradict the theory. In order to avoid ad hoc changes, methodological rules could better be stated clearly and the conditions for rejection of the hypothesis must be set up in advance of the test according to Popper (Popper, 1959, section.19-22).

2.5 The realist – Instrumentalist debate

A debate that took place next to the debate concerning scientific demarcation principles, the role and status of theories is the instrumentalist – realist debate. This debate revolves around the question whether theoretical terms / theories must refer to real entities or not. Realists claim that theoretical terms must refer to real entities, and theories, which do not, are false or not scientific. Instrumentalists however consider the truth status of their theories to be irrelevant for any practical purposes so long as the logical conclusions derived from them are successful in predicting certain phenomena. In this way, the instrumentalists avoid a number of questions that seem to have no answer (Boland, 1982, p.24). For example, it is well known that some powerful theories contain references to entities, such as atoms, photons, and magnetic fields that may or may not exist (Caldwell, 1982, p.51). Realists might be troubled by those questions whether such entities really exist or when one can assume that a theory is true. For instrumentalists this question does not matter. So long as a theory makes successful predictions, it does not matter whether the theory itself contains true axioms. However, whatever, one chooses as a position in the instrumentalist – realism debate; either realism or instrumentalism can be made consistent with the positivist H -D / I - P models which are discussed earlier (Caldwell, 1982, p.26).
2.5.1 The role of theories and successfulness as demarcation criterion

Perhaps the most famous instrumentalist position has been put forward by Milton Friedman in 1953. He saw the role of a theory as a language which “function is to serve as filling system for organizing empirical material … and the criteria by which it is to be judged are those appropriate to a filling system” (Friedman, 1953, p. 7). However, the empirical material according to Friedman should not be filed randomly but must be filed according to certain logic. It is important for the theoretical filing system to have clear and precisely defined categories to avoid any ambiguity; the structure of a theory according to Friedman’s position is equivalent to a hypothetico – deductive system (Caldwell, 1982, p.175). Other relevant questions concerning the filling system are: Are the defined categories exhaustive? Do we know where to file each individual item, etc? The methods of formal logic can show whether a particular language is complete and consistent, that is, whether the propositions in the language are right or wrong. Observational evidence alone can show whether the categories of the analytical filing system have a meaningful empirical counterpart, that is, whether they are useful\(^{34}\) in analyzing a particular class of concrete problems (Friedman, 1953, p.7). So far, this instrumentalist position is in line with logical empiricist’s position since it is a positive stance. However the preoccupation on prediction rather than explanation and the insistence that the realism of the assumptions / axioms of a theory are not important are not in line with logical empiricist’s position.

According to Friedman, theory is as a body of substantive hypotheses, “which is to be judged by its predictive power for the class of phenomena which it is intended to explain” (Friedman, 1953, p.8); only factual evidence can show whether a theory is tentatively accepted as valid or rejected (Friedman , 1953, p.8). This expressed position with respect to the role of factual evidence is of course positive.

2.5.2 Criteria for choosing among theories / hypotheses

The successfulness of a hypothesis / theory is not a sufficient criterion for choosing among alternative hypotheses / theories. This is because observed facts are necessarily finite in number\(^ {35}\); possible hypotheses/ theories, infinite (Friedman, 1953, p.9). In other words, there could be more theories equally successful in predicting the same class of phenomena; this conclusion can be identified with the term ‘theoretical pluralism’\(^ {36}\). The question is how one chooses among competing hypotheses / theories if they both seem to be equally useful in predicting a class of phenomena. Friedman’s answer is the following: The choice among alternative hypotheses equally consistent with the available evidence must - to some extent - be arbitrary (they do not need to be; see paragraph 2.6) according to Friedman. However, though, Friedman adds that there is general agreement that relevant

\(^{34}\) If you want to drive from Amsterdam to Rotterdam and you don’t know your way around you’d better use the ‘successful’ (Not a map of the German road system) map to navigate your way. The map is successful if it is able to help you drive from A to B, since roadmaps are designed as a reaction on the problem of navigating your way around. The user’s confidence in the roadmap will grow along with the number of times the user successfully arrived at his destination.

\(^{35}\) The problem of induction is described here. “Future” facts can help to weed out hypotheses that are now considered to be successful.

\(^{36}\) The conclusion that Friedman identifies with the term ‘theoretical pluralism’ is in fact a specific interpretation of ‘theoretical pluralism’; a more elaborate discussion concerning this interpretation among others will follow in paragraph 2.6.
considerations are suggested by the criteria simplicity and fruitfulness \(^{37}\) (Friedman, 1953, p.10). A theory is simpler the less the initial (initial refers here to the process of generating predictions; Boland, 1982, p. 24) knowledge is required to make a prediction within a given field of phenomena. A theory is more fruitful the more precise the resulting predictions and the more additional lines for further research it suggests. Instrumentalism thus uses successfulness as a demarcation principle of whether hypotheses / theories are scientific or not. By using successfulness as a demarcation principle, instrumentalism does not care whether the theoretical statements / assumptions from which a theory is built are true as long as the theory / hypothesis make successful predictions about a certain class of phenomena. This latter conclusion brings us to the following point concerning the testing of theories. Since instrumentalism does not care about truth status of assumptions what can be said about testing theories based on their degree of realism.

2.5.3 The degree of descriptive realism of the assumptions underlying a theory

According to Friedman (1953, p.14) there is some misunderstanding about the testing of the validity of hypotheses; this misunderstanding is about the belief that not only the implications of a hypothesis but also the reality of assumptions (underlying the hypotheses) is a test of the validity of the hypotheses. It even appears that the truly important and significant hypotheses will be found to have assumptions that are wildly inaccurate descriptive representations of reality. The reason is simple according to Friedman: “A hypothesis is important if it ‘explains’ much by little, that is, if it abstracts the common and crucial elements from the mass of complex and detailed circumstances surrounding the phenomena to be explained and permits valid predictions on the basis of them alone” (Friedman, 1953, p.14). Thus, the relevant question about the assumptions of a theory is not whether they are descriptively realistic, for they never are\(^{38}\), but whether they are sufficiently good approximations for the purpose at hand (Friedman, 1953, p.15). By sufficiently good approximations, Friedman means whether the relevant assumptions concerning a certain phenomenon allow for successful predictions.

2.5.4 The role of assumptions in theory choice

If assumptions cannot be directly used to falsify a theory, what role do assumptions then play in instrumentalism? The role assumptions play is positive according to Friedman (Boland, 1982, p.27). Assumptions according to Friedman can be used in three different ways (1953, p.23); assumptions (1) are useful as an ‘economical mode’ of expressing and determining the state of the ‘givens’ of a theory – that is, the relevant facts – in order to provide an empirical basis for the predictions (Boland, 1982, p.27), (2) ‘facilitate an indirect test’ of a hypothesis of a theory by consideration of other hypotheses that are also implied (Boland, 1982, p.27, and (3) are a ‘convenient means of specifying the condition under which the theory is expected to be applicable. To illustrate the first role of an assumption Friedman considers the example of the behaviour of leaves (1953, p.24):

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\(^{37}\) The criteria are not abstract philosophical criteria but rather they, too, are empirically based, hence can be expressed in instrumental terms (Boland, 1982, p.24).

\(^{38}\) If assumptions are completely descriptively realistic this would mean that the theory itself is the equivalent to reality.
“Instead of saying that for example leaves seek to maximize the sunlight they receive, we could state the equivalent hypothesis, without any apparent assumptions, in the form of a list of rules for predicting the density of leaves: if a tree stands in a level field with no other trees or bodies obstructing the rays of the sun, then the density of leaves will tend to be such and such; if a tree stands on the northern slope of a hill in the midst of a forest with similar trees, then…; etc”.

This is clearly a less economical presentation of the hypothesis (Friedman, 1953, p.24). The second role (b) can be described as follows: “the success of a hypothesis for one purpose – explaining one class of phenomena – will give us greater confidence than we would otherwise have that it may succeed for another purpose” (Friedman, 1953, p.28). According to Friedman this confidence relies on how closely related these two classes of phenomena are perceived to be. A way in which an assumption of a hypothesis / theory can facilitate its indirect testing is “by bringing out its kinship with other hypotheses and thereby making the evidence on their validity relevant to the validity of the hypothesis in question”. The following example is given by Friedman to illuminate this (Friedman, 1953, p.29):

“Consider, for example, the hypothesis that the extent of racial or religious discrimination in employment in a particular area or industry is closely related to the degree of monopoly in the industry or area in question; that, if the industry is competitive, discrimination will be significant only if the race or religion of employees affects either the willingness of other employees to work with them or the acceptability of the product to customers and will be uncorrelated with the prejudices of employers”

This hypothesis is based on the assumption of rational self-interest applied to behaviour by employers in the competitive industry. This hypothesis, according to Friedman, thus gains positive expectation of its predictive validity since underlying assumption worked well in a “wide variety of hypotheses in economics bearing on many of the mass phenomena with which economics deals” (Friedman, 1953, p.29)

2.5.5 Concluding the instrumentalist – realist debate

According to Caldwell (1982, p.173) Friedman’s methodology of positive economics is probably “the most well known piece of methodological writing in economics; never before has one short article on methodology been able to raise so much controversy”. However, the prescriptions, which are advanced in the essay, have been widely accepted by many economists in the field. If consensus among practitioners is any measure of the adequacy of a methodological approach, the value economists place on predictive adequacy lends clear support for Friedman’s view (Caldwell, 1982, p.185). A more valuable argument in favour of the instrumentalist position, in its insistence of the predictive adequacy to judge a theory, is that allows for the avoidance of a number of problems that are associated with the realist position, such as the scientific value of theoretical terms such as atoms, photons etc (see appendix B; contemporary critique on positivism). Besides, the goal of this study is to find policy solutions to minimize the likelihood of an ‘economic wrong’ – a mega project budget overrun - from happening in the Netherlands. This means that the emphasis within the scope of this study is not to explain the phenomenon of mega project budget overruns as descriptively realistic as possible,
but to explain it such that the explanation allows for accurate predictions, which are a necessary condition for the formulation of effective policy solutions. Friedman (1953, p.4) stresses the necessity of making predictions in relation to the formulation of policy solutions;

"Normative economics and the art of economics, on the other hand, cannot be independent of positive economics. Any policy conclusion necessarily rests on a prediction about the consequences of doing one thing rather than another; a prediction must be based – implicitly or explicitly – on positive economics. There is not, of course, a one-to-one relation between policy conclusions of positive economics; if there were, there would be no separate normative science. Two individuals may agree on the consequences of a particular piece of legislation. One may regard them as desirable on balance and so favour the legislation; the other, as undesirable and so oppose the legislation".

With regard to differences in values that individuals might have and the role that positive economics has therein Friedman claims the following:

"currently in the western world……. differences about economic policy among disinterested citizens derive predominantly from different predictions about the economic consequences of taking action – differences that in principle can be eliminated by the progress of positive economics – rather than from fundamental differences in basic values39, differences about men can ultimately only fight".

In the case of mega project budget overruns there hardly can be any doubt that this is a ‘wrong’ and thus probably won’t be subject to any normative debate, the question on what actions (policies) to take (implement) with regards to mega project budget overruns is thus one relating to positive economics.

2.6 Complementarity, Rivalry and Ockham’s razor

So far, successfulness has been established as the demarcation principle to choose among alternative theories. In paragraph 2.5.2 it has been discussed that theories can be equally successful, which is indicated by the term ‘theoretical pluralism’. In this hypothetical situation, other principles are put forward by Friedman to choose among those equally successful theories: simplicity and fruitfulness. By using the principles of simplicity and fruitfulness theoretical pluralism with regard to a certain phenomenon thus ultimately falls back on theoretical monism in which the most simple and or fruitful theory is favoured at the expense of the other even successful theory. The question is whether these selection principles do not eliminate theories that also provide predictive insights in other

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39 Friedman (1953, p.5) uses the example of minimum wage legislation; "Underneath the welter of arguments offered for and against such legislation there is an underlying consensus on the objective of achieving a “living wage” for all… The difference of opinion is largely grounded on an implicit or explicit difference in predictions about the efficacy about this particular means in furthering the agreed-on end. Proponents believe (predict) that legal minimum wages diminish poverty by raising the wages of those receiving less than the minimum wage as well as of some receiving more than the minimum wage without any counterbalancing increase in the number of people entirely unemployed or employed less advantageously than they otherwise would be. Opponents believe (predict) that legal minimum wages increase poverty by increasing minimum wage without any counterbalancing increase in the number people entirely unemployed or employed less advantageously than they otherwise would be".
aspects of the same phenomenon. By eliminating theories that are equally successful with the help of the secondary selection, principles of fruitfulness and simplicity could -in the case of this thesis-reduce the likelihood of successful policy formulation.

In this paragraph, the possibility of theoretical pluralism is explored with respect to theories that show a degree of successfulness with regard to predicting a phenomenon. With regards to a degree of successfulness there are two possibilities; (1) theories are equally successful, as discussed earlier, and (2) one theory is more successful then the other. In both cases, when choosing the methodological point of view of 'theoretical pluralism', it could be beneficial to keep all theories, which show a degree of successfulness, as being complementary to each other. The possibility of complementarity, as being an implication of 'theoretical pluralism', is a term that Niels Bohr had introduced in 1927: "The very nature of the quantum theory thus forces us to regard the space-time co-ordination and the claim of causality, the union of which characterizes the classical theories, as complementary but exclusive features of the description" (Bohr, p. 115). Thus, complementarity here means to keep distinct what has traditionally been merged. In contrast, the complementarity of the particle-like and the wave-like behaviour of light brings together contradictory, with respect to the phenomenon of light, theoretical models that traditionally are regarded as excluding each other. These two ways in which complementarity reveals itself, leads to the following description of complementarity (Reich, n.d);

"Complementarity refers to the possibility that the same entity/phenomenon manifests itself in distinct, categorically different ways. All the differing manifestations need to be described and explained, and be part of an overarching theory of the entity/phenomenon, but not all occur in the same spatial, temporal, or situational context, respectively".

With respect to imperative ‘need to be described and explained’, it can be said – from an instrumentalist point of view – that this necessity only occurs when a description of a distinct manifestation of a phenomenon leads to a successful prediction. With respect to the phenomenon of light, the two descriptions – particle like and wave like behaviour – led to successful predictions of the phenomena of the ‘photo-electric-effect’ and ‘interference patterns’ respectively. This means that regarding the phenomenon of light two complementary descriptions exist since the two contradictory descriptions have led to successful predictions in two distinct cases. But what about complementarity with regards to predicting one phenomenon? Let us say that two equally successful explanations, or one more and another less successful theory, are found with regards to predicting mega project overruns, are these theories to be treated as each other’s complements for this particular phenomenon? To answer this question, Ockham’s razor is used. This principle is attributed to the 14th century logician and Franciscan friar, William of Ockham (Wikipedia, n.d). The principle states that the explanation of any phenomenon should make as few assumption as possible, eliminating those that

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40 Different theories, by definition, describe a phenomenon in different terms; thus they highlight different aspects of the same phenomenon.
make no difference in the observable predictions of explanatory hypothesis or theory. Ockham’s razor thus demands that an explanation is free of elements that have nothing to do with the phenomenon (Braddon-Mitchell and Jackson, 2007, p.303); in instrumentalist terms, this means that the explanation should be free of elements that do not contribute to the successfulness of the prediction. The relevance of this maxim with regards to the expected successfulness of policy formation is the following; allowing more irrelevant elements in theories upon which policies are formulated enlarges the likelihood of these policies being unsuccessful with respect to the desired consequences. Both less successful and equally successful theories, which are more parsimonious, allow more elements that are irrelevant. This makes them less likely to be successful in terms of using them in reaching policy decisions.

This means, taking Ockham’s razor serious from an instrumentalist point of view, that complementarity is only to be desired with respect to explanatory variables in general – e.g. light in its different descriptions as explanatory variable with respect to the photo-electric-effect and interference patterns – and not with respect to the phenomenon to be predicted, since one of the theories necessarily has more irrelevant elements. However, it could very well be that in real life problem solving using only one theory (at the expense of the other successful theory) is insufficient to curb that particular problem since solving the problem at hand involves predictions concerning multiple phenomena underlying the problem itself. Whether this is the case is a difficult subject matter, which will only be discussed when within this thesis a situation arises in which two (equally) successful theories are found with regards to predicting the problem of mega project budget overruns.

Another argument in favour for this type of complementarity is made by Karl Popper. His argument for simplicity is from a ‘growth of science’ perspective; the preference for simple theories can be justified according to Popper “because their empirical content is greater; and because they are better testable”. In other words, a simple theory applies to more cases than a more complex one, and is thus more easily falsifiable (Popper, 1959, pp.121-132).

Concluding this paragraph, the following can be said: Even in the case that two theories are equally successful with respect to a phenomenon, the ‘simpler’ theory is to be desired because (1) the human action based upon these theories is more likely to be enhanced in terms of its desired consequences and (2) simpler theories are easier falsifiable.

2.7. Narrowing down the number of alternative theories

Now that a methodological stance has been taken, the available alternative theories, which are able to account for the problem of mega project budget overruns, can be judged according to the prescriptions of that stance. Good reason has been found to regard successfulness – the predictive accuracy of theory with regards to a phenomenon – as the criterion for theory choice. Also the insights gained in the previous paragraph with regards to complementarity further allow us to disregard theories even if they are equally or less successful in predicting a certain phenomenon. At this point,
five alternative theories remain with respect to the phenomenon: the political economical explanations by (1) Flyvbjerg et al and (2) the Commission Duivesteijn, and the economic explanations of (3) Public Choice Theory (PCT), (4) the Austrian Economic Perspective (AEP) and (5) Old Institutional Economics (OIE). With respect to applicability of OIE concerning the phenomenon of mega project budget overruns the following can be said. Since the purpose of the OIE framework – unlike the Public Choice and Austrian Economic framework - is not to predict but to understand the process of change of institutional development (Bush, 1991, pp.321-346), OIE can thus be disregarded based on instrumentalists methodological considerations. In its endeavour to understand, OIE favours relevancy and realisticness (Groenewegen, 2001, p.18) at the cost of rigour thereby denying that significant theories tend to “explain much by little” (Friedman, 1953, p.14).

It is apparent that the theoretical alternatives proposed by Flyvbjerg et al and the Commission Duivesteijn are much more specifically applicable then the theoretical alternatives of PCT and the AEP. The explanation made by Flyvbjerg et al and Duivesteijn focus on mega project development and mega project development in the Netherlands respectively, while the PCT and AEP ‘focus’ on non-market decision-making and all economic decisions made in a society respectively. Following the insights from the previous paragraphs, in which it was concluded that the simpler theory is applicable more generally and therefore to be preferred, it can be said that on a priori grounds PCT and the AEP are to be preferred; strictly speaking, AEP is to be preferred above PCT. However, when the more general theories fail to successfully predict a phenomenon one must turn to more specific theories at the expense of generalizability. So at this point, it can be tentatively be concluded that PCT and even more so the AEP are to be preferred in relation to further analysis within this thesis. That is because (1) they provide distinct explanations, (2) their conditions of applicability hold, (3) they are not in contradiction with the empirical material provided for by Flyvbjerg et al, (4) the instrumentalist methodological point of view is applicable, and (5) PCT and the AEP are the more simple and general theories with regards to the phenomenon of mega project budget overruns.

2.8. Conclusion; philosophy of science criteria

A brief and concise overview is given in this chapter of developments in the philosophy of science of the recent period (20th century); the overview in this chapter constitutes only the positivist period and thus excludes the contemporary philosophy of science critique. This choice is made, as noted in the opening paragraph of this chapter, since the contemporary philosophy of science critique is focused on the context of discovery rather, then the context of justification of science; given the formulation of the research question, the context of justification is more relevant. The contemporary philosophers of science showed that (1) science is not actually progressing the way the positivists are claiming it to progress and propose different models to account for the growth of knowledge over time and (2) show that there is a number of inconsistencies in the position of positivist tradition of philosophy of science (see appendix C). However, the contemporary philosophers of science do not come up with new demarcation criteria of their own.

From an instrumentalist point of view the comment of Ronald Coase (Coase, 1985, pp.229-231) still holds; “American institutionalists were not theoretical, but anti-theoretical…. Without a theory they nothing to pass on expect a mass of descriptive material waiting for a theory, or a fire”.

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The Betuwelijn, or the failure of democracy as we know it?

<table>
<thead>
<tr>
<th>Demarcation principle</th>
<th>The status of a theory</th>
<th>The role of theory in science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logical positivism</td>
<td>Verifiability</td>
<td>Inherently non-scientific because it includes non observable statements</td>
</tr>
<tr>
<td>Logical Empiricism</td>
<td>Confirmation</td>
<td>Only true if corresponding empirical sentences are tested and true</td>
</tr>
<tr>
<td>Popperian Positivism</td>
<td>Falsifiability</td>
<td>Best theory has the highest Degree of verisimilitude: Truth content and falsity content</td>
</tr>
<tr>
<td>Instrumentalism</td>
<td>Successfulness</td>
<td>The best theory for a given set of conditions is the theory that predicts the most accurate</td>
</tr>
</tbody>
</table>

Table 2.1: Overview of philosophy of science views on demarcation principles and the status / role of theories

The overview in this chapter is focused on which criteria demarcate good from bad science and what the role and status of a theory / theoretical statement is in the scientific endeavour (see table 2.1; summary chapter 2). The instrumentalist – realist debate is also addressed to judge whether the goals of theory is to predict or to explain phenomena in reality. The instrumentalists position, which is positivist in the sense that empirical data is imperative to test theories and logic is used to structure theories, avoid many of the problems, which are raised by contemporary critiques. For instance, the problem realists have to accommodate non-observables elements, such as atoms, photons and magnetic fields, into science. Instrumentalists, on the other hand, avoid this problem by claiming that a theory does not have to be descriptively realistic but successful in their prediction for the class of phenomena the theory is meant for. Besides this theoretical argument in favour of the use the instrumentalism philosophy of science in this report, there is also a more practical argument. The goal of this study, in the end, is to formulate the solutions to minimize the likelihood of mega project budget overruns from occurring in the Netherlands, which means that it is not the prime objective of this study to be as descriptively realistic as possible. The prime objective is to be sufficiently descriptively realistic in order to be able to make accurate predictions, which are necessary for the formulation of effective policy solutions. Besides predictive successfullness as a criteria of demarcation, the criteria of simplicity and fruitfulness (both instrumentalist criteria; see paragraph 2.3) are also used if two or more theories prove to be equally successful in predicting the phenomenon of mega project budget overruns.

With respect to the three philosophy of science assumptions that have been made in paragraph 1.6 concerning the report’s research questions, it can be said that the assumption concerning the compatibility of empirical data as criteria to distinguish is not in contradiction with the conclusions made in this chapter. The second assumption – a theory is the best theory for a class of phenomena if
it explains most accurately – however, is not in line with the conclusions derived at in this chapter since the instrumentalist position is taken. This is not a problem, however, if a theory fits a covering law model, which means that every explanation is a prediction. As discussed before with respect to those covering law models, the only difference between an explanation and a prediction is a temporal one. This means that whenever ‘explanation’ is used in this report it immediately also implies ‘prediction’. With regard to the instrumentalist position, the previous statement means that a theory explains a phenomenon best whenever the prediction based on this explanation fits the observational data best. The third assumption - generalization of a theoretical explanation of a case is only possible if the theoretical explanation is accurate with respect to that case – is false or true with respect to what kind of position you take on whether only laws of universal form are allowed in scientific explanations or that statistical laws are also allowed. The former position stresses that if the initial conditions along with the general laws are present, the phenomenon described by the ‘explanandum’ must occur. The latter position stresses that if the requisite initial conditions along with statistical laws are present, the phenomenon described by the ‘explanandum’ has high logical probability. The complexity of the phenomenon of mega project budget overruns does not allow logical necessity of the ‘explanandum’ if the ‘explanans’ is apparent. This means that a theoretical explanation does not necessarily have to correspond to a certain case of a mega project budget overrun, however it does have to correspond to statistical significant amount of mega projects budget overruns. Thus, generalizations of a theoretical explanation – in this case the Public Choice theoretical explanation and the Austrian Economic explanation – based upon one case study is not necessarily impossible if the explanation does not fit the empirical facts concerning that case.
3. Public Choice and Austrian Economic Theory: The Essence

“Homo politicus and homo economicus are the same. The critical implication of this assumption of universal self-interest is that the differences between public choices and private choices emerge not because individuals adopt different behavioural objectives in the two settings, but rather because the constraints on behaviour are different. Different outcomes emerge not because public choices are guided by motives different from those guiding private choices, but rather because in private markets self-interested voters and politicians make choices that mainly affect themselves, while in political markets self-interested voters and politicians make choices that mainly affect others”. (McChesney and Shughart II, 1995, pp.9-10).

“And the worries of satisfying the simplest needs of life fill the sphere of thought of the great multitude of men and become the levers which force them to undertake the most unpleasant labours…. No fortune, and be it ever so large permits the owner to satisfy all his wants and needs; he therefore evolves an activity, which we call the economy…. Therefore, those who are at the head of the state have to contrive the welfare and happiness of the citizens by a successful promotion of their economic endeavours. But even these measures of the state must have their limits, for it is better for the common good of society, if the individual and his family have to answer for the provision of their subsistence; for in this case lies the perpetual impulse to industry”. (Crown Prince Rudolf of Austria in Steissler(1988), 1876).

This chapter describes the essence of the two alternative theoretical frameworks – Public Choice Theory and the Austrian Economic Perspective - as they are proposed in the introductory chapter. By the essence of a theory, the ‘explanans’ of a theory are meant: its statistical behavioural laws and conditions under which both theories are applicable. This ‘explanans’ forms the basis for the analyses in chapter 5 and 6.

3.1 Introduction; the essence of a theoretical framework

In the last chapter about the philosophy of science, the criteria are established to determine which theory is the best theory in predicting the phenomenon of mega project budget overruns. These criteria form the basis for the theory choice concerning the phenomenon of mega project budget overruns to be made in chapter 7.Two alternative theoretical explanations – Public Choice Theory and the Austrian Economic Perspective – have to be researched in terms of their essence first before they can be applied to the phenomenon of mega project budget overruns;

What is the essence of Public Choice Theory and the Austrian Economic Perspective in terms of their necessary assumptions and conditions of applicability?

Within the previous chapter, the structure of theories, besides criteria of demarcation, is also discussed: respectively the ‘hypothetico-deductive’ (H-D) system\(^{43}\) which describes the structure of a

\(^{43}\) A theory contains axioms or primitive sentences and theorems or derivative statements. The axioms may refer to observables or theoretical terms. The structure of a theory can be described as a deductive system, which contains hypotheses arranged in order of levels.
theory, the ‘deductive – nomological’ (D-N) and the ‘inductive – probabilistic’ (I-P). The last two mentioned covers law models which hold that each legitimate scientific explanation must be expressible in the form of a deductive argument in which the ‘explanandum’ is a logical consequence of a group of sentences called the ‘explanans’. The ‘explanans’ in the I-P model are comprised of sentences describing the requisite initial conditions along with the statistical laws, in the H-D model the ‘explanans’, consists of the sentences describing the requisite initial conditions along with general laws. By the ‘explanandum’, the sentences are understood that describe the phenomenon itself (see paragraph 2.2.2); in this case, of course, this is the phenomenon of mega project budget overruns. The deductive nature of explanation in the D-N model stresses that if the initial conditions along with the general laws are present, the phenomenon described by the ‘explanandum’ must occur. In this chapter, however, the I-P covering law model is used to describe the essence of the two alternative theories; the complexity of the phenomenon of mega project budget overruns does not allow for logical necessity of the ‘explanandum’ happening. Unlike the deductive nature of the H-D model, the I-P model stresses that if the initial conditions along with the statistical laws are present in a situation in reality, the phenomenon described by the ‘explanandum’ has high logical probability (see paragraph 2.3.3). With regard to Public Choice’s behavioural law of ‘rational-self-interest’, this means that generally speaking government officials, most of the time, behave in accordance with their rational-self interest. The reason for favouring the I-P model is that it is in accordance with the instrumentalist position – defended in the methodology section - from which it is clear that the H-D covering-law-model poses too strict restrictions on scientific theories; a theory can of course be useful upon implementation within human behaviour without being undesirable from more strict philosophical principles.

As indicated earlier; this chapter will introduce two alternative theories first; Public Choice Theory in paragraph 3.2 and the Austrian Economic Perspective in paragraph 3.4. The initial conditions of both theories along with the essential statistical laws will be dealt with in paragraph 3.3 (Public Choice Theory) and 3.5 (The Austrian Economic Perspective) respectively and finally paragraph 3.6 concludes.

3.2 Introduction into Public Choice Theory

Public choice is a scientific analysis of government behaviour and, in particular, the behaviour of the individual with respect to government. Strictly speaking, public choice theory has no policy implications except that in some cases it might be demonstrated that a particular policy is impossible or extremely unlikely to achieve its stated policy goals (Tullock, Seldon and Brady, 2000, p.3). Public Choice is not different from mainstream neo-classical economics in its methodology. However, it is novel in the sense that it uses a different assumption for the behaviour of the individual with respect to government. Until the days of Adam Smith, most social discussion was essentially moral. Individuals - being businessmen, civil servants, politicians etc – were told what the morally correct thing was. It was

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44 “The deductive nature of explanation stresses that if the initial conditions along with the general laws are present, the phenomenon described by the ‘explanandum’ must occur. In the I-P model the ‘explanans’ is comprised of sentences describing the requisite initial conditions along with statistical laws. “This confers upon the ‘explanandum’ statement a high logical probability” (Hempel, 1963, p.110).
implicitly assumed that all these people were engaged in maximizing public interest (Tullock et al., 2000, p.4). Machiavelli45 and Hobbes46 were exceptions to this rule however; their influence was not very great. They were felt to argue against morality itself. The prevailing notion of human nature and government was that the moral or the concern for the public interest was the driving force for human action. This changed when Adam Smith47 developed modern economics by assuming that individuals were very largely self-interested. Adam Smith worked out the consequences of that assumption in the realm of economics. However, in his most famous work (footnote 4) he wrote three chapters on government in which he retained the moralistic or public interest model of human action (Tullock et al, 2000, p.4). This bifurcated view of human action well into the 20th century; on the one hand, economists assumed that individuals are primarily concerned with their own interest48 and worked out that assumption as Adam Smith did and on the other hand, political scientists largely assumed that political actors are mainly concerned with the public interest. However, economists – from which James Buchanan and Gordon Tullock are two of the most important pioneers49 - have changed this bifurcated view of human action by developing the theory of public choice. In essence, they have transported the analytical framework of economics into political science (Mueller, 2003, p.1).

This does not only mean the application of the assumption of rational self-interest in political science but also the view of the political system as an analogy between the state and the market instead of the analogy between the state and the person. Buchanan suggested that one should see the state as an institution through which individuals interact for their mutual benefit – "that one think of government, as Wicksell (1896) did, as a quid pro quo process of exchange among citizens" (Buchanan, 1986, pp. 19-27). Because of this notion of ‘politics as exchange’, public choice theorists refer to these patterns of exchange as the political market place (see also figure 3.1).

3.3 Conditions of applicability for Public Choice theory and its statistical laws

Public Choice Theory thus concerns non-market decision-making within the political market place, which is depicted in figure 3.1. The initial conditions necessary to obtain for Public Choice Theory to be applicable are discussed first, after which the statistical laws of Public Choice are addressed.

48 An individual may, as most people do, make charitable contributions from time to time. These are usually a fairly small part (5 per cent or so) of his total income (Tullock et al., 2000, p.5).
Three initial conditions need to be present in order to make a public choice theory applicable to make predictions about reality: (1) a society/nation can be divided into three groups of actors (see figure 3.1), politicians, bureaucracies and voters, (2) the interactions between the three groups of actors can be characterized as one of exchange and (3) the process of exchange/actor behaviour is bounded by rules/institutions.

While the rest of the thesis outlines the Dutch Parliamentary system, the basic principles of Public Choice Theory can also be made applicable to other political systems such as dictatorships.  

1. **Actors (see figure 3.1: V, B, P)**

   As indicated before, a society/nation can be divided into three groups of actors: Politicians (see figure 3.1: P) and bureaucracies (see figure 3.1: B), which make up the government (G) and voters (V) which reside in the civil society (see figure 3.1: CS).

2. **Interactions between actors (see figure 3.1: arrows):**

   As already indicated in the previous paragraph, Public Choice theorists view politics as exchange, which take place in the political marketplace. The question, which is relevant here, is what do the three types of actors (P, V, B) exchange? To start with politicians: Every politician needs enough votes of the group of voters (see figure 3.1: arrow 1) to get into power or hold their position of power. Politicians can receive other benefits which are more direct then votes; politicians can be offered campaign contributions or jobs (arrow 3) by voters or groups of voters in exchange for promises that they will vote and/or promote certain favourable policies (arrow 5). The various voters get various goods provided by the government, or more specifically through a bureaucracy (arrow 2). Those goods provided by the government, or more specifically through a bureaucracy (arrow 2). Those  

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goods are provided by through monetary compensation (e.g. tax cuts or unemployment benefits) or through regulation (e.g. unemployment laws).

The interaction between politicians and the bureaucracy can be described as follows: the politicians make policies dictating how the bureaucracies have to distribute goods across society (arrow 2). Bureaucracies on the other hand try to convince (arrow 8) politicians that they are best able to realize the policy plans the politicians have or that they are best able to serve the needs that exist within various voter groups. In order to fulfil these tasks of executing the policy plans, the bureaucracy gets a portion of the governmental budget allocated through the budgetary process to support their operations (arrow 4). In most western democracies, politicians have the ability to hire and fire bureaucrats (arrow 6). Voters / voter groups can also offer jobs or other forms of compensation (arrow 7) to certain bureaucrats within a bureaucracy in exchange for a more favourable distribution of goods by a bureaucracy (arrow 2). Of course, there are also interactions within each category of actors we have described above, for example, politicians interact with other politicians within the political market place through the parliamentary process.

3. Institutional rules

Every government contains a set of institutional rules that constrain the various actors (P, B, and V see figure 3.1) in their behaviour (read: interactions). Every government can enforce its decisions regarding the interest groups using police power.

3.3.2 Statistical laws concerning actor interactions in the political market place:

The interactions (Figure 3.1; arrow 1 until 8) that are described in the last paragraph rest on a number of statistical laws / assumptions related to actor behaviour in the political marketplace. Public choice theory uses the same statistical laws / assumptions as economic science does with regard to human action. The assumptions can be divided into three categories: (1) governmental actors behave according to their self-interest, (2) actors in the political market are rationally ignorant and (3) actor interactions / patterns of exchange in the political marketplace are subject to transaction costs:

1. Governmental actors behave according to their rational- self-interest:

Public choice does not employ the assumptions that all governmental actors behave according primarily to a desire to improve social welfare. Instead, public choice uses the traditional economic assumption of rational self-interest when exploring the interactions described between several actors in the political marketplace (Buchanan, 1975, p.149).

2. Actors in the political market are rationally ignorant:

Actors in the political market face costs to acquire process or distribute information. Actors in the political market acquire process or distribute information until the expected marginal costs equal the expected marginal benefits from being better informed. This means that it could be beneficial for certain actors not to be informed about certain issues. Public Choice theorists (Tullock, 2005, p.225) call this phenomenon rational ignorance.
3. Interactions between actors are subject to transaction costs:

Transaction costs include the cost of voting, organizing political campaigns, lobbying, administering the bureaucracy, or removing actors or politicians from office by recall or impeachment. This means that none of such acts is free of costs. Actors thus only engage in those actions whenever the marginal benefits exceed the marginal costs (Mueller, 2004, p.74).

3.4 Introduction: Austrian Economic Perspective

The quote in the beginning of this chapter originally written down by Crown Prince Rudolf of Austria during a course given by the founder of the Austrian Economic School – Carl Menger – summarizes the very essence of the Austrian economic thought according to Streissler (1988, p.191). The Austrian School of Economics sees economics as nothing but the consequence and outflow of the consumption needs of individuals, as the consequence of the psychological drives and motives working on individual fulfilment of these needs. The Austrian School created the idea of optimising man in economics, the notion of economising man and oft the process of his economising. This individualist focus in the AES was very different from they way in which scholars thought about economics: The main focus of economic science until the 19th century was the question of what the best means were towards economic development, population growth and the increase of material power of the nation state. In the 19th century the nature and the causes of economic thought were still the main focus of economic thought, however now wealth was not solely identified with trade and finance but also with the development of productive processes and particularly labour. As this classical type of economic thought progressed, economic thought began to focus on the distribution of national revenue between different classes of a society. In the third quarter of the 19th century, however, economic thought shifted away from classical economic thought: prices were no longer being thought of as determined chiefly by production or the supply of commodities, but above all by individual demand. This shift in economic thought is called the neo-classical revolution after which economic thought mainly focussed on price determination. This revolution was brought about by three distinct authors in three different places: (1) Jevons (1835-1882) in Manchester who presented economics mainly as the calculus of pleasure and pain of the rational individual, (2) L.Walras (1834-1910) in Lausanne was above all interested in equilibrium prices resulting from market exchange and (3) C.Menger (1840 -1921) – the founder of the Austrian Economic School of thought – in Vienna treated the whole span of the decision process of individual economic man to thorough economic analysis (Streissler, 1988, p.192). The Austrian Economic School (AES) while being a part of the larger neoclassical tradition remained a distinct entity. This is because the AES stated that all economic

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51 This focus which was at his peak during the mercantilist tradition between 1625 to 1775. “Mercantilism is an economic theory that holds that the prosperity of a nation is dependent upon its supply of capital, and that the global volume of international trade is “unchangeable”. Economic assets or capital, are represented by bullion (gold, silver, and trade value) held by the state, which is best increased through a positive balance of trade with other nations (exports minus imports). Mercantilism suggests that the ruling government should advance these goals by playing a protectionist role in the economy; by encouraging exports and discouraging imports, notably through the use of tariffs and subsidies” (Wikipedia, n.d.)

phenomena could be traced to human motivations and to the interpretation of events by individuals; according to Streismann (1988, p.193) “only the AES developed a general analysis of human decision making as such or a general theory of human choice by rational man. Thus the AES broadened economics into a philosophy of means”.

Another point in which the AES was different from the other neoclassical economic schools was its preoccupation with uncertainty surrounding economic decision making; while the classical economic tradition and also the other neoclassical schools of thought assumed that economic man is fully informed about all the data necessary for rational decision making. According to Austrian economists, uncertainty is mainly caused by the time-consuming nature of economic processes in general and of production in particular. If production takes time, producers for example can never know the market conditions that are going to prevail at the time when they are ready for delivery; they can never be sure that the price finally achieved will meet the costs made; and what the costs have been is, on the other hand, completely irrelevant for the price of sale. All neoclassical economist would recognize this point, however, Menger explicitly linked this point to the time required for economic transactions with the likelihood of miscalculation; Menger calls this ‘time-error’. Streissler (1988, p.193) argues that this lack of interest, by other neoclassical schools, in time or the fog of uncertainty surrounding economic processes is due to their focus on the end –effect of economic processes, or, more technically, their interest in equilibria. Menger, however, unlike the other neoclassic economists, was not interested in stable equilibria since he thought that prices in particular might be indeterminate within a wide margin and that there was a scope for bargaining in price determination.

In conformity with the subjective value view of economic phenomena, Menger also stressed the importance of information (Streissler, 1988, p.194). This led him to evaluate the importance of market institutions such as entrepreneurs who collect and evaluate the information concerning market conditions, whereas entrepreneurs in the other neoclassical schools were more seen as producers. Also, the relevance of the institution of property rights as a proper incentive structure for human action was recognized by Menger.

All the ideas sketched by Menger would be more fully developed during by later generations of Austrian Economic scholars. For instance, the time dimension in production led Bohm-Bawerk to arrive at his capital theory in which he tried to measure capital in terms of average time needed before commodities produced by it become consumable units. The stress on uncertainty and the calculatory errors led Austrians turn into the analyses of economic fluctuations and business cycles. Menger’s ideas on price indeterminacy and on bargaining processes found their way into the work of J. von Neumann and O.Morgenstern who are know for their work in strategic games. Wieser developed the notion of the importance of accurate calculation and accounting for economic efficiency (Steissler, 1988, p.195). According to Wieser, marginal utility provides a measuring rod on the subjective level while market prices play this role on the objective level. This idea that prices serve as an institution of information about economic conditions of relative scarcity were fully developed by L. von Mises and F.Hayek. The importance of accurate calculation and accounting for economic efficiency and the role of prices as an institution of information led Wieser to claim that in order to achieve efficiency a socialist economy would have to use economic calculations in just the same way as a capitalist one.
L.von Mises turned this point around by claiming that a socialist economy (socialist in the sense that economic planning is done centrally) will never achieve the efficiency of a capitalist economy because there were no market prices in such an economy to provide the planners with information of the economic conditions of the country. F.Hayek modified this point by claiming that a socialist system lacked the cheapest means of gathering information and would therefore be very costly to run while the market being the optimal discovery procedure of information because of the existence of the institution of competition therein.

3.5 Requisite initial conditions for the applicability of Austrian Theory and its statistical laws

The Austrian Economic School defines economics as the science of ‘praxeology’. ‘Praxeology’ is the science of purpose-laden human action. In other words, all actions which are directed by purposes of intentions fall within the domain of economics (Von Mises, 1949, p.25). The assumptions that underlie the Austrian Economic Perspective can be divided into four categories: (1) every human action is purposeful, (2) Value is subjective, (3) Knowledge exists as dispersed bits of information in society and (4) the time consuming nature of economic decisions is the main cause of uncertainty.

1. Every human action is purposeful

In Austrian Economics, it is assumed that humans have a priori knowledge of their existence and their mind. A posteriori knowledge, on the other hand, is experiential knowledge (empirical knowledge) which is not something that humans are born with. Von Mises uses these self evident axioms to set up economics as a praxeological system based on the a priori assumption of human action aimed at purposes; human action is aimed at the removal of “felt uneasiness” (Von Mises, 1949, p.232). The consequences of his or her actions have a logical structure because according to Von Mises the mind is logically structured since the values an individual human being holds are marginally ranked according to his or her priorities (Von Mises, p.25). This according to Von Mises means that human action is necessarily always rational (Von Mises, 1949, p.142). The opposite of rational behaviour is not irrational behaviour but a "reactive response to stimuli on the part of bodily organs and instincts which cannot be controlled by the volition of the person concerned" (Von Mises, 1949, pp.19-20).

2. Value is subjective

As noted before, the AES treats value as subjective and the basis of all economic phenomena. All economic phenomena could be traced back to human motivation and to the interpretations of events by individuals. This notion broadens economic science into a philosophy of means according to the Austrians.
3. Knowledge of particular circumstances exists as dispersed bits across society

The knowledge from which economic calculus\(^{53}\) - for the Austrian this is subjective value - starts is never for the whole society given to a single mind, which could work out the implications and can never be so given. The problem of a devising a rational economic calculus is “determined by the fact that the knowledge of particular circumstances\(^{54}\) of which every individual must make use never exists in concentrated or integrated form but solely as dispersed bits of incomplete and frequently contradictory knowledge which all the separate individuals possess” (Hayek, 1945, p.519). Hayek concludes based upon the previous statement that the economic problem that society faces is a problem of “how to secure the best use of resources known to any of the members of society, for ends whose relative importance only these individuals know” (Hayek, 1945, p.520).

4. The time consuming nature of economic decisions is the main cause of uncertainty

Production takes time, which means that those producers never fully know the market conditions that are going to prevail at the time their product is ready delivery. The time required for economic transactions thus gives rise to the likelihood of miscalculation (Streissler, 1988, p.193).

3.6. Conclusions: The essence of PCT and AES

The essence of Public Choice Theory (PCT) and the Austrian Economic Perspective (AEP) are described according to the 'inductive – probabilistic' (I-P) covering law model of Hempel. The essence of the 'explanans' of Public Choice and Austrian theory have been laid out in this chapter. The statistical laws of Public Choice theory concern the behaviour of actors in the political market place. Actors in civil society as well as in government are assumed to pursue their (1) rational self-interest, these actors are expected to be (2) rationally ignorant in certain instance and (3) all the actions of the actors within the political market place are subject to transactions costs. The requisite conditions for the applicability of public choice theory are that (1) a nation / society can be divided into three classes of actors, (2) that these actors exchange goods and that the (3) interactions of actors are bound by institutions. The statistical laws of the Austrian Economics School includes the following assumptions: (1) all human action is purposeful and aimed at the removal of uneasiness, (2) value is subjective and the basis of all economic phenomena, (3) knowledge of particular circumstances exists as dispersed bits across society and (4) the time consuming nature of economics decision is the main cause of uncertainty with respect to the result of those decisions. Because the Austrian Economic School developed a general analysis of human decision-making or a general theory of human choice by a rational man, Austrian Economics becomes applicable to all situations of human exchange, thus it also seems applicable to the phenomenon of mega project budget overruns. Public Choice Theory seems

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\(^{53}\) The problem of the economic calculus is the problem of what is best use of the available means to the ends existing in society (Hayek, 1945, p.77)

\(^{54}\) Knowledge is used by Hayek (1948,p.51) as knowledge of how different commodities can be obtained and used and under what conditions they are actually obtained and used.
applicable to the phenomenon of mega project budget overruns since mega projects are a product of
the interactions between actors in the political market place (see figure 3.1).

As noted before, the ‘explanans’ of both Public Choice Theory will be worked out in full in chapter
5. If is the case that both theories are applicable to the phenomenon of mega project budget overruns,
then the ‘explanans’ of both theories as described in this chapter will necessarily confer high logical
probability to the ‘explanandum’. The part of the ‘explanans’ which has empirical content – the
hypotheses - will be tested according to the case of the Betuwelijn. The next chapter contains a
general chronological description of the case of the Betuwelijn. The AEP is left aside in this thesis from
now on since the empirical content is too little to form firm conclusions upon it. This does not mean
that the Austrian perspective is not a viable alternative to account for the phenomenon of mega project
budget overruns.
4. Case study: The Betuwelijn; Developments in short

“Freight transport via rail is imperative to preserve the position of the Harbour of Rotterdam. The status of the Netherlands as a country of transportation and Rotterdam as a mainport might be at risk if the freight transport via rail is not improved. One of the necessary steps is the development of rail transport connections that are separate from passenger transport connection between east and west. The Betuwelijn is one of those connections” (CDa, 2004, p.27).

These chapter intents to get familiarized with the case of the Betuwelijn. The most important events are described; from the economic developments that led to the moment in which the Betuwelijn was put on the political agenda until the moment that the Commission Duivesteijn was instituted by the Dutch parliament to investigate the budget overruns of the Betuwelijn and the HSL – Zuid. This chronological overview forms the basis for the Public Choice and Austrian Economical analysis in chapter 5 and 6. In these chapters, the Betuwelijn is analyzed not through a chronological perspective but through the Public Choice and Austrian perspective respectively. The paragraphs are divided thus that they coincide with the three governmental periods (the periods in which a certain government is in place until the new elections), in which the decision making process concerning the Betuwelijn took place.

4.1 The first governmental period; the appearance of the Betuwelijn on the political agenda

This chapter intent to get familiarized with the case of the Betuwelijn. The most important events are described; from the economic developments that led to the moment in which the Betuwelijn was put on the political agenda until the moment that the Commission Duivesteijn was instituted by the Dutch parliament to investigate the budget overruns of the Betuwelijn and the HSL – Zuid.

In July 2004, the Dutch minister of Transport and Public Works (TPW), minister Peijs, opened the ‘Havenspoorlijn’ – the first 41 kilometres of the Betuwelijn - together with her Swiss and Italian colleagues. In 2007, the first freight trains were supposed to be able to reach Germany via this Betuwelijn. That moment in 2004 marks the ending of a more then 15 years period of debate, planning, research, and building (CDa, 2004, p.5). The question is how appeared the Betuwelijn on the political agenda at the beginning of that period? Around 1982, the Dutch economy was slowing down; unemployment was rising as well as the governmental budget deficit. As a reaction, the Dutch government slowed down governmental spending; almost no new investments were made in the development of new infrastructure in the Netherlands. However, at the end of the eighties, the economy began to pick up again and the government had more to spend. At the same time of the economic upturn, a new policy framework was set up in order to stimulate the economic growth that was going on at the moment; the commission Wagner was mostly responsible for the formulation of this policy framework. The commission Wagner formulated a number of economic sectors in the Netherlands which had a lot of potential to grow and, according to the commission, thus needed governmental support to fulfil their economic potential (CDa, 2004, p.16). In their advice, physical
infrastructure was dubbed as one of the main factors that could support economic growth. The adagio was that economic growth would be stimulated if the infrastructure in the Netherlands would be of better quality. One of other central concepts, next to the importance of infrastructure, within this newly formulated policy framework is the ‘mainport’ concept. This concept is built on the notion that transport and logistics was recognized as one of the main economic sectors of growth in Netherlands. At that time the ‘mainports’ Rotterdam and Schiphol Airport were seen as important hubs within the international network of transportation. The central idea was that as those ‘mainports’ would grow, the areas surrounding the ‘mainports’ would profit economically as a result. Stimulating hinterland connections is essential in the ‘mainport’ concept, in order to maximize the spillover effects of the mainport’s growth onto the surroundings (CDa, 2004, p.17).

This change of policy orientation of the Dutch government offered chances for several actors, especially actors that were operating in the ‘mainports’ Rotterdam Harbour and Schiphol Airport. Different actors within Rotterdam harbour as well as the National Dutch Railway Company (NS), at that time, were focusing on the modernization of the freight transport via rail. To realize their shared goal, cooperation between actors from the Rotterdam harbour and the NS started to intensify. However, at that time there was no political support for any investments in freight transport, for the large part this was because of the economic situation, as it existed before the Commission Wagner formulated their vision. This political situation, however, changed within several years, not only because of the report made by the commission Wagner. Several actors and reports made were essential in this period of change; the ‘Rotterdam’s Haven Bedrijf’\(^{55}\) (RHB) in 1989 that formulated a strategic vision of the harbour, in which the RHB stressed the importance of Rotterdam harbour being a ‘mainport’. The RHB concluded that the current state of the freight transport possibilities does not support this formulated ambition (RHB, 1989). After this report there were many more reports made which claim the necessity of improving the current freight transport capabilities of Rotterdam. One of the most important reports advocating this is the report made by the provinces of ‘Zuid-Holland’ and ‘Gelderland’ and five chambers of commerce\(^{56}\); on the 6th of June 1989 (NEA, 1989) this report was presented to the Ministry of Transport and Public Works (MTPW). The report contains an argumentation in favour of developing a new railway line through the ‘Betuwe’ to improve the regional economy. At first the minister of TPW at that time - Smit-Kroes - saw no possibilities to develop such a new rail project because she was sceptical about the future of freight transport via rail in general (Pestman, 2001, p.11). This attitude at the MTPW, however, soon changed after the ministry presented its plans concerning transport policy (SVV2). During the public inquiries of the SVV2 several parties reacted on the proposed plans, and claimed that freight transport via rail had enormous strategic importance; thus should not be excluded in the SVV2. One of the most important actors making this claim was ‘Nederland Distributie Land’ (NDL)\(^{57}\). Because of all the critique the MTPW

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\(^{55}\) Port authority of Rotterdam; Mostly owned by the municipality of Rotterdam and party by the Dutch State (NRC, 08-04-2009).

\(^{56}\) Chamber of Commerce: an organization that furthers the interests of companies that are a member of the organization. Membership is compulsory for almost all companies operating in the Netherlands (Kamer van Koophandel, n.d.).

\(^{57}\) NDL is an organization, founded in 1987, which promotes the position of the transport and logistics sector in the Netherlands (CDa, 2004).
received, the minister of TPW instituted a commission, the commission Van der Plas that was chaired by A. van der Plas. The assignment of the commission was to evaluate the possibilities of freight transport via rail. The commission presented their advice in July of 1989 and claimed the following (Pestman, 2001, p.12):

“Freight transport via rail is imperative to preserve the position of the Harbour of Rotterdam. The status of the Netherlands as a country of transportation and Rotterdam as a mainport might be at risk if the freight transport via rail is not improved. One of the necessary steps is the development of rail transport connections that are separate from passenger transport connection between east and west. The Betuwelijn is one of those lines” (CDa, 2004, p.27).

The report of the commission Van der Plas formed the basis for a new SVV2 (SVV2d) in which the Betuwelijn was explicitly mentioned as part of the policy plans of the government. The project had an indicative budget of +/- 1 billion Euros without any cost / benefit ratio being given. From a judicial perspective, however, there was no formal decision taken yet. However, the parliament ratified the SVV2d, and the NS and the MTPW took this parliamentary approval as a political sign to proceed with the preparations to develop the Betuwelijn (CDa, 2004, p.35). The NS, as the main responsible actor for rail projects in the Netherlands, started the ‘Trajectnota – MER’ procedure which is required for a new infrastructure project (see appendix E).

4.2 The second governmental period; the beginning of local public resistance

In the second half of 1990, the NS began working on the ‘startnotitie’ (see appendix E). This document became available in January of 1991 (NSA, 1990). Several alternative routes were presented by the NS in this document, among which an alternative representing the improvement of the current railway connection through the ‘Betuwe’. Internally, however, the NS focused on a very new railway connection through the ‘Betuwe’ because the NS wanted to separate passenger and freight transport (Pestman, 2001, p.12). Once the ‘startnotitie’ of the NS appeared, a new committee was institutionalized by the MTPW to oversee the project – the ‘Stuurgroep Betuweroute’ - in which representatives of the MTPW, VROM and the NS took part. The NS, however, remained the main actor within this committee being the main initiator of the decision making process on the alternatives of the Betuweroute. During the first meeting of the ‘Stuurgroep’, the CEO of the NS made the following claim to endorse the important role the NS should have within the decision making process:

“The Betuweroute is mainly a NS-project on which the NS wishes to take responsibility. The ‘stuurgroep’ should not be bigger then is strictly necessary” (CDa, 2004, p.37).

Based on the ‘startnotitie’, the NS was required by law to visit the public representatives of all the municipalities to let them take note of the recent plans of the NS. These visits mark the beginning of

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58 A. van der Plas is the former director of Public Works Rotterdam and later on the secretary general of the MTPW (Pestman, 2001, p.12).
59 MER; Milieu Effect Rapportage; study into the environmental effects of a certain project.
60 The startnotitie is a document that is required as a part of the ‘Trajectnota / MER’ procedure (see appendix E)
the public resistance concerning the plans for the development of the Betuwelijn. The way in which the NS presented their plans, gave the municipalities the impression that there was little room for deliberation. During that time, provincial deliberation bodies (GBO’s\textsuperscript{61}) were instituted in the provinces of ‘Zuid-Holland’ and ‘Gelderland’ at the initiative of the ‘Stuurgroep’. At first, these GBO’s were meant to facilitate efficient deliberation between the ‘Stuurgroep’ and the several local actors that were going to be affected by the development of the Betuwelijn. After only a few meetings, however, the NS and MTPW were not welcome any more at the GBO of the province of ‘Gelderland’. All the local actors represented in the GBO of ‘Gelderland’ devised a strategy to minimize the negative externalities if the Betuwelijn was going to be developed in their area. The province of ‘Zuid-Holland’ was less radical in their approach. Since the NS made their plans available, however, both provinces became favourable of the local interests, after having been one of the protagonists of the Betuwelijn in 1989 (Pestman, 2001, p.13).

In 1991, at the time the ‘startnotitie’ of the NS was published, many municipalities took the initiative to organize meetings to inform their constituents on the plans of the NS. As a result, many citizens of places along the proposed Betuwelijn organized themselves into groups that were the centre of resistance against the plans of the NS. Within half a year after the NS made its plan public, 28 groups of resistance were organized and in the beginning of 1992, those local groups began to organize into a national organization, the ‘Gezamenlijke Actiegroepen Betuwelijn’ (GAB) (Pestman, 2001, p. 13). At the end of 1992, because of all the local resistance, the members of the ‘Stuurgroep’, discussed the possibilities of speeding up the current decision making procedure concerning large infrastructural projects. The result of this discussion was to try to amend the ‘Tracewet’\textsuperscript{62} with a new chapter concerning projects, which are relevant to the ‘national interest’.

In February of 1992, the decision was made by the then current cabinet to proceed with the decision making process concerning the Betuwelijn under a new set of rules; the ‘PKB-procedure’\textsuperscript{63}. By doing this the cabinet and the parliament gain more power to make decisions; the decisions made within the ‘PKB-procedure’ have a legal binding character to all local governmental institutions (CDa, 2004). The cabinet, being advised by the inter-departmental commission for economic structural improvements (ICES\textsuperscript{64}), decided to continue the ‘PKB-procedure’. Following this decision, the NS finished the ‘projectnota / MER’ in 1992. In this document the NS concluded that the Betuwelijn along the highway A15 had the best economical and environmental cost / benefit ratio; the ‘stuurgroep’ thus decided to make this alternative their alternative of choice. The ‘projectnota’ came available for public inquiry for those who were interested, simultaneously with the publication of the PKB1 (see appendix F). The number of reactions on the PKB1 was very large: more then 2000 different reactions were voiced within the period from April until June 1992; civilians and several interest groups questioned the necessity of the project, wanted more mitigating measures for the

\textsuperscript{61} Gebundeld Bestuurlijk Overleg – Institution set up as a bundled deliberation body at the provincial level

\textsuperscript{62} The ‘Tracewet’ is a law concerning the decision making process with respect to the development or adjustments of national roads, railways or shipping lanes.

\textsuperscript{63} ‘Plannelogische Kernbeslissing’; decision making procedure which is applicable whenever the government decides to make changes in the current spatial plans

\textsuperscript{64} ‘Interdepartementale Commissie Economische Structuurversterking’; a parliamentary commission aimed at stimulating investment projects which enhanced the economic structure of the Netherlands. The ICES is now part of the CWTI (Commission aimed at Science - , Technology - and Information policy) (SenterNovem, n.d).
project, or criticised the decision making process in general. The several meetings which were organized to familiarize the citizenry with the plans of the cabinet could be characterized as very tense according to Pestman (2001, p.14). Several interest groups accused the MTPW and the NS of arrogance by not taking into account the interest of the local inhabitants in their proposed variant of the Betuwelijn. At that time, the national media started to give attention to the events around the decision making process concerning the Betuweroute (Pestman, 2001, p.14).

4.3 The second governmental period; the local debate becomes a national public debate

Because of the national media giving more attention to the Betuwelijn, more actors became involved in the decision making process. For instance, the foundation for nature & environment (SNM) became involved and was confronted with a difficult decision: SNM is sympathetic to the modal shift from road to rail in freight transport, but does not like to see that the construction of the Betuwelijn would be the reason to destroy some natural resources in the Betuwe. In a reaction on the PKB1, SNM claimed to be in favour of the new railway if two conditions were met: (1) the Betuweroute must be part of a broader push for more environmental transport policy, and (2) the proposed Betuweroute should not cause too much noise hindrance and violation of nature reserves.

In May of 1993, the cabinet made the PKB3 public (see appendix F). The PKB3 contained the changes made in the project proposal, partly because of all the public reactions on PKB1. At that time the environmental movement became an adversary of the whole project, because according to their opinion the cabinet did not take into account their proposals enough (Pestman, 2001, p., 14). Provinces and municipalities invested in research on the possibilities of building the Betuwelijn underground. Especially the province of ‘Gelderland’ was one the main centres of knowledge concerning alternative ways of building the Betuwelijn. The GBO from the province of Gelderland was very active in terms of searching for publicity and working together with local interest groups.

The parliamentary decision making process concerning the Betuwelijn started after the PKB3 was published by the parliament (see appendix F). At that time, the party political relations were more or less the same since the Betuweroute was discussed in the parliament with respect to the SVV2. The CDA and the PVDA were in favour of a new railway line designed for freight, while the VVD was in doubt and wanted more time to deliberate the project as a whole. D66 and the PVDA urged for an integrated transport policy in which the Betuwelijn was a part while GroenLinks pushed for auxiliary policies to encourage the modal shift from road to rail. According to Pestman (2001, p.15), the enormous political pressure from local actors were the reason why the attention during the parliamentary discussions in the parliament was mainly focused on mitigating the hindrance the Betuwelijn was supposed to produce. Interest groups were thus very active during that time; a number of protests were organized, signatures were collected, information was gathered about the hindrance railways were supposed to cause (Pestman, 2001, p.15). The hindrance discussion got the most parliamentary attention despite a number of reports of other actors such as individual academics, who tried to shift the parliamentary discourse around the Betuweroute to the discussion concerning the
economic viability. Just before the parliamentary Christmas break, the parliament finally approved the PKB3, which was amended as a result of the parliamentary debate.

The approval of the PKB3 by the parliament did not mean that the realization of the Betuwelijn was just a formality. During the election of 1994, the Betuweroute was one of the most important topics of debate. At that moment during elections, D66\(^{65}\) and the VVD\(^{66}\) were very critical of the former cabinet’s proposed variant of the Betuweroute (Pestman, 2001, p.15). The result of the elections in May 1994 show that the former governing coalition CDA\(^{67}\)-PVDA\(^{68}\), which was in favour of the Betuwelijn. Further continuation of the procedures concerning the Betuweroute was thus suspended by the new governing coalition. In the governmental accord between PvdA, VVD and D66 the following was agreed upon concerning the Betuwelijn:

“Financial viable alternatives for the Betuweroute will be considered with the help of external experts. The interest of the harbour of Rotterdam is of importance with respect to this consideration. The cabinet will give their final conclusion within half a year” (Regeerakkoord in Pestman, 2001, p.15).

In the meanwhile, informal deliberations about mitigation measures for the Betuwelijn between the provinces / municipalities and the new minister of TPW, minister Jorritsma, did not stop. The provinces and municipalities revealed their wishes concerning the Betuweroute in these deliberations (Pestman, 2001, p.15).

4.4 The Dutch Cabinet takes their final position; the third governmental period

Because of the agreements made by the coalition partners in the governmental accord, the commission Hermans was instituted at the 20th of October 1994 to re-evaluate the economic viability of the Betuwelijn and other alternatives. The commission presented their conclusions on the 25\(^{th}\) of January of the same year. The commission concluded that the Betuwelijn is the best alternative, but only if auxiliary policies were instituted that promote the modal shift from other modalities to rail. The report of the commission formed the basis for the final decision of the cabinet on April the 25\(^{th}\). This decision about the final variant of the Betuwelijn also contained some new adjustments. These adjustments consisted of new mitigating measures concerning noise hindrance and the construction of some new tunnels. The ‘tracewet –procedure’ continued following the decision of the cabinet. In March 1996, the ‘ontwerp tracebesluit’ was made. Provinces and municipalities were asked to cooperate with the plans of the government, following that ‘ontwerp tracebesluit’. Despite a small conflict between the minister of TPW and the province of ‘Gelderland’ in June 1996, the relation between the local / provincial governments and the minister of TPW improved. At the end of November 1996, the minister

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\(^{65}\) ‘Democraten 66’; Social Liberal political party
\(^{66}\) ‘Volkspartij voor Vrijheid en Democratie in Amsterdam’; Liberal political party
\(^{67}\) ‘Christen Democratisch Appèl’; Christian Democratic political party
\(^{68}\) ‘Partij van de Arbeid’; Social Democratic political party
of TPW published the final ‘tracebesluit’ (see appendix F). Nine municipalities\(^{69}\), at that time, were still not willing to cooperate with the ‘PKB – procedure’ and were addressed by the minister of VROM. From that moment on, the PKB and the ‘tracebesluit’ were open for critique at the ‘Raad van State’\(^{70}\), however the PKB-procedure at this stage only allows for small adjustments in the project if objections might arise (Pestman, 2001, p.16).

The resistance against the Betuweroute did not stop at that moment but went on in another form. Until 1996, mostly the provinces and the municipalities along with local interest groups formed the bulk of the resistance. The main point of discussion was about how the Betuwelijn would be incorporated in the landscape. The economic viability discussion became the main focus of deliberation after the ‘Tracebesluit’ was made. Regularly new facts about the cost and benefits of the Betuweroute were presented via different sources, which resulted in further deliberation within the parliament.

Later on not only the focal point of the debate changed, but also the actors that took part in the discussion. The provinces and municipalities disappear from the discussion, and some new actors appeared. December 1998, eight professors wrote a letter to the minister of TPW urging her to re-evaluate the decision to build the Betuwelijn. These professors doubted the positive results of earlier reports. In July 2000, the ‘Rekenkamer’\(^{71}\) published a report, which described the way in which information was used within the decision making process concerning the Betuweroute. The conclusion of that report was that the relevant information to support the decision-making procedure concerning the Betuwelijn was not used optimally and was generally of poor quality. This report formed the basis of new parliamentary discussions whether the construction of the Betuweroute should be stopped or not. Protagonists of the Betuweroute claimed that the ‘Rekenkamer’ never suggested seizing construction of the project; as a result, the report in the end did not lead to any changes in the project (Pestman, 2001, p.16).

The debate was relatively stable until February 2003; the parliament, at that time, reacted on the 2003 budget of the MTPW, which included 985 million Euros to compensate for the budget overruns of the two rail projects; the Betuwelijn and HSL-Zuid. The parliament reacted by prompting the ‘Rekenkamer’ to research the recent budget overruns, which were apparent on the budget of the MTPW. The Dutch parliament also decided to start a parliamentary inquiry based upon the report the ‘Rekenkamer’ was working on (CDa, 2004, p.5). This led to the institution of the Commission Duivesteijn, to research the budget overruns in general and the parliamentary decision making process concerning the Betuwelijn and HSL – Zuid in specific.

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\(^{69}\) The municipalities are Heerjansdam, Lingewaal, Geldermalsen, Buren, Lienden, Kesteren, Valburg, Elst and Duiven (Pestman, 2001, p.15).

\(^{70}\) The ‘Raad van State’ is the most important advisory body, concerning the lawmaking process in the Netherlands, for the cabinet and parliament, the ‘Raad van state’ also has a function as being a court in cases concerning between the government and its civilians (Raad van State, n.d).

\(^{71}\) The ‘Algemene Rekenkamer’ is an independent institution linked to the Dutch Government that investigates the viability and justification of the income and expenses of the Dutch government (Rekenkamer, n.d).
5. The Budget overrun of the Betuwelijn: The Public Choice View

“The positive evils and dangers of the representative, as of every other form of government, may be reduced to two heads: First, general ignorance and incapacity, or, to speak more moderately, insufficient mental qualifications, in the controlling body; secondly, the danger of its being under the influence of interests not identical with the general welfare of the community” (John Stuart Mill in; Mueller, 2003, p.333).

“But as unanimity is impossible, and common consent means the vote of the majority, it is self-evident that the few are at the mercy of the many” (John Adams in; Mueller, 2003, p.75).

“If men should cease and desist from their talk about their search for evil man or purely good, and commence to look instead of institutions manned by ordinary people, wide avenues of genuine social reform might appear” (Buchanan, 1975, p.149).

The ‘explanans’ of the Public Choice Theory, as formulated in chapter 3, will be explicated along the lines of the case of the Betuwelijn; the empirical parts of the ‘explanans’ are formulated in the form of hypotheses that are tested against the empirical material available on the Betuwelijn. The Public Choice Theory proves to be accurate theory in terms of predicting mega project budget overruns if the ‘explanans’ necessarily leads to the ‘explanandum’.

5.1 Introduction

Until now two alternative theoretical frameworks that are supposed to deal with the phenomenon of budget overruns are identified; Public Choice Theory and Austrian Economic Perspective. In chapter 1 it became clear that both theories seem to be able to provide an account of mega project budget overruns because the requisite initial conditions for applicability hold. This chapter is meant to proof if this presumption is accurate or not. The following will be done to find that out. The theoretical part of the ‘explanans’ of Public Choice Theory, as it is identified in chapter 3, will be used to extend the theoretical part even further and to formulate the empirical part of the ‘explanans’; hypotheses are thus formulated which are in turn tested with respect to the case of the budget overrun of the Betuwelijn. In order to do so, the relevant Public Choice Theoretical models - the Public Choice literature consists of many models - have to be chosen that are able together to give an account of mega project budget overruns. The following research question as formulated in paragraph 1.6 is thus relevant here:

Which Public Choice Theoretical models are able to provide a prediction for mega project budget overruns?

The interactions between the actors (see figure 5.1) form the basis of the answer. Each interaction between the several actors in the general Public Choice model is covered with several Public Choice...

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72 If a theory is able to provide an explanation it means that its assumptions necessarily lead to the phenomenon itself
Theoretical models. The relevant Public Choice model for a certain type of actor interaction is thus determined by its applicability to a certain type of interaction.

The ‘explanans’ of the Public Choice Theory, as formulated in chapter 3, is thus extended along every actor interaction and based on each interaction the empirical part of the ‘explanans’ will be formulated. The hypotheses -the empirical part of the ‘explanans’ – are not only based on the theoretical models alone; each interaction between actors in the political market place is also assumed to be bound by formal institutional rules that are enforced by a government. These formal institutions are expected to be different from country to country in general and with respect to the development of mega projects in specific. With respect to the previous reasoning, the hypotheses, that will be formulated with respect to the case of the Betuwelijn, will be formulated based upon (1) the formal institutions as the hold for the Dutch political market place concerning mega project development as well as upon (2) the Public Choice models that are expected to be applicable for a certain type of actor interaction. Once all interactions between the actors (see figure 5.1) concerning mega project development are covered with (1) Public Choice theoretical models, (2) an analysis of the relevant institutions, and all hypotheses resulting from (1) and (2) are tested, the following research question will become relevant:

What is the Public Choice Theoretical explanation of the budget overrun of the Betuwelijn and is this explanation accurate?

The fully developed theoretical ‘explanans’ of the Betuwelijn is the Public Choice explanation of the mega project budget overrun of the Betuwelijn. This explanation will count as a confirmation instance of the Public Choice Theory if the empirical part of the ‘explanans’ has not been falsified. The next question will become relevant even if the previous condition is not true:

Is there sufficient reason to be able to generalize the Public Choice theoretical explanation to account for the phenomenon of mega project budget overruns as it occurs across the world?

For this to be the case, the Public Choice theory has to be compatible with a statistical significant amount of empirical material as it exists on the phenomenon of mega project budget overruns; this means that the study of Flyvbjerg et al, the case study on the Betuwelijn and other relevant empirical material will be used to establish the previous.

The following actor interactions, which are identified in chapter 3, form the basis of the analysis in this chapter: (1) the interaction between different voters / voter groups, (2) voter groups /voters and politicians, (3) politicians and politicians, (4) politicians and bureaucracies, (5) bureaucracies and bureaucracies and (6) between voter groups and the bureaucracies. The first analysis in this chapter (paragraph 5.2) concerns the general expected behaviour of all the three actor groups; this is done by applying the behavioural statistical laws to the actors in the political market place. In paragraph 5.3,

73 The positive testing of the hypotheses with respect to one case is not a necessary condition for the possibility that a theoretical explanation can be generalized to cover a phenomenon in reality. This is because the ‘explanandum’ is not a logical necessity but has high logical probability if the ‘explanans’ is apparent in a certain case (see page 38).
the interaction between different groups of voters will be discussed. Paragraph 5.4 deals with the interaction between voter groups and politicians. The interaction between politicians and politicians is the subject of paragraph 5.5. All the other interactions that are mentioned hitherto (4 until 6) are part of paragraph 5.6. The Public Choice Theoretical explanation on the case of the Betuwelijn in specific and to the phenomenon of mega project budget overruns in general is concluded at the end of the chapter (paragraph 5.7).

5.2 Actor behaviour in the political market place

Public Choice theory distinguishes three types of actors as discussed before: voters, politicians and bureaucracies. In chapter 3 three assumptions / statistical laws have been defined concerning actor behaviour: (1) human action is driven by rational self-interest, (2) actors are rationally ignorant and (3) all transactions that actors make within the political market place (see figure 5.1) are subject to transaction costs. In this paragraph, these basic assumptions are applied to the three types of actors, to establish a sense of the expected behaviour in the political market place. For example, answers will be formulated to questions such as: how does a rational self – interested bureaucrat expected to behave while he or she makes decisions? Or, what does the notion of rational ignorance mean for a citizen that makes a voting decision? Since each type of actor is behaving under a different set of rules and has a different role in the political market place, different kinds of behaviour is expected.

![Figure 5.1: The three groups of actors in the political marketplace: Voters (V), Politicians (P) and Bureaucracies (B)](image)

5.2.1 Voters and expected voter behaviour

Voters can be considered as the demand side of the political market place; the voters demand certain goods to be distributed or produced by the government governing their society. Public Choice Theory assumes that rational self-interested voters try to capture personal benefits through the political process by rent seeking; voters rent seek by voting to direct social or economic benefits to themselves (Mueller, 2003, p.304). However the power of the voter to influence the decision making process made by the elected government is small since the voter is part of a large amount of voters.
that all try to do the same; trying to capture as much personal benefits. According to Tullock (2005, p.225) it is “rational therefore, for the average voter, to put more consideration into a decision such as buying a new car than into a decision on voting for a particular party”. Given the relative low importance of the decision on how to vote, it is in the rational self-interest of voters to depend upon information which comes in automatically through some regularly available source rather than in engaging into serious research (Tullock, 1005, p.225). The rational self-interested voter in general is thus poorly informed when it comes to voting. This being poorly informed is called rational ignorance: voters acquire information until the expected marginal costs equal the expected marginal benefits from being better informed as we have discussed in chapter 3. This begs the question of what payoff an individual can expect from voting. Riker and Ordershook (1968, pp.25-42) have described the payoff an individual can expect from voting:

\[ P = D \times B - C_v + C_p \]

Where:
- \( P \) = individual payoff
- \( B \) = Marginal benefit expected from the success of the preferred party or candidate;
- \( D \) = Likelihood that your vote will make a difference;
- \( C_v \) = Cost of voting, including all opportunity costs;
- \( C_p \) = Civic pride and other psychological rewards.

Tullock (2005, p.235) puts some figure into this expression to indicate the irrationality of voting from an economic perspective:

“Suppose that a voter feels that the election of the ‘right’ party is worth $1000 more to him compared to the next best alternative party. He knows there is a total of 100,000 voters taking part in the election. The cost he has to make to vote is somewhere between $1.00 and $5.00. Thus it follows that the payoff of voting in this case is somewhere between -$0.99 and -$4.99 plus civic pride. Since a voter must forgo wages, leisure time, and other goods, voting is irrational unless a strong civic pride component exists”.

Given the negative payoff, economic theory has difficulty explaining why people would vote at all (Downs, 1957, pp.260-276). Yet, some people vote and it is expected that when they do, they do while likely being rationally ignorant.

5.2.2 Politicians and political behaviour

Politicians in Public Choice Theory act as the brokers between the voters and the bureaucracy: Politicians try to figure out the preferences of their voters and once elected into office they have the power to influence the bureaucratic apparatus, which executes the orders of the politicians. Political science has often assumed that politicians primarily seek elective office so that they can enact legislation that increases social welfare (Mueller, 2003, p.1). In Public Choice Theory, however, it is assumed that politicians / party members pursue elective office for their own rational self-interest. This means according to Downs (1957, p.28) that it can be assumed that they “act to attain the income, prestige, and power which they attain from being elected into office. Thus politicians in our model
never seek office as a means of carrying out particular policies; their only goal is to reap the benefits of holding office per se”. To get elected, politicians try to capture as much votes in the election as they need to gain office. However politicians almost never try to get elected on their own; most of the times they join a political party. According to Downs (1957, pp.34-35), “a political party is an organization of individuals seeking to control the governing apparatus. The function of a party in the division of labour is to formulate and carry out policies whenever it succeeds in getting into power. It’s members have joint a political party as a means of having a better chance of achieving their private ambitions”. The private ambitions of politicians cannot be obtained without being elected into office. Thus, all actions of politicians are aimed at maximizing votes, which means that formulating policies are not an end in itself but a means to the previously mentioned end; maximizing votes (Downs, 1957, p.35).

5.2.3 Bureaucracies and the behaviour of the bureaucrat

Bureaucracies can be seen as the supply side of the political market place. In many cases, government outputs are supplied by government controlled or regulated bureaucracies (Mueller, 2003, p.359). In the case of the Betuwelijn, it is mainly the MTPW that provided the resources necessary to develop the Betuwelijn and HSL-Zuid. The question in this section is how the assumption of self-interested rational behaviour works through in the behaviour of the bureaucrat. Tullock (2005, p.194) holds that the things in which a bureaucrat might be interested, the following things can be identified: “increased salary, his conditions of work – office furniture etc. - , and his power over other people, his public respect and reputation”. However, the level in which the bureaucrat obtains these goods in most cases does not depend on his efficient operation. The structure of rules governing the bureaucracy’s funding and scope of authority provides the key to the understanding of the disincentive for inefficient behaviour; “Property rights within a bureau are arranged in such a way that the bureaucrat is unable to capture any of the difference between the costs incurred and the benefits produced by the bureau” (Holcombe, 1983, p.115). For instance, whenever a bureaucracy is successful in saving money so that his budget is not completely used during the fiscal period, the chances are likely that the particular bureaucracy will be cut in its funding accordingly for the next fiscal period. This mechanism holds up for most bureaucracies in Western countries (Tullock, 2005, p.195). If a bureaucrat does not obtain the goods that he desires by operating in an efficient way, how does he than pursue his rational self-interest? Tullock (2005, p.195) gives the following answer: “As a general rule for most bureaucracies in the western word, a bureaucrat will find that his possibilities for promotion, power, influence and public respect improve and even the physical conditions of his office improve, if the bureaucracy in which he works expands. This is a fairly general description, however every bureaucrat gains at least something as his ministry expands and even more if the sub-division in which he works expands. The resources that a bureaucracy needs to expand are an increased budget and a broadened scope of authority”. It can thus be concluded that bureaucrats in general try to maximize the budget and scope of the authority of the bureaucracy in which they are employed (Tullock, 2005, p.195).
5.3 The interaction between voters / voter groups

In the previous paragraph in which the general behavioural tendencies of the three actors involved in the political market place were identified, the implicit assumption has been made that all, for example, all voters are rationally ignorant. However, in this paragraph, in which the interaction between voters / voters groups is the subject of investigation, this assumption of homogeneity in terms of behavioural tendencies is dropped. The focal point of this paragraph is the way in which voters / voter groups are able to influence government decision making through collective. The assumption in this paragraph is that a group of voters can influence governmental decision making by revealing their policy preferences to that government; in other words by lobbying. This way of influencing is assumed more efficient then the act of voting, the latter even yields negative economic benefits (see paragraph 5.2). Another assumption made in this paragraph is that lobbying is only effective when it is done by groups that have a common interest rather then by individual organizations. For example farmers – a group of voters – are expected be more interested in issues that affect them directly such as the promise of some politicians in an election to reduce the output of manure to make the cities in the surrounding areas that suffer from the smell more livable. It can be expected that farmers, given the previously made assumption that collective action (action by a common interest group) is a more effective means, try to organize themselves along their common interest to do everything they can to stop that politician from getting elected or try to change the mind of the politician itself. The same is expected to hold true for the development of the Betuwelijn; some groups of voters have a common interest in seeing that the Betuwelijn gets developed while other groups have exactly the opposite interest and thus they can be expected to engage in collective action.

5.3.1. Collective action

According to Olsen (1965, p.9) it is of course possible “to label a number of people as a group on other grounds than on their common interest, however most discussions on group behaviour seem to deal mainly with groups that do have common interests”. This is endorsed by Arthur Bentley (1949, p.211), the founder of group theory, put it thus: “there is no group without its interest”. In this paragraph the behaviour of groups, and in particular voter groups, is discussed with respect to their ability to provide collective goods to accomplish their shared goals. Mancur Olsen’s Logic of collective action (1965) is discussed to answer that issue74. Based upon this discussion, hypotheses concerning voter group behaviour with respect to the case Betuwelijn are formulated.

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74 The logic of the theory developed by Olsen (1965) is mainly focussed on the organization with a significant economic aspect. The logic of the theory can be extended to cover communal , religious and philanthropic organizations, but the theory is not particular useful in studying groups which are not necessarily expected to serve only the economic interest of their members (Olsen, 1965, p.6).
5.3.1.1 Reasons to form organizations

Why do individuals with a common interest group together in an organization or association of some sort? The interest that all kinds of organisations are trying to further, are for the most part common interests: the farmers that are discussed have a common interest in favourable farm policy, cartel members have a common interest in higher prices, labour unions have a common interest in higher prices etc (Olsen, 1965, p.6). It seems obvious that individuals or individual companies do not organize themselves whenever unorganized or individual action more efficiently serves their interest. However, according to Olsen (1965, p.7) “when a number of individuals have a common interest, individual or unorganized action will not be able to advance that interest adequately. Organizations can therefore perform a function when there are common or group interest, and through organizations often also serve personal, individual interests, their characteristic and primary function is to advance the common interests of groups of individuals” at least more efficiently then private action can. An example of this combination of a common interest of the members of an organization and the private interests of all the individual members is for instance a farmer organization promoting favourable farm legislation. The organization furthers the common interest of the farmers – favourable farm legislation -, but at the same time each member farmer has a unique personal interest in the profits of his own farm business. These profits not only depend on favourable farm policy but also and probably mostly on the efficiency of his own farm business.

5.3.1.2 Large common interest groups and the possibility of collective action

According to Olson (1965, p.9) the combination of individual interest and common interests in a group or organization suggests an analogy with a competitive market:

“Firms in a competitive market, for example, have a common interest in a higher price for the industry's product. Since a uniform price must prevail in such a market, a firm cannot expect a higher price for itself unless all of the other firms in the industry also have this higher price. But a firm in a competitive market also has an interest in
selling as much as he can, until the cost of producing another unit exceeds the price from that unit. In this there is no common interest; each firm's interest is directly opposed to that of every other firm, for the more the other firm sell, the lower the price and income for any given firm”.

Olsen (1965, p.9) thus shows that the common interest of the firms in this industry is to have a higher price, but the individual rational self interest of all the firms are antagonistic to that common interest, which is to extend their output. Olson illustrates this situation in a supply and demand model in which it is assumed that the industry in a disequilibrium position where the revenue of one extra unit exceeds the marginal costs for all firms in the industry75:

“Since price exceeds marginal cost for all firms, output of the industry will increase. However, as all firms increase production, the price falls; indeed, since the industry demand curve is by assumption inelastic, the total revenue of the industry will decline. Apparently each firm finds that with price exceeding marginal cost for all firms, it pays to increase its output, but the result is that each firm gets a smaller profit” 76.

The point here is that within a group of profit maximizing companies within a same industry can act thus that the consequences of their actions are not in line with their common interest; this is because each firm has such a small effect on the price with its output that it can be ignored77. According to Olsen (1965, p.10) the important point here which holds for markets that can be characterized as perfectly competitive, this is true because, “though all the firms have a common interest in a higher price for the industry’s product, it is in the individual interest of each firm that the other firms pays the cost – in terms of the necessary reduction in output – needed to obtain a higher price” (Olsen, 1965, p.10).

The previous line of reasoning can be made applicable to the case of the Betuwelijn. Companies, being part of the transportation / distribution and construction sector, certainly are expected to benefit from the construction of a new railway line. Transportation companies operating in the harbour of Rotterdam could be benefit from such a railway line in terms of lowered transportation and distribution costs that are expected, while construction companies could profit by getting contracts in developing the railway line. The question is these individual firms having a common interest in seeing the Betuwelijn, further their interest. To obtain such an end, they will presumably have to form an organization to lobby the Dutch Government which has the power to make those decisions with regards to such a project. The lobbying organization may have to conduct a considerable campaign, certainly when a great deal of resistance is expected to arise (Olsen, 1965, p.11). Probably public relations experts will be needed to influence the newspapers and advertising may be necessary. The campaign for government action in favour of the development of the Betuwelijn will take the time of some the individual firms and organizations as well as other resources. According to Olsen (1965, p.11) an

75 Olsen makes two other assumptions explicit for this example: (1) all the adjustment will be made by the existing companies within the industry, so a situation in which new entrants will come in is not considered and (2) that the industry is on an inelastic position of the demand curve (Olsen, 1965, p.9).
76 The fact that profit maximizing firms in a perfectly competitive market can act contrary to their interest as a group, their common interest, is widely understood (Chamberlin, 1950, p.4).
77 This effect is to be ignored since such a company is a part of a perfectly competitive market; thus by definition the companies’ effect on the price is to be ignored (Olsen, 1965, p.9).
analogy can be made between the problem of firms in a perfect competitive market that try to lobby for government assistance\textsuperscript{78}, and the problem the perfectly competitive industry faces in the marketplace to bring about a fall in price;

“Just as it was not rational for a particular producer to restrict his output in order that there might be a higher price for the product of his industry, so it would be not be rational for him to sacrifice his time and money to support a lobbying organization to obtain government assistance for the industry. In neither case would it be in the interest of an individual producer to assume any of the costs for himself. A lobbying organization, or indeed a labour union or any other organization, working in the interest of a large group of firms or workers in some industry, would get no assistance from the rational, self- interested individuals in that industry. This would be true even if everyone would be absolutely convinced that the proposed program was in their interest” (Olsen, 1965, p.11).

This parallel suggests that lobbying for a project such as the Betuwelijn would not be in the rational self-interest of organizations if there were part of an industry, which could be characterized as perfectly competitive.

5.3.1.3 Small groups and collective action

As indicated in the last paragraph, there is little reason that a large group will provide itself with a collective good. But how about small groups, are they also not able to provide themselves with a collective good? The reason that the large groups were not able to provide themselves with a collective good is that each member’s contribution is so small that the contribution will not be noticeable. It seems evident that once a common group is smaller the individual’s contribution is more noticeable. Does it become in the rational self-interest of a member of a common interest group to provide a collective good individual’s once the contribution becomes more noticeable once groups are smaller? Is there a certain degree of ‘notice-ability’ of the individual contributions to the provision of the collective good that the previous becomes the case? These questions cannot be answered “satisfactory without a study of the costs and benefits of alternative courses of action open to individuals in groups of different sizes” according to Olsen (1965, p.21). The following assumptions are made by Olsen to come up with such an analysis:

“(1) although different individuals within a group might place different values upon the collective good to be provided and each group wanting a collective good is expected to face a different cost curve, it remains to be expected that the total costs curves will rise as more of the collective good is provided, (2) there is an initial fixed cost associated with providing the collective good, resulting from either organizational costs or the ‘technical’ characteristics of the good itself that both will result in the first unit of the collective good to be disproportionately expensive and (3) the more of the collective good is provided by a member of the group , the more likely is becomes that the provision of an extra unit of the collective good becomes excessive; the costs of additional units of the collective good rise disproportionately” (Olsen, 1965, p.22).

\textsuperscript{78} This parallel would only hold if the number of individual firms or organizations having an interest in lobbying is part of a large group which is addresses in the next paragraph.
In sum, the average cost functions with respect to the provision of the collective good is thus dependent upon the level of which the good is provided and have the conventional U-shape; \( C = f(T) \). The gain or value that the common interest group has in the provision of the good \( (V_g) \) is equal to the product of the amount provided \( (T) \) and the group size \( (S_g) \). The gain or value the individual has in the provision of the good \( (V_i) \) depends on the size of the group \( (S_g) \) and is thus equal to the product of the fraction \( (F_i) \) and the total group gain; \( (F_i*S_g*T) \). The fraction of the total amount of group value that the individual provider gains is equal to the ratio of the individual value \( (V_i) \) to the total group value \( (V_g) \); \( (V_i/V_g) \). Whether the common interest group will be able to provide themselves with a common good depends on what the individuals do with respect to providing the good or not; off course the advantage of providing the good \( (A_i) \) for the individual depends on the costs that have to be made \( (C) \) and the value \( (V_i) \) achieved; \( (A_i = V_i - C) \). This function changes with the amount of the collective good provided \( (T) \) which results in the following derivative; \( dA_i/dT = dV_i/dT - dC/dT \).

From this derivative the maximum amount of advantage from providing the collective good can be calculated \( (dA_i/dT = 0) \); \( dA_i/dT = dV_i/dT - dC/dT = 0 \). From this follows that \( F_i*(dV_g/dT) = dC/dT \), given the fact that \( dV_i/dT = F_i*(dV_g/dT) \). This equation equals the following verbal description:

“This means that the optimal amount of a collective good for an individual to obtain, if he should obtain any, is found when the rate of the gain to the group, multiplied by the fraction of the group gain the individual gets, equals the rate of increase of the total cost of the collective good” (Olsen, 1965, p.24).

However, it is not important how much of the good will be provided if some is to be provided. For the purpose of this study it is important to know whether any of the collective good will be provided and under what kind of condition. From the analysis concerning the optimal amount it can be derived that whenever the “rate of the gain to group, multiplied by the fraction of the group gain the individual gets”, is bigger then “the rate of increase of the total cost of the collective good”, it can be presumed that it is in the rational self-interest of the individual to provide that collective good; \( F_i*(dV_g/dT) > dC/dT \). This means that for the individual acting independently, the collective good will presumably be provided if \( F_i > C/V_g \) (Olsen, 1965, p.24).

The previous analysis is concluded thus by Olsen (1965, p.33):

“If at any level of purchase of the collective good, the gain to the group exceeds the total cost by more than it exceeds the gain to any individual, then there is a presumption that the collective good will be provided, for then the gain to the individual exceeds the total cost of providing the collective good to the group”.

The previous analysis is illustrated in figure 5.3. In this figure an individual member is presumably better off when providing the collective good when he is able to provide an amount anywhere between V and W. Anywhere between V and W it holds that \( F_i > C/V_g \) even when the optimal amount is not provided (Olsen, 1964, p.33). It is clear for the previous analysis, that whether a group will have the

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79 For if \( F_i > C/V_g \) equals \( V_i/V_g > C/V_g \) for which follows \( V_i > C \).
The possibility of providing itself with a collective good without coercion or outside incentives thus depends for a great degree upon the number of individuals in the group (Olsen, 1965, p.36).

![Figure 5.3: Analysis of the provision of a common good without any outside incentive (Olsen, 1965, p.32)](image)

5.3.1.4 Other factors affecting collective action

The group size is, however, is not the only factor that effects a group will have the capacity to provide themselves with a collective good, without coercion or outside incentives. Two other separate group factors influence this likelihood as well (Olsen, 1965, p.36); (1) groups with members with an extremely unequal degree of interest in a collective good and (2) groups in which a certain organizational cost has to made before any of the collective good can be provided at all.

The first factor relates to the presumption that a group in which there are members which have an extremely unequal degree of interest in a collective good, will be more apt to provide itself a collective good than other groups with the same number of members. This is because those particular members of that group have such a high value - relative to the costs of providing the collective good – in seeing that the collective good is provided, that they will provide it anyway regardless of whether other organizations would help providing the collective good or not (Olsen, 1965, p.45).

The second factor, besides group size and the inequality of the values its members have in the collective good that can be identified is the factor of organizational costs. In the smallest type of groups, as discussed in the previous paragraph, collective goods might be provided without any group agreement or coordination effort. This does not mean that no agreement to spread the costs more evenly might be made at all; in the smallest types of groups, organizational costs are not indispensable for the provision of the collective good itself. In any group larger, however, “no collective good can be obtained without some group agreement, coordination, or organization” according to Olsen (1965, p.46):
“When there is no pre-existing organization of a collective good. When there is no pre-existing organization of a
group, and when the direct resource costs of a collective good it wants are more than any single individual could
profitably bear, additional costs must be incurred to obtain an agreement about how the burden will be shared and
to coordinate or organize the effort to obtain the collective good. These are the costs of communication among
those group members, the costs of any bargaining among them, and the costs of creating, staffing and
maintaining any formal group organization” (Olsen, 1965, p.47).

When these initial costs of organization are added to the initial costs that arise from the technical
characteristics of the good (see figure 5.3), then it becomes clear that the first amounts of the
collective goods to be provided are quite high. At this time “three separate but cumulative factors” can
be identified that effect the likelihood of the provision of a collective good without any outside
incentives or coercion (Olsen, 1965, p.48); (1) “the larger the common interest group, the smaller the
fraction of the benefit the individual provider of the good gets, thus the smaller the likelihood becomes
that the good is provided, if at all, (2) the smaller the unequal degree of value is of an individual
member in a common interest group, the smaller the likelihood becomes that a collective good is
provided (3) the larger the group, the larger the organizational costs become thus the larger the initial
hurdle become before any of the collective good is provided”.

5.3.1.5 A Hypothesis of collective action concerning mega project development in The Netherlands

Earlier in this paragraph, it has been assumed that a group of voters can influence governmental
decision making by revealing their policy preferences to that government; in other words by lobbying.
This way of influencing is assumed to be more efficient then the act of voting, the latter even yields a
negative economic rate of return. Lobbying is only efficient when it is done by groups that have a
common interest in seeing certain policies in a particular policy are being past by a government.
However, as has been shown in the previous analysis, it is not a formality that a group having a
common interest is able to provide themselves with a common interest group even if all members of
the group would be absolutely convinced that the provision would be in their benefit. In general,
Olsen’s theory of collective action shows that the smaller the common interest group is, the bigger the
likelihood is that the group will be able to further its common interest. This likelihood, as indicated in
the previous paragraph, is not solely dependent upon group size, also the degree in which a member
values the collective good and the organizational costs to supply a collective good matter.

In the next paragraph, the previously developed Public Choice Theoretical ‘explanans’ concerning
collective action will be applied to case of the Betuwelijn. The question is which voter groups have
been able to lobby – a form of collective action as indicated in the previous paragraph - the Dutch
Government to develop the Betuwelijn? In the chronological description of the case, a number of
organizations that have been active in terms of lobbying have already been mentioned. However, the
next paragraph will be a more thorough analysis of these lobbying organizations. The following
empirical counter part of the previously developed theoretical ‘explanans’ - or in short; hypothesis - will
be tested with respect to the empirical material available on the case of the Betuwelijn;
Lobbying done to influence governmental decision making with respect to the Betuwelijn is only likely to happen by common interest groups that (1) are sufficiently small, (2) have a relatively large member in their midst or (3) receive outside incentives.

This hypothesis is clearly falsified if common interest groups, that can be characterized as large, have been able to lobby / influence government decision making without any outside incentive or coercion.

5.3.2 The case of the Betuwelijn and the logic of collective action

In chapter 4 a brief overview of the events that led up to ultimately the commission Duivesteijn being assigned by the Dutch parliament to research the recent budget overruns of the HSL-Zuid and Betuwelijn, has been given. In this paragraph, the empirical focus will be on the identification of common interest group concerning the Betuwelijn, the groups in favour as well as the groups against. Before this is done, however, firstly the broad categorization of groups is made that are likely to have a common interest at stake concerning the Betuwelijn.

5.3.2.1 Identification of the common interest groups that are expected to involved

Common interest groups that are expected to engage in collective action range from firms operating in the harbour of Rotterdam to local community organizations (see table 5.1). Companies that work in the distribution sector of the Rotterdam harbour are expected to benefit from a new railway line, since their transportation capabilities will be greatly improved. The Betuwelijn will improve the transportation capabilities to the hinterland of Europe, by circumventing the heavy traffic on the road and allowing transport on a faster modality then the existing shipping lanes. Improved transportation capabilities from and to Rotterdam Harbour allow the harbour itself and the companies operating there to benefit from global trends such as containerisation of freight and the rise of new markets. The Betuwelijn could thus help increasing the chance of getting a larger share of trade going into Europe than its competitors, such as the harbours of Hamburg, Bremen and Antwerp. Construction companies that have a capability to build rail infrastructure are also expected to be able to benefit from a project such as the Betuwelijn by getting construction contracts. These two main groups that are expected to benefit the most from the development of the Betuwelijn, are therefore expected to engage in collective action such as lobbying to get the Betuwelijn on the political agenda.

The groups that are expected to have a common interest in not seeing the Betuwelijn developed are the general taxpayers and inhabitants of local communities that are likely to suffer from the negative externalities of such a railway. The taxpayers have a common interest in being very critical of the plans concerning development of the Betuwelijn since this common interest group is the main investor. In addition, transportation companies that operate via road and via waterways are expected to be adversaries of the Betuwelijn since the new railway connection will intensify the competition for hinterland transportation. The position of the environmental groups is ambiguous since it depends on the environmental impact that the Betuwelijn is expected to have; in case of a positive net environmental effect, the environmental groups are expected to be in favour of the development of
Betuwelijn. In the next paragraph, an empirical overview is given of all the actors that managed to engage in collective action; for each governmental period – the first, second and third governmental period as categorized in chapter 4 – an overview will be given.

<table>
<thead>
<tr>
<th>Interest Group</th>
<th>Common Interest</th>
<th>Collective action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Companies operating in the distribution sector of Rotterdam</td>
<td>Maximize Profit by having better transport possibilities</td>
<td>Lobby activities to get the Betuwelijn on the political agenda</td>
</tr>
<tr>
<td>Transportation companies operating via roads and waterways</td>
<td>Maximize profit by minimizing competition via rail</td>
<td>Lobby activities to keep the Betuwelijn from the political agenda</td>
</tr>
<tr>
<td>Construction Companies with rail construction capabilities</td>
<td>Maximize Profit by getting infrastructure construction contracts</td>
<td>Lobby activities to get the Betuwelijn on the political agenda</td>
</tr>
<tr>
<td>Dutch Taxpayer</td>
<td>Minimize tax spent on infrastructure projects</td>
<td>Lobby activities to minimize the likelihood of irrational government investment</td>
</tr>
<tr>
<td>Environmental Groups</td>
<td>Maximize budget by getting donations / subsidies</td>
<td>Lobby activities to minimize the effect transportation has on the environment</td>
</tr>
<tr>
<td>Inhabitants of local communities that are likely to suffer from the negative externalities of the Betuwelijn</td>
<td>Minimize impact of infrastructure on their habitat</td>
<td>Lobby activities to minimize the negative impact of projects on their habitat</td>
</tr>
</tbody>
</table>

Table 5.1: Interest groups, their common interest and types of collective action source; CDa, 2004, p.31.

5.3.2.2 Collective action during the first governmental period; the agenda-setting phase

In the chronological review of the case of the Betuwelijn in chapter 4, it became apparent that there was a change of policy orientation in the eighties when the economic situation started to get better in the Netherlands. At that time a number of economic sectors – transport and logistics - in the Netherlands were identified which had a lot of potential to grow. Improving the physical infrastructure was dubbed as one of the main factors that could support the economic growth in those sectors. Rotterdam and Schiphol Airport were seen as important hubs within the international streams of transport and thus an important focal point of the new policy orientation. The idea was that as those ‘mainports’ would grow, the areas surrounding the ‘mainports’ would profit economically as a result. Good quality of the hinterland connections were seen as essential part of the ‘mainport’ concept.

This change of policy orientation of the Dutch government offered chances for several actors, especially actors that were operating in the ‘mainports’; Rotterdam Harbour and Schiphol Airport. Different actors within Rotterdam harbour as well as the National Dutch Railway Company (NS) were focusing on the modernization of the freight transport via rail since the mid-eighties. Around that time there was cooperation between actors from the Rotterdam harbour and the NS. At first the minister of transport at that time, Smit-Kroes, claims that she sees no possibilities to develop such a new rail project because she is sceptical about the future of freight transport via rail in general (Pestman, 2001, p.11). This attitude at the MTPW, however, soon changed when the ministry presented her plans concerning transport policy (SVV2); several parties reacted on the proposed plans and claimed that
freight transport via rail had enormous strategic importance. The question is of course what kind of lobbying activities were the cause of this policy change and which actors were involved in these activities?

The most important player in promoting the improvement of the hinterland connections of Rotterdam Harbour, from before this change of policy orientation was ECT\textsuperscript{80} (CDa, 2004, p.18). The CEO of ECT, Mr. Wormeester, formulated his vision of freight transport via rail during the public inquiries that were held under oath to the Commission Duivesteijn:

\textbf{Mr. Wormmeester:} “ECT was 2.5 years old when I became the CEO in 1970, and one of the shareholders was the NS. At that moment it was clear that rail was the alternative for transportation via the road”. (CDa, 2004, p.18)

Concerning whether his vision was shared with other actors within the harbour of Rotterdam, Wormmeester said the following:

\textbf{Mr. Wormmeester:} “It was clear from the beginning that the railways would be a problem, while we needed it the most. We needed to pay as much attention as possible to make all organizations work together, as well as on the several departments as in Brussels.

\textbf{Mr. Hermans:} Your vision is clear. Was this vision shared by more people in Rotterdam?

\textbf{Mr. Wormmeester:} Of course, that was evident”. (CDa, 2004, p.19)

This vision was communicated with the MTPW during conversations some actors from the harbour of Rotterdam had with the MTPW. The next quote also indicates the important role ECT had in this process:

\textbf{Mr. Smits\textsuperscript{81}:} “I had conversations with Molenaar\textsuperscript{82} or Wormmeester (ECT). Those conversations were bilateral at first; later on, those conversations took place in the commission Van der Plas. In those conversations the conclusion we reached was that this issue (the issue of improving the hinterland connections of Rotterdam) needed to have more priority”. (Cda, 2004, p. 24)

Thus, the preliminary phase of the lobbying activities can characterized as informal. However, later on, this vision was also communicated more formally. This happened during the public inquiry of the SVV2 (see chapter 4). Minister Kroes of TPW indicates what kind of impact this public inquiry had:

\textbf{Ms. Kroes:} “The SVV2 indicated that we had to go for better usage of the current capacity. However, developments were going faster then we expected. You can hold that against us, but that was the current situation at that time. During the public inquiry of the SVV2, a number of organisations indicated that better usage was not enough; we would not make it without doing more then we suggested in the SVV2”. (CDa, 2004, p.22)

\textsuperscript{80} Nedlloyd, Pakhoed and Internatio-Muller are the main the shareholders of ECT (CDa, 2004, p.31). ECT is the largest and container terminal operator in Europe, handling almost three-quarters of all the containers that pass through the port of Rotterdam (ECT, n.d.).

\textsuperscript{81} Mr Smits was one of the most influential public officials within the MTPW (Cdd, 2004)

\textsuperscript{82} Mr Molenaar is the CEO of RHB (CDd,2004)
During these public inquiries concerning the SVV2, it was foremost ‘Nederland Distributie Land’ (NDL)\(^{83}\) that promoted the necessity of a new railway line. Next to NDL, five chambers of commerce (Kamers van Koophandel) along with the provinces of Gelderland and Zuid-Holland, presented a research report in which the importance of a new railway connection for the economic growth of the regions is underlined (Pestman, 2001, p.11). This research was done by NEA and Logitech\(^{84}\).

NDL, founded in 1987 by mostly actors within the Rotterdam Harbour and Schiphol, was very influential within the public inquiry of the SVV2. The salient detail is that NDL was founded with the financial help of the MTPW and MEZ to promote the competitive positions of the logistics and transport sector in the Netherlands. NDL was not only active during the agenda-setting phase of the Betuwelijn but also in later stages: NDL maintained a media campaign for several years to stress the importance of infrastructure, thereby influencing politicians as well as the public (Boom & Metze, 1997, p.58). Next to promoting infrastructure in general, NDL also kept on lobbying for the Betuwelijn in specific considering the activity ‘Lobby Betuwelijn’ that appeared in the annual reports of NDL for several years (CDa, 2004, p.32).

Minister Kroes said the following about the ministry’s help with respect to the founding of NDL during the investigations of the Commission Duivesteijn:

**Mr. Koopmans:** “Nederland Distibutieland (NDL) has been enacted during the period in which you were the Minister of Transport. Were you involved with the enactment of the organization?

**Ms. Kroes:** I told a number of organizations: you are not very effective and efficient in going to the parliament and people in power on your own; it would be better to put forward the necessity of infrastructure and the interests of different organizations, road, water and rail, in a unified manner.

**Mr. Koopmans:** what was the reason for you to subsidize such an interest group?

**Ms. Kroes:** It was because in that way it is easier to get all the different interests on the table in a unified manner, as well as in the parliament, as well as in the different departments” (CDa, 2004, p.32)

As a result of the conversations between the MTPW, ECT and later on, as a result of the reactions during the public inquiries concerning the SVV2 by especially NDL, the MTPW started to realize that something should happen with regards to freight transport via rail (CDa, 2004, p.24). To deal with all the criticism that was vented towards the policy plans as proposed by the MTPW, The minister of TPW instituted the Commission ‘Van der Plas’ which was chaired by A. van der Plas\(^{85}\). The commission was asked to formulate a vision on transport via rail in the future. The report made by the commission formed the basis for a new SVV2 (SVV2d) in which the Betuwelijn was explicitly mentioned as part of the governments policy plans. Kroes, the minister of TPW at that time, commented on the decision to install the commission ‘Van der Plas’ thus:

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\(^{83}\) ABN – AMRO, Amsterdam Airport Schiphol, Europe Combined Terminales (ECT), Furness B.V, KLM, Koninklijke Ned Lloyd + Van Gent en Loos, Koninklijke Van Ommeren, Koninklijke Pakhoed and International Muller are the ‘founding fathers’ of Nederland Distributieland (NDL). The main bulk of NDL’s members are formed by the companies operating in Rotterdam (CDa, 2004, p.23). Next to companies also several municipal and provincial authorities as well as consultancy firms were a member of NDL later on (Pestman, 2001,p.57).

\(^{84}\) Logitech is an organization which is part of Strukton which is a part of the NS. A division of Strukton was likely to get a contract to build parts of the new Betuwelijn (CDa, 2004, p.23).

\(^{85}\) A. van der Plas is the former director of Public Works Rotterdam and later on the secretary general of the MTPW (Pestman, 2001, p.12).
Ms. Kroes: It is because the focus in that movement was shifted towards the idea that more use should be made of rail and water. It was at that moment that I asked a number of experts to formulate a vision of what would happen with respect to rail and what would be solutions to deal with that trend. (CDa, 2004, p.24)

The actors that were called ‘the movement’ by minister Kroes are listed in table 5.2.

<table>
<thead>
<tr>
<th>Actor</th>
<th>Common Interest Group</th>
<th>Collective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘European Combined Terminals’ (ECT)</td>
<td>Companies operating in the distribution sector of Rotterdam</td>
<td>Lobby activities, having meetings with people of influence</td>
</tr>
<tr>
<td>‘Nederland Distributieland’ (NDL)</td>
<td>Companies operating in the distribution sector of Rotterdam</td>
<td>Promoting the Betuwelijn in a report, reacting at SVV2 of the MTPW, conducting a media campaign</td>
</tr>
<tr>
<td>‘Scheepvaart Vereniging Zuid’ (SVZ)</td>
<td>Companies operating in the distribution sector of Rotterdam / Construction Companies with rail / tunnelling and construction capabilities</td>
<td>Granting their support to the Betuwelijn, financing a report claiming the necessity of the Betuwelijn in 1983</td>
</tr>
<tr>
<td>Chambers of commerce (Kamers van Koophandel)</td>
<td>Companies operating in the Netherlands</td>
<td>Promoting the Betuwelijn in a report</td>
</tr>
</tbody>
</table>

Table 5.2: Actors engaging in collective action during the ‘agenda-setting-phase’ of the development of the Betuwelijn

It is clear from the previous analysis that the change of opinion towards freight transport via rail within the MTPW coincided with the lobbying activities that several actors - within the transport and logistics and the construction sector - undertook.

5.3.2.3 The second governmental period; the NS makes its plans public

During the agenda setting phase of the Betuwelijn it is clear that only actors, from the distribution, transportation and construction sectors were active in their lobbying activities. However, this soon changed during the time the NS communicated its plans for a new railway line to the municipalities that were going to be effected (see; paragraph 4.2). Many of those municipalities organized meetings

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We have only listed actors that can be categorized within the Public Choice literature as voter groups. This means that we have omitted governmental actors – in this actors such as the province of ‘Zuid-Holland’ and ‘Gelderland’ from this analysis. We will include those actors in later paragraphs.

Nedlloyd, Pakhoed and Internatio-Muller are the main the shareholders of ECT (CDa, 2004, p.31). ECT is the largest and container terminal operator in Europe, handling almost three-quarters of all the containers that pass through the port of Rotterdam (ECT, n.d.).

ABN – AMRO, Amsterdam Airport Schiphol, Europe Combined Terminals (ECT), Furness B.V, KLM, Koninklijke Ned Lloyd + Van Gent en Loos, Koninklijke Van Ommeren, Koninklijke Pakhoed and International Muller are the ‘founding fathers’ of Nederland Distributieland (NDL). The main bulk of NDL’s members are formed by the companies operating in Rotterdam (CDa, 2004, p.23). Next to companies also several municipal and provincial authorities as well as consultancy firms were a member of NDL later on (Pestman, 2001, p.57).

SVZ merged with HOVR to form Deltalinqs which represents the interests of more then 600 companies in the harbor of Rotterdam (Deltalinqs, n.d.).

A ‘Kamer van Koophandel’ supports the economic growth within a region by supporting the interest of companies within that region. Membership is compulsory for each company operating in the Netherlands (KVK, n.d.).
to inform their inhabitants about the plans of the NS\textsuperscript{91}. Based on those meetings many action groups were formed at that time. In 1991 more then 28 groups were organized that represented the interest of the local communities that were likely to be affected by the Betuwelijn (Pestman, 2004, p.13). Initially those action groups acted on their own account but they soon organized their efforts in a national organization, the VLOB. The VLOB was responsible for lobbying, organizing congresses with people from the academic community\textsuperscript{92}, doing academic research and getting attention from the national media (Pestman, 2001, p.88; Boom & Metze, 1997, p.30). The members of the VLOB consisted of a tight network of people that had a lot of access to information concerning the project. Many collective actions of the VLOB were sponsored by the municipalities that were likely to be affected by the project. The local action groups were able to make use of municipal facilities and subsidies to cover their expenses. Besides municipal incentives to aid the collective action of the VLOB, there were some individuals with a lot of capital that were able to sponsor their own action groups (Boom & Metze, 1997, p.31). Another organisation that arose from within a local community, which was also founded by an individual with a lot of capital, was the ‘Stichting Duurzame Mobiliteit’ (SDM) (see table 5.3). This organisation focused on the environmental and noise hindrance aspects of the Betuwelijn as well as promoting shipping as an alternative for the Betuwelijn (Pestman, 2001, p.97).

Besides common interest groups representing the local interest that emerged during this period, there were also many new organisations that expressed their preference in favour for the development of the Betuwelijn. That were common interest groups representing the interests of companies involved in the distribution and transportation sector in general and common interest groups representing companies operating in the harbour of Rotterdam in specific (see table 5.3 for all the common interest group that emerged during this period). These groups expressed their preference in favour for the development of the Betuwelijn during the public inquiry of PKB – procedure (appendix d) (CDa, 2004, p.57; Pestman, 2001, p.119). One of the biggest foundations concerning environmental issues – the SNM – also became active during this period. The SNM was initially in favour of the Betuwelijn as long as the railway helped realizing the modal shift from road to railway. The SNM, however, changed their opinion when they started to realize that the Betuwelijn was not going to fulfil its environmental goals.

\textsuperscript{91} Mr. Klerkx, one of the leading figures in the local resistance, commented thus upon the way in which the NS made their plans public: “The way in which the preparations for the project were made, was hideous. What infuriated people, was that a lot of mistakes were made by the NS in their plans and maps: some houses were not even mentioned” (Boom & Metze, 1997, p.26)

\textsuperscript{92} In 1993 the VLOB organized a congress together with the ‘Nederlands Instituut voor Ruimtelijke Ordening en Volkshuisvesting’ (NIROV) a congress in which the economic viability is the main point of discussion (Pestman, 2001, p.121)
The Betuwelijn, or the failure of democracy as we know it?

5.3.2.4 The second and third governmental period; the local debate becomes a national public debate

The local debate that arose after the several municipalities and its inhabitants took note of the plans of the NS, became a national debate at the time of the public inquiry of the PKB. The SNM, at the moment of the PKB became an adversary of the development of the Betuwelijn, as was discussed in the previous paragraph. SNM is an organisation that has a much better position to make to influence governmental decision-making compared to the VLOB. This is because the SNM were familiar to procedures such as the Trace- MER and the PKB and were used to handle the media attention. Besides the experience, they have, they also have a good institutionalized position to influence political decision-making: SNM is for instance part of two commissions that organize the public inquiries of the Betuweroute and process the results in their advice to the minister of TPW (Pestman, 2004, p.89). The activities that SNM undertook to lobby against the Betuwelijn were aimed at (1) trying to influence political decision-making via their institutionalized position and (2) making use

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Table 5.3 Actors engaging in collective action during the phase after the NS made their plans public

<table>
<thead>
<tr>
<th>Actor</th>
<th>Common Interest Group</th>
<th>Collective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘Vereniging Landelijk Overleg Betuweroute’ (VLOB)</td>
<td>Local interests of inhabitants</td>
<td>Lobby activities, Protest, organizing meetings / congresses , moulding public opinion through the media</td>
</tr>
<tr>
<td>“Stichting Duurzame Mobiliteit” (SDM)</td>
<td>Inhabitants of local communities</td>
<td>Assigning Ulehake to investigate noise hindrance, doing research, putting shipping forward as viable alternative for rail</td>
</tr>
<tr>
<td>‘Haven Ondernemers Vereniging Rotterdam’ (HOVR)</td>
<td>Companies operating in the distribution sector of Rotterdam</td>
<td>Granting their support to the Betuwelijn during PKB procedure</td>
</tr>
<tr>
<td>“EVO”</td>
<td>Companies operating in the distribution sector in the Netherlands</td>
<td>Granting their support to the Betuwelijn during PKB procedure</td>
</tr>
<tr>
<td>“VNO / NCW”</td>
<td>All companies operating in the Netherlands</td>
<td>Granting their support to the Betuwelijn during PKB procedure</td>
</tr>
<tr>
<td>“CNV”</td>
<td>The interests of members in several sectors of the economy</td>
<td>Granting their support to the Betuwelijn during PKB procedure</td>
</tr>
</tbody>
</table>

---

93 In June 1993, this organization had 44 members organizations (Pestman, 2001, p.87).
94 SDM is founded by an inhabitant of Asperen (Pestman, 2001, p.97)
96 Ulehake is an engineering firm specialized in akoustics (Pestman, 2001, p.97)
96 Merged with SVZ to form Deltalinqs which represents the interests of more then 600 companies in the harbor of Rotterdam (Deltalinqs, n.d.).
97 ‘EVO’ supports the interests of approximately 30.000 companies in the distribution and logistics sector in the Netherlands (EVO, n.d.)
98 ‘VNO-NCW’ is the largest organization representing the interests of companies in the Netherlands (VNO-NCW, n.d.)
99 ‘CNV’ supports the interests of approximately 340.000 members in different economic sectors in the Netherlands (CNV, n.d.)
100 The two commission are the ‘raad voor de waterstaat’ and the ‘commissie voor overleg voor de wegen’ (Pestman, 2004, p.89)
of public inquiry possibilities of the PKB procedures to voice their concerns. The SNM took part in those procedures also representing many other environmental groups (see table 5.4).

<table>
<thead>
<tr>
<th>Actor</th>
<th>Common Interest Group</th>
<th>Collective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>'Stichting Natuur en Milieu' (SNM)</td>
<td>Environmental Group</td>
<td>Participating at moments of public inquiry for MER, PKB procedures</td>
</tr>
<tr>
<td>'Wereld Natuur Fonds' (WNF), 'Vereniging Natuurmonumenten', 'Vogelbescherming', 'Unie van Provinciale landschappen' and 'Gelders Landschap'</td>
<td>Environmental Groups</td>
<td>Letter to the minister of TPW, backing the position of the SNM</td>
</tr>
<tr>
<td>'Gelderse Milieu Federatie', 'Zuid-Hollandse Milieu Federatie', 'Zuid-Hollands Landschap'</td>
<td>Environmental Groups</td>
<td>Supporting the SNM in their reaction in the public inquiry of the MER</td>
</tr>
<tr>
<td>Off shore / construction companies 'Grootint' and 'Volker Stevin'</td>
<td>Construction companies with tunnelling construction capabilities</td>
<td>Designing alternative ways of developing the Betuwelijn</td>
</tr>
<tr>
<td>Construction companies 'Obayashi and Aduco'</td>
<td>Construction companies with tunnelling construction capabilities</td>
<td>Designing tunnel variants for several parts of the railway</td>
</tr>
</tbody>
</table>

Table 5.4 Actors engaging in collective action at the moment the debate concerning the Betuwelijn got national attention

After the discussion concerning the environmental impact of the Betuwelijn was started, other common interest groups started to emerge as a result. Many of those negative effects the Betuwelijn has on the environment in general and on the local inhabitants in specific could be mitigated by having the Betuwelijn built in an alternative way: Tunnelling certain parts of the railway as one of those options. Companies that have construction capabilities to have the Betuwelijn constructed in alternative ways, such as by tunnelling, thus have a common interest in seeing as much of the Betuwelijn being built in alternative ways. In 1993, when the discussion concerning the environmental impact of the Betuwelijn was well underway, multiple companies with special construction capabilities started to present alternative plans to the original as proposed by the NS. For instance, Grootint presented a plan at the 13th of February to build the railway on poles, Volker Stevin presented a plan at March the fifth to have the Betuwelijn constructed in a ditch (Pestman, 2001, p.113) and Obayashi and Aduco along with some other Dutch companies developed a tunnelling plan for the Betuweroute

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101 ‘SNM’ protects the environment in the Netherlands and works closely together with the ‘Milieufederaties’. ‘SNM’ focusses at the national and international level, while the ‘Milieufederaties’ focus on the same goal at a regional level (SNM, n.d.).

102 Het Wereld Natuurfonds Nederland’ has approximately 905.000 members in the Netherlands (www.wnf.nl, 16-7-07)

103 ‘Vereniging Natuurmonumenten’ has 879.090 members (Natuurmonumenten, n.d.)

104 ‘Vogelbescherming’ has approximately 130.000 members (Vogelbescherming Nederland, n.d.)

105 The ‘Unie van Provinciale Landschappen’, of which ‘Geldersch’ and ‘Zuid-Hollands Landschap’ are members, has the objective to protect nature in all 12 provinces of the Netherlands. The organization is mostly sponsored by the national lottery; ‘de nationale postcode loterij’ (Unie van Provinciale Landschappen, n.d.)

106 The ‘Geldersche and Zuid-Hollandse Milieufederaties’ represent the interest of all local environmental action groups at the provincial level (De Milieufederatie, n.d.)
later that year. In most of those cases the province of Gelderland was the main sponsor and initiator for the research projects (Pestman, 2001, p. 115; Boom & Metze, 1997, p.90).

After the commission Hermans (see paragraph 4.3) indicated, however, that the Betuwelijn was the best solution to accommodate the projected growth in freight transport, the Dutch cabinet reached their final decision to build the Betuwelijn in April 1995. The ‘Tracewet’ procedure continued after the cabinet’s decision was made. After the ‘tracebesluit’ was made in 1996 by the cabinet most common interest groups activity seized to exit (Pestman, 2001, p.16).

5.3.2.5 Common interest groups that did not engage in collective action concerning the Betuwelijn

During the analysis of the collective action about the Betuwelijn, there was a number of groups that have a common interest but did not engage in collective action: the shipping companies, road transport companies, and the Dutch taxpayer. It is understandable that the Dutch taxpayer was unable to organize since its identity as a very large common interest group. However, it could be expected that the shipping industry and the road transportation sector were able to organize themselves against the Betuwelijn since the two sectors are represented in various organizations such as the EVO and SVZ. Pestman (2001, p.89) suggests that there are two reasons why the main organization that represents the common interests of the shipping industry – Schuttevaer – did not focus on the Betuwelijn: (1) Schuttevaer mainly focuses on the technical and nautical aspects of the shipping sector and (2) that the industry was threatened by the process of liberalization at the time of the agenda setting of the Betuwelijn, thereby taking up all attention of the sector. Boom and Metze (1997, p.58) suggest, however, that although the Betuwelijn meant more competition, the lobby of the shipping and road transport sector was not ineffective: approximately 180 million Euros governmental subsidies were planned to support the shipping sector and road transport sector. On top of that, the road transport sector was not burdened with more levies that would have resulted in a decrease of the competitive capabilities of this sector.

5.3.3 Conclusion; collective action and the case of the Betuwelijn

In this paragraph, the interaction between voter groups has been the focal point of the Public Choice analysis. In this paragraph it is assumed that lobbying is more efficient then the act of voting in the case of influencing government policy making. Another assumption made in this paragraph is that lobbying is more effective when it is done by groups that have a common interest rather then by individual organizations. However, the fact that groups have a common interest is not a sufficient condition for collective action and thus for lobbying. The logic of collective action (Olsen, 1965), which is an extension of the Public Choice theoretical ‘explanans’ as it is developed in chapter 3, is used to formulate the following empirical ‘explanans’ of the voter group interaction as it occurred in the case of the Betuwelijn;

Lobbying done to influence governmental decision making with respect to the Betuwelijn is only likely to happen by common interest groups that (1) are sufficiently small, (2) have a relatively large member in their midst or (3) receive outside incentives.
Three periods that have been distinguished in chapter 4 have been used to organize the empirical material. In the first governmental period – the agenda setting phase – it was ECT that primarily promoted the necessity of freight transport via rail, later on NDL became the main organization that engaged in lobbying activities. ECT’s collective action can be explained by its status as one of the biggest container terminals in Europe thus having an unequal degree of interest in seeing the Betuwelijn getting developed, another factor that is expected to play a role is the fact that the NS was one of the main shareholders of ECT. NDL’s involvement can be explained by the outside incentives they received by the MTPW to represent the interests from the transport and distribution sectors in a unified manner. SVZ and the several chambers of commerce, which were also active in this period, were at the time already institutionalized as organizations that represent the common interests of companies operating in the harbour of Rotterdam and companies operating in the Netherlands respectively.

In the second governmental period, the resistance against the Betuwelijn began after the NS made her plans public. Within half a year, more then 28 local action groups managed to organize themselves. Later on, all the local action groups were brought together into one large organization, the VLOB. These action groups did receive support in the form of subsidies and were offered possibilities to make use of municipal facilities. Besides municipal support, there were also some individuals who founded their own action group such as the SDM. It seems hardly in the rational self-interest of those few individuals to assume all the costs of founding an action group for themselves while other citizens in the same community are benefiting from the collective good without contributing to it. Where non-rational or irrational behaviour is the basis for a lobby, “it would perhaps be better to turn to psychology or social psychology than to economics for a relevant theory” according to Olsen (1965, p.161). It is clear that the inhabitants that were likely to be affected by the Betuwelijn were infuriated by the way the NS presented their plans. Irrational behaviour will therefore undoubtedly be part of the formation of action groups and their collective action with respect to the Betuwelijn. However, it seems hardly imaginable that all the collective action that was taken by the inhabitants of the local communities would have occurred without the outside incentives provided for by the municipalities and the provinces. Besides the resistance that arose after the NS made their plans public in the second governmental period, there were also some organisations that expressed the necessity of the Betuwelijn. These organizations, however, merely expressed their preference, for the Betuwelijn and did not engage in any further collective action. NDL remained the most important organization in terms of collective action in favour of the Betuwelijn throughout the years.

Many of the national and regional environmental groups engaged in collective action (see table 5.4) after it became clear that the Betuwelijn was not going to produce the positive environmental effect they hoped for. SNM was by far the most active environmental organization. The regional environmental groups endorsed the activities of the SNM by signing letters and backing the SNM in the PKB – procedure. All the environmental action groups are financially backed by subsidies and donations from citizens and other organizations. The construction companies that had capabilities to construct the Betuwelijn in alternative ways that engaged in lobbying were for the most part financed by the province of Gelderland.
The common interest groups that had an interest concerning the Betuwelijn that were not active lobbying are the Dutch taxpayer, the shipping industry and the road transport industry. The Dutch taxpayer is too big off a common interest group to provide themselves with any of that good. The shipping and road transportation sectors, however, were able to get some off their common interest provided for in terms of government investments and favourable policies.

In sum, it can be concluded that with respect to the case of the Betuwelijn there are far more confirmation instances for the collective action hypotheses then there are falsification instances. Only during the second government period, some local action groups did not follow the logic of collective action.

5.4. The interaction between politicians and voters

The relevance of the analysis concerning collective action in the previous rests upon two assumptions; (1) lobbying is more efficient then the act of voting in the case of influencing government policy making and (2) lobbying is more effective when it is done by groups that have a common interest rather then by an individual organization. In this paragraph, in which the interaction between politicians and voters is the subject matter (see figure 5.4), these assumptions will be justified based upon the ‘explanans’ of Public Choice Theory as it is formulated in chapter 3; in other words, it will be shown that these assumptions will necessarily follow from the ‘explanans’. The following questions will thus be answered; (1) why would it be in the rational self interest of voter groups to lobby for specific governmental policies per se and (2) why would it be in the rational self interest of voter groups to organize around their common interest instead of lobbying alone and (3) why would it be in the rational self interest of government officials (politicians) to comply with the wishes of the voter groups? Firstly, in order to answer those questions, the institutions that govern the interaction between voters and politicians – the elections – are discussed in this paragraph (Paragraph 5.4.1). Together with a theoretical analysis of the interaction between voters and politicians (paragraph 5.4.2) – from which

Figure 5.4: Voters (V), Politicians (P) and the interactions between voters and politicians in the political market place
The justification of the previously mentioned assumptions will also follow – and the institutional analysis of the Dutch electoral process, Public Choice hypotheses (paragraph 5.4.3) will be formulated that will be tested in paragraph 5.4.4 according to the case of the Betuwelijn.

5.4.1 The Dutch Election process: from the elections to the governmental accord

The governmental system in the Netherlands can be characterized as a parliamentary democracy; this means that all the eligible Dutch voters have the possibility to choose representatives, which are a member of a political party to govern on their behalf (De Jong & Schuzler, 1999, p.57). The Dutch voter has the chance to vote for representation in three occasions: (1) national elections, (2) provincial elections and (3) local elections. We will discuss role of several important Dutch political institutions – the ‘Tweede Kamer’, the ‘Eerste Kamer’, the municipalities and the provinces – in the first paragraph. Firstly, the procedures and rules concerning the national, provincial and local elections are discussed in the paragraph; the second part of this paragraph will elucidate the formation of the coalition parties that form the basis of the government and the formation of the Dutch cabinet.

5.4.1.1 The role of the ‘Tweede Kamer’, ‘Eerste Kamer’, provinces and local government

The Dutch parliamentary democracy is based on a system of separated qualifications and responsibilities, which means that the qualifications and responsibilities are spread across different political institutions107 (De Jong & Schuzler, 1999, p.66). The formation of laws is a coordination process between the members of the ‘Tweede Kamer’108 (TK) and the members of the government109. The main function of the government in this process is to propose laws and the main function of the TK is to check and possibly amend the proposed laws; the parliament / TK has an array of procedures that allow them to check and amend the laws the cabinet proposes; this will be the subject matter of paragraph 5.4 however. Whenever the majority of the parliament agrees upon a law that the cabinet proposed will not automatically mean that the law has been enacted yet; the proposed law has to pass the ‘Eerste Kamer’ (EK) for another round of voting as well. The EK110 has the power to either accept or decline the law that has been approved by the TK only. Amending the law is thus a power that is only reserved for the parliament (De Jong et al., 1999, p.66).

Provinces and local governments in the Netherlands have much less power then the national governmental institutions. Local governments are responsible for distributing several benefits to its citizens such as having roads built, being responsible for the collection of garbage, regulating and licensing activities such as construction activities within the municipal boundaries. The role of the provinces is even smaller compared to the local governments; these institutions are responsible for the coordination process of the activities that the local governments within the province employ. This

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107 The system of separated responsibilities and qualifications is sometimes indicated by the term ‘dualism’ (De Jong et al., 1999, p.66)
108 The TK and parliament are terms which are used as being synonyms.
109 The Dutch government formally consists of the ministers and the monarch, the monarch holds no real formal power however. The cabinet consists of all the ministers and secretaries of state of each department (De Jong et al., 1999, p.38).
110 The EK and TK together are called the ‘Staten Generaal’ (De Jong et al., 1999, p.59)
includes the coordination of traffic between the municipalities, spatial planning and the protection of the environment with the province (De Jong et al., 1999, p.76). The national government finances the activities of the provinces and the local governments for the most part; the provinces and the local governments have very little opportunities to tax its inhabitants to finance their activities. Because of the financial dependence of the provincial and local institutions, very little autonomy in deciding upon their own policy choices is reserved for the local political institutions. Their autonomy is further limited by constitutional means; the Dutch constitution allows for the possibility that provinces and local governments can be forced by the national government to assist in executing laws that are passed nationally (De Jong et al., 1999, p.77).

5.4.1.2 The national elections: the ‘Tweede Kamer’ of ‘De Staten Generaal’

The national elections - in which all eligible Dutch voters can choose their parliamentary representation in the ‘Tweede Kamer’ (TK) - are the most important elections in the Netherlands; the TK in the parliamentary democracy of the Netherlands has the most important political powers111 (De Jong and Schuzler, 1999, p.60). Representation is determined via a system, which can be characterized by the term ‘even representation’. This means that the distribution of parliamentary seats roughly equals the distribution of the elicited votes along the lines of the political parties that are eligible for the national elections; every vote in the national elections for the TK equals a vote of confidence for a particular political party instead of a vote of confidence for a certain candidate. Every political party gets the number of seats, which represents the number of times, that the party surpasses the ‘voting threshold’. The voting threshold is determined by the number of valid votes, divided by the number of total of seats in the TK112. Each party that does not surpass the ‘voting threshold’113 at least one time does not gain a seat in the second chamber. The question which politicians - representing a political party - will take a seat in the second chamber depends on the order of the candidates on the list of their party. Each party has a ‘front man’ who will be the first candidate, which will take a seat when his or her party surpasses the voting threshold for the first time. The other candidates will follow their ‘front man’ in the second chamber along the order of the party’s candidates list114, whenever that party surpasses the ‘voting threshold’ more then once. There is however, one chance to circumvent the order of the candidacy lists of the political parties; if one member candidate gets more then one fourth of the ‘voting threshold’, he or she will be automatically admitted to the ‘second chamber’ to represent his or her party. This is however a rarity in the parliamentary history of the Netherlands (De Jong et al., 1999, p.63).

5.4.1.3 The provincial and local elections

The most important function of the first chamber is to vote on the laws that pass through the second chamber as is indicated previously. The first chamber is thus an institution, which reflects upon the decisions made within the TK (De Jong et al., 1999, p.60). The Dutch voter has no direct influence

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111 To see which powers the TK has; see De Jong et al. (1999, pp.66-71)
112 The total number of seats in the second chamber is 150 (De Jong et al., 1999, p.62).
113 The voting threshold equals 1/150 = 0.67 % of all eligible votes (De Jong et al., 1999, p.63).
114 The order of the candidacy list of the party is determined within the party itself.
on who is going to represent them in the EK\textsuperscript{115} as is the case with the TK. The elections for the EK take place three months after the provincial elections. The representatives of the provinces, which are chosen directly by the voters, vote on who is going to represent the province in the EK. The voters in that way thus have an indirect influence on who is going to represent them as a senator of the EK. The results of the elections of the EK usually totally mimic the results of the elections of the TK. This is because of a combination of election law, procedures and a strict party discipline. The role of the provinces in the election of the senate does not imply that the provinces are represented in the senate however (De Jong et al., 1999, p.64).

Local elections just like the national elections are direct elections in which citizens of a municipality vote for politicians that represent them in their local parliament. Both the elections for the province and for the local level differ from the national elections of the second chamber. Local governments and provincial governments cannot be re-chosen within a period of four years. However, this is the case for the second chamber. New elections occur if for some reason the government cannot continue to rule. Despite this difference, the elections for the provinces and for the local level are similar to the elections of the TK in many ways. Voters can vote on the same parties that are also active on the national level. The results of the national elections have a strong influence on the provincial and local elections (De Jong et al., 1999, p.64).

5.4.1.4 The formation of the Dutch cabinet and formulation of the governmental accord

The results of the elections for the TK determine for the large part which parties are going to form the governing coalition. The members of a governing coalition decide who of their candidates are going to take which position in the Dutch cabinet. The procedure of forming a coalition is as follows: first, the monarch\textsuperscript{116} appoints advisors who have to find out which different coalitions of parties are among the possibilities to form the new governing coalition. Whenever the advisors conclude that it is possible to form a certain coalition, the process of negotiation between the particular party’s leaders will commence. The negotiation process is most of the time led by the party leader who represents the largest party; his goal\textsuperscript{117} is to form a cabinet, which represents the majority of the seats in the newly elected TK/parliament. The result of the negotiations – whenever successful - between the particular party leaders is an official governmental accord for a period of four years. The governmental accord is an important document, which forms the basis for the political program that the new government will follow during its rule. The governing program, which is based on this governmental accord, contains the policy plans of the new government in greater detail (De Jong et al, 1999, p.40).

The coalition negotiations, which were of great importance for the development of the Betuwelijn, were the negotiations in 1989 (CDa, 2004, p.28); PVDA and CDA at that time were able to find each other within the theme of promoting sustainable economic growth and increased governmental spending. The coalition parties agreed to make plans about the freight transport via rail, since at that

\textsuperscript{115} The Dutch ‘Eerste Kamer’ is also known as the Dutch senate (De Jong et al., 1999, p.62).
\textsuperscript{116} The power of the monarch in the Dutch monarchy is never as big as in this moment (De Jong et al., 1999, p.40)
\textsuperscript{117} Other possibilities for the advisor are to form an extra parliamentary cabinet (a cabinet that has no political connections with the parties in the ‘second chamber’) or a “business cabinet” (a cabinet of independent experts); these possibilities have rarely been used since 1963 (De Jong et al., 1999, p.40).
time freight transport via rail was considered to be considerably less damaging to the environment compared to transport via the system of roads. This broad plan as it was formulated in the governmental accord was worked out in detail later on; in July 1990 the minister of TPW – Minister Maj-Weggen – revealed the final SVV2 (see paragraph 4.1) in which the Betuwelijn was mentioned as one of the main lines of freight transport via rail (CDa, 2004, p.33).

5.4.2 An Economic Theory of Democracy applied to the Dutch electoral system

The Dutch institutions that govern the interactions between the voter and the Dutch politician have been discussed for a great deal in the previous paragraphs. In the following paragraphs, however, a theoretical analysis will be made concerning this interaction based upon the ‘explanans’ as it has been put forward in chapter 3, in other words; the theoretical ‘explanans’ of Public Choice Theory will be extended with relevance to the interaction between voters and politicians.

5.4.2.1 The role of uncertainty in elections

In order to make a theoretical analysis of the interaction between voters and politicians in a democracy it is first necessary to summarize the behavioural assumptions of the involved actors as were analyzed in paragraph 5.2: politicians / party members pursue elective office for their own rational self-interest. Politicians are able to attain the income, prestige, and power which they attain from being elected into office. Thus politicians never seek office as a means of carrying out particular policies; their only goal is to reap the benefits of holding office per se. Rationally self-interested voters on the other hand try to capture personal benefits through the political process by rent-seeking; voters rent seek by voting to direct social or economic benefits to themselves (Mueller, 2003, p.304). In paragraph 5.3, it has also been assumed that voters can also organize themselves around a common interest under a number of conditions, which allows them a bigger leverage over policy making in a certain area.

Politicians that want to gain as much votes as possible in order to maximize the likelihood of attaining elective office need to know policy preferences of as much voters as is possible. In the parliamentary system of the Netherlands, as discussed in the previous paragraph, a political party has to gain 51% of all votes to gain the exclusive right to formulate and propose laws for a period of four years. So technically speaking, party officials being a member of political party have to know what the policy preferences of 51% of all Dutch voters are. No political party, however in the Dutch parliamentary history has been able to gain this amount of votes, but this does not mean that it cannot be seen as an aim of political parties to achieve this kind of majority.

The questions that become relevant because of the previous are; (1) how do party officials know what the preferences are of the voters from which they need their vote, (2) how do voters know their own preferences and how they relate to certain governmental policies? In short, both voters and politicians experience uncertainty in the electoral process, which they both have to try to minimize in order to maximize their own personal benefits.

In the previous Public Choice paragraph, uncertainty has not been explicitly mentioned. For instance, the problem of collective action also arises, as all members of a common interest group are fully aware of the beneficial effect of the collective good, in other words; the problem of collective
action also arises when actors are assumed to have perfect information. However, in the real world and of course in the real world of elections actors have a lack of knowledge about the course of the past, present, future, or hypothetical events; in others words: actors experience uncertainty. In the Public Choice Theoretical framework, the intensity of uncertainty can be reduced by acquiring information, which can be obtained only by the expenditure of scarce resources (Downs, 1957, p.77). Therefore, the question now becomes how uncertainty affects voters and political parties\textsuperscript{118} in the electoral process.

Voters may be uncertain in certain ways when they participate in the elections (Downs, 1957, p.80):

1. “They may be aware that their total utility incomes have altered but be uncertain about what caused them to do so, particularly about whether government or private action was responsible.
2. They may not know the repercussions upon their own utility incomes of some proposed (or undertaken) government action, mainly because they do not know what changes in objective conditions it would cause.
3. They may be complete unaware of certain policies being carried out by the government, or of alternative policy options the government could have undertaken, or of both.
4. They may be uncertain how much influence their own views have on the formation of government policy.
5. They may be uncertain about how other citizens plan to vote.

The previous possibilities of experienced uncertainty could be summarized thus according to Downs; “in short, voters are not always aware of what the government is or could be doing and often they do not know the relationship between government actions and their own utility incomes”. Political parties may be uncertain in the following ways (Downs, 1957, pp.80-81):

1. “They may not know what decisions the non-political elements of the economy are going to make; i.e., they may be unable to predict the economic conditions with which they must deal in running the government.
2. They may not know how a given government act will affect the utility incomes of voters, even if they know what objective conditions it will produce.
3. They may not know what objective consequences given governments act will have, even if they know how voters’ utility incomes will be affected by every possible set of consequences.
4. They may not know how much influence any one voter has on other voters.
5. They may not know whether voters are aware of what the government is doing and how it affects them, or how much additional information is necessary to make voters thus aware.
6. They may not know what policies opposition parties will adopt on any given issue. If this type of uncertainty exists, a party will be unable to forecast how voters will react to its own policy, even if it knows the way voters will be affected by that policy and the nature of their utility functions.

\textsuperscript{118} Political parties are treated as if the are a single person since an assumption has been made that complete agreement exists on the goals to pursue among the members of a political party (see Downs, 1957,p.26). This point will be discussed in greater depth in paragraph 5.5.
Uncertainty can be expected to have a number of effects with respect to voter behaviour according to Downs (1957, p.82); (1) “uncertainty\(^{119}\) divides voters into several classes because it affects some people more then others” and (2) uncertainty is expected to “give rise to persuasion, since some of the voters who are most certain of their policy preferences try to influence those who are the least certain”. Voters can thus be categorized according to two scales: (1) the confidence a voter holds with respect to his party preference and (2) the intensity with which the voter advocates his preferences to other voters (Downs, 1957, p.82).

5.4.2.2 The role of persuasion in the electoral process as a result of uncertainty

If the assumption of certainty is preserved, no voter can possibly be influenced by another voter (Downs, 1957, p. 83); “each voter would know what would benefit him the most, what the government is doing, and what other parties would do if they were to be in power. If the voter remains rational, no persuasion can change his mind. However, as soon as the assumption of certainty is dropped, voters have will find that it is difficult to translate their own rational self-interest into a voting decision.

However, for some voters, even under the conditions of uncertainty the voting decision remains obvious; “they want a specific party to win since because its policies are obviously the most beneficial to them”. Others are highly uncertain about which party they prefer and as a result need more facts to establish a clear voting preference. This need results in voters’ demand for someone who provides facts that can help to establish a voting preference, by providing these facts, persuaders find an opportunity to become effective. According to Downs (1957, p.83) persuaders are not interested per se in helping people who are uncertain to become less uncertain; instead they are expected to perform their role as persuader in such a way that it will aid their cause. It is expected therefore that persuaders only provide those facts, which are favourable to whatever political party they are supporting\(^{120}\). As long as rational self-interest is assumed, as is explicitly done in the Public Choice framework, only people who have already made up their mind can persuade others\(^{121}\). Downs (1957, p.84) thus concludes the following with respect to persuaders;

“Persuaders are at one extreme of the uncertainty scale - they are certain what voting decision is best for them. They are also extremists on the intensity scale, since they are interested enough to in one party’s victory to proselyte for it”.

Not all persuaders\(^{122}\) are voters; political parties are obviously persuaders too. Those who are voters are classified as classified as agitators by Downs (1957, p.84). These agitators while being

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\(^{119}\) When we use the word “uncertainty” we specifically mean the type of uncertainty we described in paragraph 5.5.2.

\(^{120}\) This does not mean that these facts are false; it means that they need not tell the whole truth (Downs, 1957, p.83). They probably will not, because persuaders are propagandists in definition; they present information organized so as to lead to a specific conclusion.

\(^{121}\) The possibility that persuading is a means of confirming one’s own insecurely held beliefs is excluded from the analysis.

\(^{122}\) Whether voters become persuaders is of course not only subject to the extent of their certainty but also subject to whether to persuasion efforts are noticeable enough for the voter engaging in persuasion , as we have discussed in paragraph 5.3.
sufficiently informed to be certain\textsuperscript{123} of their own voting decisions are practically immune to the persuasion of their opponents. According to Downs, “agitators are usually motivated by a desire to see the policies of a specific party enacted, or by gratitude to a party for having carried out some policy they favour. But whether their motive is simple repayment for a political favour, or the most idealistic altruism, they are willing to invest scarce resources – at least time and perhaps more – in agitating”.

5.4.2.3 Other types of voters and types of persuaders

In the previous paragraph two sub categories have been identified in the actor category of voters; agitators are distinguished from voters that are uncertain about which party is aligned best with their preferences. However the previous categorization is not sufficient enough since it also possible that some voters are informed enough to have made a definite decision about their party preferences, but are not interested in persuading others. Downs (1957, pp.85-86) categorizes voters that arrived at a party preference but are not willing to persuade others as passives, while neutrals refer to the type of voters who are indifferent with respect to what party to vote for. With respect to the act of voting Downs concludes the following:

“On Election Day, passives vote and neutrals do not; their similarity is that both groups are not influence-able. Many citizens, unlike agitators, passives and neutrals, are uncertain how to vote. Either they have not made up their mind yet, or they have reached some decision but feel that further information might alter it”.

Downs also makes sub-categorizations of the ‘uncertain’ type of voter, but for our purposes it is only necessary to know that there are voters that one can distinguish categorize as agitators, neutrals or passives, who are both groups of voters who are not influence-able, and uncertain voters, which are susceptible for persuasion.

Whenever it is possible to influence men, other men appear whose specialty is influencing them (Downs, 1957, p.87); Uncertainty about their own policy preferences “renders many voters to heed leaders who seem to know the way toward those social goals the voter holds”. Leaders are men with influence over voters – usually not full control of their votes, but at least some impact on their views about the best policies for parties to follow\textsuperscript{124}. What benefits do leaders get from influencing the voting decision of uncertain voters? Within the Public Choice Theoretical framework, all leaders are motivated to improve their own position in society, in other words; also, leaders are rational self-interested. Three types of leaders can be distinguished (Downs, 1957, p.88): (1) political parties, (2) interest groups and (3) favour buyers. Political parties are followers as well as leaders; they try to make their policies to suit their voters to gain as many voters as possible and at the same time, they try to make voters believe the policies they adopt are the best for them (Downs, 1957, p.88). Interest

\textsuperscript{123} The following definition is used for voter certainty; “Voters that are certain do not necessarily know every fact relevant to their voting decision, nor are they absolutely sure it is the best one to make. Certainty refers to knowing enough to have reached a definite decision. It is thus negligible that further information would cause them to change the certain voters’ decision” (Downs, 1957, p.85).

\textsuperscript{124} Leaders thus perform the function of alleviating uncertainty by discovering what is the best for those individuals who are uncertain. According to Downs (1957, p.87)leadership is also necessary under conditions in which no consensus exists among people, in which leaders need to decide what to do.
groups are leaders who try to get the government to adopt some particular policies beneficial to them claiming to represent votes; “they try to implant their own view in the mind of uncertain voters so they represent as much voters as possible”. Favour buyers are men who are willing to support political parties in return for specific favours: “Favour buyers claim to represent no one except themselves; they are merely engaged in trading their influence for specific policy favours”.

5.4.2.4 Government’s need for non-government intermediaries

Because of the phenomenon of uncertainty, it becomes rational for a government to employ representatives between themselves and its constituents to alleviate this uncertainty. These intermediaries have two functions that are derived from the relationship between government policies and the utility functions of its constituents; (1) the simplification of the process of exploring the utility functions of its constituents and (2) convincing the voters that the government’s policies are worth voting for. There are two types of intermediaries performing this function: intermediaries that are employed by the government itself and intermediaries that originate from the constituency. The latter group is subject of this paragraph, the government intermediaries are subject of the next paragraph (paragraph 5.5) concerning the interaction among politicians. In order to perform these functions, intermediaries have to be as accurate as possible in communicating the preferences, as they exist among the constituency. However, as discussed in paragraph 5.2, most voters – the average voters – are rationally ignorant and are thus not aware of what they want the government to do. As a result, there is nothing for intermediaries to represent of the many issues that face the average voter (Downs, 1957, p.90).

However, every government policy concerns a few voter groups directly and immediately. The more a voter group is likely to be affected the more it is expected to be informed about the utility effects of these policies upon themselves and the more this group is likely to have definite ideas about what policies the government should pursue. To enhance the likelihood of the government adopting their preferred policies they claim that their views represent a significant number of voters; the more votes they represent the better. Thus, it is in the rational self-interest of these voter groups / intermediaries to “masquerade as representatives of a majority of citizens, even though they are actually for some particular group or organization of voters” (Downs, 1957, p.91).

Because most voter groups do not express their opinion directly because of collective action and uncertainty concerning policy preferences, political parties have to listen to the lobbyists. However, since everyone can make such a claim about representing a significant number of voters, party officials will not be impressed unless some proof is adduced to support it. Therefore those lobbyists try to create an as large as possible following which in fact supports their policy proposals. By moulding public opinion in their favour, they hope to force the government to adopt their views, since it is in the rational self-interest of a government to adapt itself to public opinion whenever a consensus can be discovered therein (Downs, 1957, p.91).

In paragraph 5.3 term interest groups has already been used to describe groups of voters that had a common interest. If interest groups are to be leaders, in terms of persuading uncertain voters, then they necessarily have had to overcome the problem of collective action as is discussed in paragraph 5.3. With influence we mean influence in the broadest sense; influence on voters or other political parties.
In addition to the reduced uncertainty as a result of the lobby groups’ activity, a government also needs resources to (1) convince people that its policies are the good ones, (2) to defend itself from the attacks of opposition parties and of interest groups who disagree with their decisions. To acquire the resources for these tasks, it can sell favours to voters who need government action and are willing to pay for it. According to Downs this act of favour buying is not “as crude as bribery” (Downs, 1957, p.92):

“It is the subtler device of making campaign contributions in return for a favourable disposition of attitudes by a party with respect to a certain policy area, such as pro labour or pro free enterprise etc. The payments received by the party may not even be in money. Instead they may be job opportunities in the private sector, persuading other voters which are less sure of certain policy preferences held by the governing parties, or willingness to refrain from opposing certain policies”.

Political parties are thus paid for by some form of agitation. The voters with the greatest potential influence as an agitator are expected to get the most favours in return for their services. This means that in deciding how much a government will set policy to suit various favour-seekers, political parties must estimate their influence coefficients, i.e., “the numbers by which the favour-seekers own votes must be multiplied in calculating their political weight” (Downs, 1957, p.93).

5.4.2.5 The necessity of acquiring information to influence government policy

It is not rational for intermediaries consisting of voter groups to try to influence government policy making without knowing what set of policies benefits them the most, i.e., “no voter is pleased by a particular policy unless he prefers it to the alternatives that could have been chosen” (Downs, 1957, p.247). This means that a voter or voter group must be informed about the situation in which the policy decision is made before any policy can be preferred. Political information is thus useful to voters because it enables them to have specific preferences. Having specific preferences in turn influences those government policies that affect them. This does not mean those voters who have a priori preferences concerning certain policies are the only ones that are affected by them; government can thus not only take into account those voters that have clear preferences and are able to communicate them. “Nevertheless, since government operates in a fog of uncertainty, it is sure to pay more attention to desires it can perceive than those which remain obscure” according to Downs (1957, p.248). This tendency is especially apparent whenever the government is uncertain about the factual outcomes of various policy alternatives, as well as their impacts upon citizen’s votes.

This previous line of argumentation becomes clear in the case of the Betuwelijn; the Dutch government may know that its citizens do want better transport possibilities to create wealth by reducing congestion on the road, by creating job opportunities and by having positive environmental effect. However, it is uncertain about what the real effects of a new railway line are on these factors. Even though many people other then the well informed are affected by the development of the Betuwelijn, it must rely on for a large part on the information of the latter to tell what the effects of the Betuwelijn will be. Therefore the well informed are expected to have a relatively strong influence in determining what policy the government will follow.
Within the public choice framework, the government does not matter whether the utility incomes of its citizen’s are affected by its behaviour; it is interested only in their votes. Hence, it is concerned about their utility incomes only when those incomes affect their votes. However, the government does not always know whether voters can trace their utility-income changes to specific government action, even when government action in fact causes those changes. In other words, government may not know how much its citizens know about how its policies affect them. By looking at the several levels of knowledge different groups of voters have about the affect of the government’s policies, an indication can be given of the degree of attention the government will give to several voter groups (Downs, 1957, p.248);

1. “If a government does not know how a given policy affects a citizen’s income, it obviously cannot take into account of its interest. Therefore, it has to ignore him in making the decision.
2. If the government knows that the citizen’s income is unaffected by a particular decision, it ignores him in making the decision.
3. If the government knows that a citizen’s income is affected by its policy but that he cannot trace the effects specifically to government action, it ignores him.
4. If government knows that a voter’s income is affected by its policy but does not know whether the voter is aware of this, it may try to make some adjustment in case he is.
5. If government knows that a citizen’s income is affected by its policy and also know that the citizen is ware of this, it gives full consideration to the impact of its policies upon him. Even in this case, however, it may still tactically ignore his wishes in an attempt to please other voters”.

Clearly, the more information a voter or voter group has the more influence he or they are likely to exercise; provided he or they inform the government of what policy preferences they have. Conversely, the less a voter knows about the policy alternatives the more likely it is that the government will ignore him in making policy decisions (Downs, 1957, p.249). Information thus derives value from the influence it enables its possessors to wield in the formation of government policy. The quantity of this value is the return on information which must be balanced against its cost in deciding whether to buy the information relevant to the particular policy area (Downs, 1957, p.250); i.e., the marginal benefits of acquiring information an extra ‘unit’ of information thus have to balance the marginal costs.

The way in which information derives value for the organization that bothers to acquire is illustrated with the case of the Betuwelijn; ECT is an organization, which is active in freight transportation and therefore expected to be interested in the policies the Dutch government adopts in the sector of transport. Even if ECT fails to inform themselves and to communicate their preferences, the Dutch government is going to pursue some policy – the normal policy - in the transportation sector. If ECT is fully informed about transportation issues and able to communicate their preferences, they will desire a certain policy that benefits them more then any other policy. If these previously mentioned policies are identical, then ECT off course does not need to influence the government at all; any

127 The conditions under which voters inform the government of what policy preferences they have / lobbying, given a situation of certainty, are discussed in paragraph 5.3.
investment that has being made in order to influence the government would be wasteful. However, ECT does not have a priori knowledge of whether these two policies are identical until they have made some investment in information, which allows them to make an approximation about the utility difference between the most ideal policy option and the normal policy option. This margin of utility difference is called the intervention value (Downs, 1957, p.250) of ECT in the transportation policy of the Dutch government.

However, being informed about the utility of various policy options is not a sufficient condition to exert influence on government decision making; for instance, ECT’s intervention value in the area of transportation will depend on the influence other groups of voters are likely to exert. Therefore, it is rational for each voter group wishing to intervene in government policy making, to estimate what other voter groups in the same policy area are going to do. It could very well be that the presence of many other voter groups trying to exert influence would make it irrational for a particular voter group to invest in terms of information. The impact a certain voter group in that policy area has depends on whether the voter group can communicate their preference to the government and depends on how many other voter groups there are with either a more or less different or more or less similar policy preferences. This means that even if a certain voter group is able to communicate their preferences to the government, this does not mean that government is following those preferences since it tries to please other voters in the same policy area as well. This could lead to a compromise policy or government ignoring some voter groups all together. Thus for a voter group to have influence on a policy area, the following conditions have to hold (Downs, 1957, p.250):

1. ‘X (a voter group) must have specific preferences in area A (a certain policy area). To do so, he must be informed about what alternatives exist there.
2. The government must be aware that X (a voter group) has preferences and know what they are. This means there must be communication from X to the government.
3. The government must be moved by its awareness of the voter group’s preferences to alter the policy it would have followed in the absence of such awareness”.

The policy that eventually emerges after a particular voter group has communicated their opinion to the government – the realized policy option - embodies how much influence the voter group has had. If the ‘realized’ policy option is equal to the ‘ideal’ policy option, then the particular voter group has prevailed in that particular policy area. Whatever the policy outcome is in that area, the amount of influence the voter group had is measured by the utility-income difference between the realized policy option and the ideal policy option. This utility difference is called the opinion impact by Downs (1957, p.251).

In sum two types of costs can be identified that have to be made by a would be influencer to shape policy formulation: (1) since the utility effects of several policies are unknown, the would be influencer needs to make investments to find out and (2) even if the previous is clear, a knowledge gap still remains concerning the extent of influencer’s influence upon the actual government decision is until after it is made. For instance, how is ECT for example going to know to what extent they can influence the government decision concerning their favoured transportation policy? The impact of the
specific policy preference of ECT is a prediction they have to make about under what pressures they believe the government is under. This problem according to Downs is similar to the problem faced by voter groups that have to decide how much information to buy concerning a specific policy area as discussed earlier. The marginal benefit of buying an extra ‘unit’ of information to alleviate uncertainty concerning the pressures the government is under, has to equal the costs of an extra ‘unit’ of information (Downs, 1957, p.251).

5.4.2.6 The cost of communication

Besides the cost of acquiring information, the costs of communication can also be identified. According to Downs (1957, p.252), there are “significant differences between acquiring information in order to vote and acquiring it in order to influence policy making”: Firstly voters communicate their decision to government in the act of voting, but influencers must make their preferences clear to a government to get specific policy results. The amount of costs an influencer has to make depends on its position in society; if he happens to be a personal friend of influential politicians those costs will be expected to be relatively low; if he is a labourer in a factory, these costs are expected to be relatively high. These costs “must be counted as part of the marginal cost to be balanced against whatever marginal return there is from being informed”; (Downs, 1957, p.252). The height of these costs vary depending upon to whom in the government ‘a would be influencer’ communicates his views, since it is more expensive to reach some officials than to reach others.

5.4.2.7 Why influencers are better informed than voters are

The second difference between acquiring information in order to vote and acquiring information in order to influence policy making: “almost everyone at least considers voting, but relatively few citizens ever consider exerting influence in any particular area of policy” (Downs, 1957, p.253). This is because a voter’s return from voting is subject to extreme discounting since there are many other voters (see also paragraph 5.2). Influencers, however, do not have to discount their intervention value that much since there are not many other influencers active in their policy area of interest. As noted before, this voter apathy is not the result of mere apathy but results from the costs that are associated with becoming an influencer. As discussed in the previous paragraph, each influencer must be informed with the situation at least well enough to be in favour of a specific policy and has to communicate their preference to the government. These costs are not together the sufficient costs a group of influencers has to make. A government knows that its policymaking in a certain area will affect many voters who show no immediate interest in that particular area. Since the votes of such voters are equal to those of the well informed, a government must be persuaded that these presently passive voters will not react against whatever policy an influencer is promoting. This means that a would-be influencer has to be knowledgeable enough to carry out this persuasion of the government. Thus influencing the governmental process of policy formulation requires more knowledge than choosing among alternatives, which others have formulated. As a result, influencers need more information about the

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128 With passive we do not mean that passive voters abstain from voting necessarily.
policy areas they operate in than even the most well informed voters; hence, their information costs are higher (Downs, 1957, pp.253-254);

“Because many influencers with different goals are competing with each other for power, each must (1) produce arguments to counter any attacks upon him, (2) assault the others’ contentions with information of his own, and (3) be informed enough to know what compromises are satisfactory to him (...) The gist of this analysis is that influencers are specialists in whatever policy area they wish to influence; whereas voters are generalizers trying to draw an overall comparison between parties. Specialisation demands expert knowledge and information, especially if competition is keen, but most men cannot afford to become expert in many fields simultaneously. Therefore, influencers usually operate in only one or two policy areas at once. This means that in each area, only a small number of specialists are trying to influence the government.

According to Downs, it is to be expected that those groups of influencers who will be the main beneficiaries from trying to influence governmental policymaking are the ones who can best afford the expense of becoming expert about it: “Their potential returns from influence are high enough to justify a large investment of information” (Downs, 1957, p.254). In almost every policy area, potential influencers that are expected to gain the most from influencing, earn their incomes there. For this reason, income-receivers are much more likely to become influencers than consumers are; the former can better afford both to invest in the specialized information needed for influencing and to pay the cost of communicating their views to government. In sum, the previous paragraphs show that “the cost of acquiring information and communicating opinions to government determines the structure of political influence; only those who can afford to bear this cost are in a position to be influential” (Downs, 1957, p.255).

5.4.3 Hypotheses on the interaction between the Dutch voter and politicians

In this paragraph the implicit assumption of certainty is dropped. Concerning the interaction between voters and politicians, uncertainty will divide “voters into groups with varying degrees of confidence in their voting decisions” (Downs, 1957, p.94). The more a group of voters is unsure the more they are susceptible to attempts of persuasion by other groups who stand to benefit from doing this. These groups – political parties, common interest groups and favour buyers - compete for leadership. It is rational for political parties to try to comply with the wishes of a majority of voters to maximize the likelihood of their members getting into the places of power. A political party does this by formulating policies that appeal to a majority and once their policies are put into action, they will do anything to lead all voters to accept those policies as desirable. In the case of the Betuwelijn, it can thus be expected that the cabinet and the coalition parties supporting the cabinet at the time when a political decision was made concerning the Betuwelijn to do the following:

Once a political decision was made concerning the Betuwelijn, the governing coalition will endeavour to lead all voters to accept it as desirable.

Falsification instances of this hypothesis would amount to the absence of any attempt by the political parties who made a certain political decision concerning the Betuwelijn to promote the
The desirability of their decision or would amount to the same political parties trying to criticize their own political decisions.

As is discussed in the previous paragraphs, political parties are uncertain about what people want and thus must rely on intermediaries to find out; common interest groups and favour buyers are intermediaries originating from groups of voters. In the case of the Betuwelijn, it is expected that common interest groups that have an interest with respect to the Betuwelijn want the relevant political actors to adopt policies favourable to them:

The common interest groups in favour of, and against, the Betuwelijn pose as representatives of popular will and simultaneously try to create favourable public opinion supporting their views and try to convince the relevant political actors that such public opinion exists.

Instances that would falsify this hypothesis are the following; common interest groups while expressing specific policy preferences (1) do not try to represent the popular will, (2) do not try to create favourable public opinion for their views and (3) do not try to convince the relevant political actors that such public opinion exists.

Favour buyers only represent themselves, but are willing to support political parties in return for specific favours. In the case of the Betuwelijn, the following is expected with respect to favour buyers:

Favour-buyers, representing only their own interest, try to help the relevant political actors create a public opinion sympathetic for political issues relevant for the Betuwelijn.

Falsifying instances for this hypothesis are represented by favour buyers that do not attempt to create a sympathetic public opinion while trying to influence government policy making concerning the Betuwelijn.

All these intermediaries demand a price; they get an influence over policy formation greater than their numerical proportion in the population. However, in order to stand a chance to be influential in a certain policy area intermediaries have to incur costs; costs necessary to be well informed and costs necessary to communicate with the relevant political actors. The likelihood that a voter group’s policy preferences have impact depends on a number of factors associated with the costs of acquiring information and communication; the directness of lines of communication between the voter groups and influential politicians and the number of voter groups opposing their preferences in their area of interest. The following can thus be expected with respect to the amount of impact a voter group’s opinion has with respect to the Betuwelijn:

The groups of persuaders that have the greatest opinion impact with regards to the Betuwelijn are the voter groups that have (1) relatively short communication lines with the relevant politicians and / or (2) have relatively little voter groups within their policy area of interest opposing their set of preferences.

129 With relevant we mean to indicate the political actor that is able to exert influence upon a particular policy area. The roles and responsibilities of the several political actors have been discussed in paragraph 5.4.1.1. In this paragraph it is apparent that the TK of the parliament is the most relevant political actor concerning the majority of policy issues in the Netherlands.
5.4.4 The case of the Betuwelijn and the interaction between voters and politicians

In paragraph 5.3, concerning the interaction of voter groups amongst themselves, the empirical focus has been on which voter groups engaged in the provision of collective goods and whether these common interest groups needed outside incentives to do so. In this paragraph a lot of the empirical material of the previous paragraph will be used, however the focus will be different; paragraph 5.4.4.1 deals with political parties and their defence of policies concerning the Betuwelijn they have already decided upon. Paragraph 5.4.4.2 reviews the way in which the common interest groups and favour buyers tried to influence political decision making concerning the Betuwelijn. The opinion impact the several groups of intermediaries had is the subject of paragraph 5.4.4.3, this impact will be linked to (1) the amount of costs of communication they had to make in order to be influential and (2) the number of other voter groups with opposing preferences that were active in their policy area.

5.4.4.1 Politicians representing the governing coalition and their defence of the Betuwelijn

The Betuwelijn appeared on the political agenda when it was incorporated in the SVV2. An indicative budget of +/- 1 billion Euros by the cabinet was reserved for the Betuwelijn at that time without any cost / benefit ratios being estimated. The decision to incorporate the Betuwelijn in the SVV2 was not a formal decision yet. During the spring of 1992 the current minister of TPW, minister Maj – Weggen, started the PKB procedure (see appendix D) with respect to the Betuwelijn after the new Tracewet was enacted (see chapter 4.1); the cabinet thereby committed politically to the decision to have the Betuwelijn developed. In May 1993, the cabinet presented their point of view – formulated in the PKB3 - concerning the Betuwelijn to the parliament. The cabinet defended there position on the Betuwelijn during the parliamentary debate following the PKB3 in December of 1993 (CDa, 2004, p.110). Minister Maj – Weggen indicated during one of these parliamentary debates that the development of the Betuwelijn was a necessity based on the results of several reports that were made with respect to the Betuwelijn:

Minister Maj – Weggen\textsuperscript{130}: “I hold the opinion that the different reports deepened the insight that that the development was necessary and the Betuwelijn was viable. What is important is that different researchers came to the same conclusion, which was to develop the Betuwelijn as soon as possible” (CDa, 2004, p.129).

Later on, the minister toned down the importance of the reports but endorsed the conclusion that the Betuwelijn was a necessity:

Mr. Metze: “The decision making process concerning the Betuwelijn featured enormous amount of reports. Were those necessary?

\textsuperscript{130} Minister of TPW from 1989 until 1993
Minister Maj – Weggen: I found this project good even without the reports and all the calculations. These reports were contradictory in many cases and they also featured numbers that looked ahead to far. I did not really take those reports into account. Who wants to have absolute certainty, will not make any decisions at all. I also agree with Loek Hermans that attempts at mapping all the macro – economic effects will not contribute to more certainty (...) One look at Europe and the European critique of our percentage of freight transport via rail was enough for me, as well as the interest for our economy, the harbour of Rotterdam and the national and European environmental interests” (Boom & Metze, 1997, p.183).

This vision of the necessity of the Betuwelijn for the economic and environmental interest was also communicated through diverse media channels: television commercials and meetings organized for people that were going to be immediately affected by the Betuwelijn. The message that was portrayed through the different media channels was basically the same; “without the Betuwelijn the Netherlands was going to be a meaningless coastal province of Europe” (Boom & Metze, 1997, p.29).

The parliamentary debate concerning the viability of the Betuwelijn was very polarized; the coalition partners – CDA and PVDA – were in favour of the project while the opposition parties were adversaries of the Betuwelijn in the way it was proposed by the cabinet (CDa, 2004, p.151). Coalition member Leers of the CDA was the first Member of Parliament to comment on the cabinet’s proposal to build the Betuwelijn. After Leers commented on the Betuwelijn, two members of the PVDA, comment on their party’s view on the Betuwelijn. All three parliamentary members of the governing coalition indicate that the development of the Betuwelijn is necessary and of large strategical importance (CDa, 2004, p.138). They indicate their support of the cabinet’s decision but only under the condition that an extra +/- 0.5 billion Euros will be invested to embed the Betuwelijn in the environment (CDa, 2004, pp.143-144). After the PKB3 was adopted by the majority of the TK of the parliament, the PKB had to be voted on by the EK. It was Prime Minister Ruud Lubbers who defended the cabinet’s plans to build the Betuwelijn during one of the first meetings in the EK:

Prime-Minister Lubbers131: “There should be no misunderstanding: the government wants to support the Betuwelijn. That is good for the economy and for the availability of jobs. The railway however should be carefully incorporated in the densely populated landscape. We should look for solutions if any difficult situations arise. It is a communal democratic responsibility to take into account the costs (CDa, 2004, p.137).

The parliamentary decision making procedure at that time was finished when the EK approved of the PKB as it was adopted by the TK. However, the decision to build the Betuwelijn did not proof to be a formality at that time since the elections of 1994 changed the political landscape: CDA lost many votes while the former opposition parties D66 and VVD won significantly (see chapter 4).

The legal procedures that were in motion at the time the PKB3 was approved were stopped after a new coalition between PVDA, D66 and VVD was formed in 1994; the two new parties in the new governing coalition – VVD and D66 – were part of the parties that were opposing the Betuwelijn, in its proposed form, during the previous governmental period.. D66 voted against the PKB3 in 1993 since they regarded the project as not durable enough while the VVD questioned the feasibility and

131 Ruud Lubbers was prime minister from 1982 until 1994
necessity of the project (CDa, 2004, p.152). The formal decision concerning the Betuwelijn of the new
governing coalition was that the project was going to be re-evaluated by a commission, the
commission Hermans. The following was said about the Betuwelijn in new the governmental accord:

"It will be investigated, with the help of external advisors, whether there are alternatives for the Betuwelijn. The
perspective of the harbour of Rotterdam is of importance for this consideration" (CDa, 2004, p.155).

After the commission Hermans finished their research concerning the Betuwelijn it became clear
what the point of view of the cabinet was going to be: the Betuwelijn had to be developed.

Mrs. Jorritsma-Lebbink: “I think you are right if you say that when the advice was there, no further discussion
was necessary on whether to continue with the Betuwelijn. It was politically such a hot item in a cabinet with three
different opinions. It became clear that we had to continue” (CDa, 2004, p.189).

This meant that the VVD and D66 had to change their political opinion they had during the time
the parties were a member of the opposition parties. For D66 this change of opinion was easier then
for the VVD:

Mr. Wolffensperger: The five bottlenecks that the D66 identified in December 1993 must be dealt with in order
to make the Betuwelijn acceptable for us. The commission Hermans also mentioned these bottlenecks. There
was a consolation however: the solutions for the bottlenecks would cost +/- billion 0.5 Euros instead of the 1
billion that was predicted earlier (CDa, 2004, p.191).

Mr. Blaauw: It was a big political dilemma. Another position concerning the Betuweroute had to be taken…. Our
chair of the party in the parliament became less pronounced with his negative opinion concerning the Betuwelijn;
he also signed the governmental accord (CDa, 2004, p.191).

Mister Blaauw emphasized that there were also some arguments with respect with to content that
made the shift in opinion within the VVD reasonable:

Mr. Blaauw: “In my party I emphasized that because of an agreement between Germany and the Netherlands,
real strategic support for the Betuwelijn was thus created: Rotterdam would be connected with the German
Hinterland enabling Rotterdam to compete with the port of Hamburg and opening up transport possibilities to the
east via the German rail system. Rotterdam would get lots of time and kilometres for the logistical stream, we
wanted to direct. Via shipping, this was impossible since the Germans were blocking the option to make the

The previous overview of some relevant statements of political actors shows that there is no
reason to reject the hypothesis concerning the expectation that the relevant political actors will try to
promote their political decision once they are made. Off course there were many more statements
made by relevant politicians to support their political decisions, however these are too numerous to
mention all and more importantly they do not shed a new light on the viability of the hypothesis.

132 Mister Wolffensperger was chair of the D66 in the parliament in 1994 (CDa, 2004, p.191)
5.4.4.2 Interest groups and favour buyers trying to influence public opinion concerning the Betuwelijn

As discussed in paragraph 5.3, NDL and its member organizations were the primary beneficiaries of the Betuwelijn. According to Boom & Metze (1997, p.54), NDL tried to influence public opinion at crucial moments; right after the elections of 1994 and right before the cabinet made their decision concerning the Betuwelijn public in the form of the PKB3: NDL sent a message through various media channels claiming the importance of the Betuwelijn; ‘The Netherlands cannot do without the Betuwelijn. The Betuwelijn is macro - economically viable, even with a negative economic outlook. The failure to construct the Betuwelijn would lead to reduced Dutch international competitive capabilities and to considerable negative effect such as the loss of employment opportunities and the loss of added value’ (Boom & Metze, 2001, p.54). Besides influencing public opinion with respect to the Betuwelijn, NDL also promoted infrastructure and freight transport in general; NDL introduced slogans such as the warning ‘The Netherlands; a meaningless coastal province in the Netherlands’ and the first slogan that NDL upon its enactment sent into the country through various media channels; ‘The more freight, the merrier’ (CDa, 2004, p.32). As shown in paragraph 5.3, NDL’s preference of the development of the Betuwelijn was supported by the SVZ, EVO, CNV, HOVR and VNO – NCW (see paragraph 5.3.2), thereby representing a large amount of companies and voters. All these common interest group indicated their preference during the public inquiries that were held with respect the Betuwelijn.

The inhabitants of the Betuwe started to mould public opinion after the NS and the MTPW informed them about the plans concerning the Betuwelijn, they started to get organized as we have seen in paragraph 5.3.2. They mobilized the population and media by being present at every single information evening concerning the Betuwelijn. At those meetings, the NS and MTPW were pressured:

Mr. Witvliet: “we pressured the members of the NS and MTPW at those evenings, something which the local inhabitants greatly appreciated. For example, we put wagons fitted with sound systems emitting 70 DB to disturb meetings (simulating the noise hindrance of the Betuwelijn). Or we drove on the A15 with such a car (highway alongside the proposed route of the Betuwelijn). This is how we mobilized the population and confronted the parliament with our case” (Boom & Metze, 1997, p.30).

In his hometown, Kesteren, Witvliet collected 9.000 signatures of a total of 12.000 inhabitants. Similar actions in the Betuwe resulted in a total of 200.000 signatures representing over three quarters of the total population in the Betuwe. The VLOB later on also organized academic meetings for which the VLOB mobilized several professors and researchers to indicate their doubts on the Betuwelijn (Boom & Metze, 1997, p.31).

The environmental groups, with SNM as the most important actor, were in favour of the Betuwelijn in the period of 1990 until 1993. As discussed before, SNM changed their initial positive opinion about the project after the cabinet made their formal decision concerning the Betuwelijn – the PKB3 – public;

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133 ‘The Netherlands, a meaningless coastal province in Europa’ and the More freight the merrier’ are the English translations of the original Dutch slogans; ‘Nederland het Jutland van Europa’ and ‘Hoe meer vracht, hoe meer vreugd’.

134 The main characters in the VLOB were Mr. Witvliet, Klerkx, Koper and Ms. Fenijn (Boom & Metze, 1997, p.31)
the presumed positive environmental effects of the Betuwelijn were not as positive as expected. SNM mostly used their formal institutional position to represent the ‘public will’; they are a part of two important commissions (see page 66) that give advice to the relevant minister with regards to the public reactions during the public inquiries of for example the PKB. In October of 1992, however the ‘raad voor waterstaat’ is abolished and all the societal organizations move to a new commission (Pestman, 2001, p.90), which is called the ‘Overlegorgaan Vervoersinfrastructuur’ (OVI), thereby weakening the institutional position of the SNM. SNM is also active during several public inquiries such as the inquiry for the PKB. Other environmental groups most of the time formally endorse the opinions of SNM during the public inquiries as we have seen in paragraph 5.3. SNM thereby represented approximately 1.000.000 members of environmental organizations (see paragraph 5.3.2 for the number of members per organization).

The construction companies that suggested alternative ways of constructing the Betuwelijn (see page 76), which can be categorized as favour buyers in Down’s taxonomy, tried to mould public opinion by offering knowledge that formed the basis of many reports sponsored by GBO Gelderland. These reports were distributed to members of parliament and to the national media:

Mr. de Bondt; “We (GBO Gelderland) supported the idea of professor van der Hoorn. We gave that to the minister once it was finished, but she did not want to accept it. After that, we said we were going to present it to members of parliament and so we did. We also gave it to the press (…). This is how it went with many of the ideas”.

The common interest groups in many instances indeed tried to mould public opinion such that it would be supportive of their policy preferences and tried to convince the relevant political actors that such opinion existed. Several media channels were often used to influence public opinion while the public inquiries of the SVV2, TraceMER and PKB were used to convince public officials that such opinion exists. Favour buyers – only representing themselves – were active with regards to alternative ways of constructing the Betuwelijn. These companies that had the special capabilities to construct those variants offered their knowledge for reports that were used to influence members of parliament and the public opinion. All these instances have the identity of confirmation instances for the hypotheses concerning the attempts of common interest groups and favour buyers to influence policymaking.

5.4.4.3 The impact of communication cost and rivalling voter groups on the opinion impact

The expectation derived from Down’s economic theory of democracy is that the persuaders that (1) have relatively the shortest lines of communication and (2) relatively little amount of other groups of persuaders that oppose their policy preferences, will have the greatest opinion impact. For each group of persuaders, that have already been identified in paragraph 5.3, the opinion impact, the directness of the lines of communication and the strength of the opposing voter groups will be established in this paragraph. The common interest group that was in favour off the Betuwelijn, most notably NDL, had direct access to important public officials according to Boom & Metze (1997, p.51). One of the member organizations of NDL already communicated their interest in a new railway line before NDL started to
lobby: The CEO of ECT said the following during the public inquiries of the commission Duivesteijn concerning his communication with influential public officials:

Mr. Wormmeester: "I knew the four ministers (Ministers of Transport) well. I have had contacts with the Rotterdam Harbour Company, with the politicians in Rotterdam and where it was relevant with The Hague. The contacts we had were almost always with the top, not always with the minister itself; that was an exception. This was because we (ECT) were regarded as a cutting edge company. We knew each other well, but that was because we met each other everywhere. There was always something to inaugurate or there was something happening at ECT. I don’t want to use the word ‘cocktail parties’ with respect to a minister, but if you looked at the agenda’s of the ministers, then you knew where they would show up. I was there as well and then you tried to “score points…”

The Chair: “You said that you tried to score points at those cocktail parties. What did you mean by that? I can imagine what you meant by that, but I rather want you to clarify”.

Mr. Wormmeester: “I will be clear about that. You have probably not been an entrepreneur yourself. Allow me to say this before. My vision, my thinking and my actions are always based on the following: a country without infrastructure has got no future. I was a CEO of a company for which infrastructure is very important, so I tried my best to lobby, to give interviews and to give speeches during congresses. I addressed everyone about the importance of infrastructure, whoever that wanted to listen. Hinterland connections are important. The biggest problem is the railways. We knew that from the beginning of the seventies” (CDc, 2004, p.101)

Later on, it was primarily NDL that was on the forefront with lobby activities. Part of these lobby activities led to the institution of a commission – commission Van der Plas - to investigate the future of freight transport via rail and to advice her on the course of action to take. The members of the commission were part of the MTWP, the NS and mostly companies operating in the harbour of Rotterdam (see table 5.5), as already indicated in paragraph 5.3.

<table>
<thead>
<tr>
<th>Members of Commission Van der Plas</th>
<th>Representing</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.B.M. Van der Plas</td>
<td>Philips; former member of public works in Rotterdam</td>
</tr>
<tr>
<td>J.D. Hooglandt</td>
<td>Hoogovens</td>
</tr>
<tr>
<td>D.J.A. Kalf</td>
<td>Shell</td>
</tr>
<tr>
<td>J. Kasteel</td>
<td>EVO</td>
</tr>
<tr>
<td>F. Kuiper</td>
<td>SVZ</td>
</tr>
<tr>
<td>H. Molenaar</td>
<td>GHR</td>
</tr>
<tr>
<td>H.E. Portheine</td>
<td>NS; member of the board of ECT</td>
</tr>
<tr>
<td>H.N.J. Smits</td>
<td>Secretary general of MTWP</td>
</tr>
<tr>
<td>E.J. Verloop</td>
<td>NS</td>
</tr>
<tr>
<td>B. Westerduin</td>
<td>Director General Transport of MTWP</td>
</tr>
<tr>
<td>L.M. van Wijk</td>
<td>KLM</td>
</tr>
<tr>
<td>G.J. Wormmeester</td>
<td>ECT</td>
</tr>
</tbody>
</table>

Table 5.5: Members of the commission Van der Plas and their private functions (CDa, 2004, pp.24-28; Boom & Metze, 1997, p.32)

A network analysis (Faber, 1995) showed that there were 70 key persons involved in various key institutions of which the commission Van der Plas is one. The ten persons that had the most contacts
within the network had 43 different functions at the same time\footnote{The following names are mentioned in the research: Wormeester, Van Der Plas, Smit-Kroes, Doeksen (ECT), Kuiper, Mulock Houwer (Nedlloyd), Porthoine, Smits and Welters (Boom & Metze, 1997, p.52).}. NDL was the most important institution within this network: 49 of the total of 70 persons in the network were in some way linked to NDL. In total there were 250 people taking part in the various activities of this organization, including 25 public officials (Boom & Metze, 1997, p.53). The other important lobbies – the environmental groups, the local action groups and the construction companies with special construction capabilities – did not have lines of communication that were as direct as the groups of persuaders that were in favour of a new railway line. They had some formal institutional connections (especially the SNM; see paragraph 5.4.2.2) and informal connections within The Hague. However, direct access to the arenas where the important decisions were made lacked for the environmental groups, local action groups and the construction companies (Boom & Metze, 1997, p.59).

With respect to the connection of the opinion impact of certain group of persuaders and the number of other groups opposing their set of policy preferences the following can be said: the preferences of all the group of persuaders were not diametrically opposed to each other. The groups of persuaders, which were aiming at mitigating measures (environmental groups, local action groups and construction companies), did not oppose the construction of a new railway line which was the aim of the group representing the transportation sector. The only difference in opinion lay in the fact that the mitigation measures would prolong the time to build the Betuwelijn, which was at odds with the preferences of the transportation sector. The groups that wanted mitigating measures appeared later in the political arena compared to the groups that wanted a new railway line as fast as possible; the opinion impact of the latter groups was equal to the intervention value (see startnotitie published by the NS; paragraph 4.2) until the other groups appeared on the political stage. From that moment on, the opinion impact of the transportation sector started to get less than equal to the opinion impact.

In the four instances of the case of the Betuwelijn in which a group of persuaders’ opinion impact can be estimated (the transportation, environmental, local and construction lobbies) there is a clear connection between the extent of group’s impact and the shortness of the lines of communication. The negative relation between the number opposing groups and the opinion impact of another group with opposing preferences can be confirmed as well; the opinion impact of the transportation sector was equal to the intervention value until the other groups of persuaders appeared on the political stage.

5.4.3 Conclusion; the interaction between politicians and voters

In the beginning of the paragraph it was stated that the assumptions on which relevance of the analysis concerning collective action in paragraph 5.3 was based would be explicated based upon the Public Choice ‘explanans’ as is was formulated in chapter 3. Those two assumptions were:(1) lobbying is more efficient then the act of voting in the case of influencing government policy making and (2) lobbying is more effective when it is done by groups that have a common interest rather then by an individual organization. From the theoretical part of this paragraph it appeared that these assumptions follow from the ‘explanans’ Besides the explication of the two assumptions, the interaction between
The Betuwelijn, or the failure of democracy as we know it?

The analysis in this paragraph has started by investigating the Dutch institutions that are relevant for the interaction between voter and politicians. There are three moments in which Dutch citizens can vote for political representation: (1) parliamentary, (2) provincial and (3) local elections. The parliamentary elections are by far the most important since that political actor has the legislative powers. Next to these institutions, also the institutions of the governmental formation and the governmental accord have been discussed; the governmental accord is very important in the process of governmental formation because the document contains the policy agreements the coalition parties have made. The Betuwelijn appeared in the governmental accord of 1989 thereby committing the coalition parties to its development.

The theoretical analysis in this paragraph started with the explicit assumption of uncertainty, this assumption has not been necessary this that moment. Uncertainty allows for a division in groups of voters. The ones who are least certain can be influenced by others. This gives rise to competition for leadership between political parties, common interest groups and favour buyers. It is rational for political parties to formulate policies that are accepted by as much voters as possible to maximize their chance for (re) election. However, once a political decision has been made, it is rational that this decision will be defended by those political parties that have made the decision. In case of the Betuwelijn it appeared indeed to be the case that the relevant political actors defended their political decisions once they were made concerning the Betuwelijn. Because political parties are uncertain about what the constituency wants, it must rely on intermediaries to find out (Downs, 1957, p.95). For these intermediaries,136 being interested in for them favourable policies, it is rational (1) to pose themselves as representatives of the popular will while (2) simultaneously trying to create a public opinion supporting their views and (3) to convince the relevant political actors that such opinion exists.

In the case of the Betuwelijn, three common interest groups (the transportation sector, local action groups and the environmental organization) and one group of favour buyers (companies with special construction capabilities) can be identified. The common interest groups and the group of favour buyers in the case of the Betuwelijn performed all of the actions –mentioned hitherto - that are in their Rational self-interest to maximize their chance for favourable policies being enacted by the relevant political actors.

To influence governmental decision-making, intermediaries must incur some costs; costs of determining their own policy preferences, cost necessary to communicate their preferences, costs necessary to know under what pressures a government is under and costs necessary to stay continuously well informed in their policy area of interest. This makes it impossible for the average voter to exert any considerable influence unlike an intermediary who derives great income from a certain policy area; for him it is rational to incur costs in order to be influential. The opinion impact of such an intermediary depends of the directness of their communication lines and the number of other groups with opposing views that try to exert influence in the same area of policy. The shorter the lines

136 Favour buyers are intermediaries that just represent themselves and are willing to support political actors in return for political favours. Common interest groups on the other hand are intermediaries that perform all of the actions that are mentioned.
of communication and the less the number of groups is with opposing views, the greater the opinion impact of a group of persuaders will be. In the case of the Betuwelijn, it was especially the transportation sector mainly represented by NDL that had relatively large opinion impact while having very short communication lines with influential public officials; for example the commission Van der Plas. The other intermediaries did not have such good institutionalized contacts and conversely less great opinion impacts. The negative relation between the number of intermediaries with different policy preferences and the extent of the opinion impact is also apparent in the case of the Betuwelijn; at the moment the transportation sector revealed their preference for a new railway line, their intervention value more or less equalled their opinion impact. At that time (the NS made their ‘startnotitie’ available for public inquiry) other groups of intermediaries mobilized and communicated their preference with respect to the Betuwelijn. As a result, the opinion impact of the transportation sector appeared to have shrunk.

5.5 The interaction between politicians in the Netherlands; the parliamentary process

In the previous paragraph it has been discussed how uncertainty effects the relation between voters and politicians. It has been established that it is rational for a government to regard some voters as more important than others in a situation of uncertainty. This is because only a very small percentage of all voters are able to incur the costs of getting informed and the costs of communicating their preferences in a certain policy area. These voter groups act as intermediaries between voters and political parties and thereby benefit political parties by revealing the preferences of a certain group of voters and by moulding public opinion. These intermediaries demand a disproportionate share in the formation of policy in their policy area of interest as a result. The question remains how these communicated preferences by the various groups of intermediaries get translated into real policy.

5.5.1 The relevant Dutch institutions concerning the interactions between politicians

In most western democracies, including the Netherlands, political parties compete with each other using different political programs including different sets of proposed policies. In the previous paragraph it has been discussed how a governing coalition is formed in the Netherlands; (1) the possible coalitions are reviewed and (2) the most promising one negotiates upon the content of a governmental accord until an agreement is reached and a new government can be installed. This, however, is just part of the picture of how preferences get translated into policy; in most western democracies, there is a political institution that proposes and a political institution that checks those proposals. In the Netherlands, as indicated in the previous paragraph, laws are usually proposed by the cabinet - consisting of ministers representing the political parties that make up the governing coalition – and checked by the Dutch parliament. In the Netherlands, every proposed law that the cabinet aims to get enacted has to pass the parliament. In this paragraph, this parliamentary process will be discussed in general and specifically with respect to mega project development. The Dutch parliamentary institutions are subject to paragraph 5.5.1. Paragraph 5.5.2 features the Public Choice Theoretical account of the interaction between voters and politicians (see figure 5.5). Attention is being paid to the role of members of parliament (paragraph 5.5.2.1) and whether it is justifiable to threat a
Dutch political party as an individual rational actor (paragraph 5.5.2.2) as is assumed in paragraph 5.4. The hypotheses concerning the interaction between politicians and voters in the case of the Betuwelijn are subject of paragraph 5.5.3 and will be tested in paragraph 5.5.4.

Figure 5.5: Politicians (P) and their interactions among themselves in the political market place; the parliamentary process and the interaction between local and national politicians.

5.5.1.1 The production of laws in the Netherlands: The legislative Process and involved actors

In paragraph 5.4.1, the institutions that govern the Dutch electoral and government formation process have been discussed; the Dutch elections normally culminate in the formation of a governing coalition of political parties in which an agreement concerning the governmental accord is reached and the makeup of the cabinet is decided. As indicated before, the cabinet – consisting of members of the coalition parties – has the exclusive right to formulate and propose laws to the parliament. The question, which is relevant to this paragraph, is how the cabinet's policies actually get thought the parliamentary process before they get enacted. Laws in the Netherlands are the product of the cabinet and the two chambers of the parliament, the ‘Tweede Kamer’ (TK) and the ‘Eerste Kamer’ (EK). The procedure of ‘law-making’ usually goes as follows (De Jong et al., 1999, p.66): “it is the cabinet – supported by the relevant bureaucracies in formulating a proposal - that propose a law to the members of the TK. The parliament has to vote on the proposal of the law; the law will be adopted by the TK whenever there is a majority who votes in favour of the proposal”. The EK then has to vote on the proposal as well. Technically the law is adopted whenever a majority within the EK votes in favour of the proposal. There are some other institutions such as the ‘Raad van State’ and the Dutch monarch that are involved in the process of law making as well, but their role is minor.

The process of ‘law making’ can also start with an initiative of the TK; the TK has a right to propose a law. This, however, rarely happens (De Jong et al., 1999, p.66). Another way in which the TK can influence the ‘law making’ process, besides the act of voting, is based on the TK’s right to amend a law. This means that a member or a number of members of the TK can propose to change a law, which is proposed by the cabinet. When this happens there are two options left for the
responsible minister whenever a majority of the TK supports the amendment: (1) the minister can choose to adopt the changes or (2) he or she can reject the proposal of revision. In the second case, the responsible minister can choose to withdraw the entire law whenever a majority of the TK still wishes to pursue their proposed revision. The TK makes frequent use of this right. According to De Jong et al (1999, p. 67) the number of amendments can go into the thousands a year.

5.5.1.2 Laws and procedures for the appraisal and development of mega projects

Laws that are proposed by the cabinet that concern infrastructure projects generally follow the same described procedure as described in the previous paragraph. However there are some special laws and procedures that apply to proposals that concern infrastructure projects; the ‘Trace - MER procedure’ (see appendix C) was the applicable legislative procedure for the parliamentary decision-making process concerning infrastructure projects (CDa, 2004, p.35).

In chapter 4 it was discussed that the Betuwelijn was first proposed in the SVV2. The decision of the cabinet to incorporate an infrastructure project in the SVV2, even if the parliament agreed on the content of the SVV2 as a whole, is not a formal policy decision yet; incorporation of an infrastructure project in the SVV2 is indicative (CDa, 2004, p.36). Before the cabinet presents their formal decision concerning an infrastructure project to the parliament, the ‘Trace-MER’ procedure has to be followed first. This procedure requires that the initiator of the project – in the case of the Betuwelijn this is the NS - to formulate a document (‘the startnota’; see appendix C) in which all alternatives and variants concerning the proposed project are compared. This comparison takes place especially along the lines of the environmental effects the several project variants are expected to have. The MTPW makes the ‘Startnota’ available for public inquiry whenever the initiator has finished the ‘Startnota’. In the public inquiry, all citizens, interest groups can take part to express their concerns and desires concerning the plans of the initiator of the infrastructure project. The cabinet makes their final decision concerning the infrastructure project available for the parliamentary decision making process after the reactions on the public inquiries are taken into account (see appendix C for the detailed procedure). Formally, there is no parliamentary decision required during the ‘Trace-MER’ procedure before the cabinet proposes their final decision (CDa, 2004, p.36).

However, this usual legislative procedure concerning infrastructure projects was fundamentally changed during the time the ‘Trace – MER’ procedure for the Betuwelijn was initiated. The new procedure that was now applicable to infrastructure projects was the PKB procedure. This change in procedure was the result of an attempt of the cabinet to gain more control on the development and fiscal aspects of infrastructural projects according to the commission Duivesteijn (CDa, 2004, p.46). This attempt was formulated in the ‘Voortgangsnota infrastructuur’ which contains a section in which a new law concerning procedures relevant to the decision making process of infrastructure projects is

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137 The responsible minister for laws concerning infrastructure projects is the minister of TPW.
138 Normally the MTPW will take the initiative concerning large infrastructure projects, however in the case of railway construction projects it is the NS who takes initiative since they possess unique expertise relevant for the construction of railways (CDa, 2004, p.36).
139 The ‘Voortgangsnota infrastructuur’ is a document in which the cabinet announces which new infrastructural projects are coming up. The document in 1992 discusses issues such as private finance of projects and way to control infrastructure costs (CDa, 2004, p.47).
included. This law is a revision on the old ‘Tracewet’ which holds that infrastructure projects have to follow the ‘Trace-MER’ procedure. The essence of the new ‘Tracewet’ is that the law is connected to the spatial planning law (‘Wet op de Ruimtelijke Ordening’), which allows the cabinet to start a PKB – procedure (see appendix D). This revision holds for all infrastructure projects that are relevant to the ‘national interest’ (CDa, 2004, p.48). In practice this legislative shift means faster governmental decision-making concerning infrastructural projects. The law allows for the reduction of moments in which public inquiries are held from 3 to 1. The law also allows for a binding effect of the parliament’s decisions on local and provincial spatial plans in the case of an infrastructure project relevant to the ‘national interest’. The content of the new ‘Tracewet’ is explained by the then current minister of the MTPW; minister Maj - Weggen:

Minister Maj-Weggen: “Mister Alders and I renewed the ‘Tracewet’. The old law allowed for the procedures to take 8,5 years from the beginning to the end. This means that three governmental periods are necessary in order to make a project ready for the parliamentary decision making process. We changed the ‘Tracewet’ for major projects in order to cut down the time the procedure takes to 3, 5 years…… There was one major change in the PKB – procedure. In this procedure that took 8,5 years, many organizations, municipalities and provinces could inquire into the procedure. In the new procedure, this could only happen once. Another important change was that projects concerning the national interest could overrule spatial plans already made. Before this, municipalities and provinces could sit back and easily estimate their favoured course of action”. (CDa, 2004, p.47).

After the ‘projectnota’ (see appendix C) of the NS and the ‘Voortgangsnota’ were published, the cabinet decided to declare the new ‘Tracewet’, even before it was enacted by the parliament, applicable to the Betuwelijn and HSL-Zuid. Gain in time and the unexpected protests are believed to be the reasons why the new procedure is preferred to the old ‘TraceMER’ procedure (CDa, 2004, p.47). The PKB – procedure thus became applicable to major infrastructure projects in 1992 and consequently applicable to the Betuwelijn and HSL- Zuid. The PKB - procedure (see for more details; appendix D) is as follows in mainlines: First, the responsible ministers address the parliament that the cabinet wants to start a PKB procedure. The ministries of the responsible ministers formulate a preliminary design of the PKB (PKB 1; see appendix D). The design will be made available by the relevant ministries for the public inquiry procedure as well as for deliberations with the relevant provinces and municipalities. Based on the reactions of the public inquiries, a new PKB will be formulated; the PKB2. The findings of the PKB2 are used by the cabinet to reformulate their initial proposal (PKB1) resulting in a new decision (PKB3) which is presented to the parliament (Pestman, 2001, p.14). The parliamentary decision-making process will then follow the usual procedure, which is discussed in the previous paragraph.

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140 The new ‘Tracewet’ allows the decision-making procedures concerning mega projects to take only 3,5 years in stead of 8,5 years. In this new procedure, the government also takes care of public inquiry (CDa, 2004, p.47).
5.5.2 An Economic Theory of Democracy applied to the Dutch parliamentary system

The Dutch institutions that govern the interactions between the politicians in the parliament and the institutions relevant for the parliamentary process concerning infrastructure projects have been discussed for a great deal in the previous paragraphs. In the following paragraphs, a theoretical analysis will be made concerning this interaction based upon the ‘explanans’ as it has been put forward in chapter 3. In other words, the theoretical ‘explanans’ of Public Choice Theory will be extended with relevance to the interaction between Dutch politicians, in which the interactions between the politicians that are active on different political levels (national, provincial and local) are included as well.

5.5.2.1 Public choice theory: The role of governmental intermediaries

In paragraph 5.4, the concept of uncertainty has been introduced as the basis of theoretical analysis of the interaction between voters and politicians. It has been argued in that paragraph that because of the phenomenon of uncertainty it becomes rational for a government to employ representatives between themselves and its constituents to alleviate this uncertainty. The intermediaries have two functions, as indicated in paragraph 5.4, which are derived from the relationship between government policies and the utility functions of its constituents; (1) the simplification of the process of exploring the utility functions of voters and (2) convincing voters that a certain political parties’ policies are worth voting for. There are two types of intermediaries that perform this function, intermediaries that are employed by the government itself and intermediaries that originate from the constituency. The latter group has been discussed in paragraph 5.4 and the former group is subject of this paragraph.

Next to reducing uncertainty by listening to common interest groups and favour buyers, a coalition party – being a member of the government - also sends its own representatives to the people to convince them that their proposed policy plans are worthy of their approval. Opposition parties, of course, employ representatives of their own to convince people that the incumbent government should be replaced. Down’s concludes the following based on the employment of representatives to curb the effects of uncertainty (Downs, 1957, p.89):

“Uncertainty thus helps convert democracy into representative government. Another powerful force, which has the same effect, is the division of labour. To be efficient, a nation must develop specialists in discovering, transmitting and analyzing popular opinions, just as it develops specialists in everything else. These specialists are the representatives. Their existence makes it rational for the government to be influenced by a small proportion of its citizenry rather than to act on behalf of all citizens seen in the abstract”.

According to Downs, the existence of representatives makes it in the rational self-interest of political parties – wanting to enact policies that fit the desires that exist among the constituency – to be influenced by a “small proportion of its citizenry rather than to act on behalf of all citizens in the abstract”. Representatives keep a current government informed about what people want so that it can make decisions that will maximize the government's chance for re-election. Since the information and opinions these representatives supply have a strong influence upon government decisions, in effect
some of the power of the (central) government is shifted to the representatives. Government’s power therefore becomes spread out on many representatives instead of being concentrated entirely in one agency. This process of decentralization of power has its limits however according to Downs (1957, p.90);

“Theoretically the government will continue to decentralize its power until the marginal gain in votes from greater conformity to popular desires is outweighed by the marginal cost in votes of lesser ability to coordinate its actions”.

In sum, government decentralization as a result of the employment of government representatives is necessary regardless of whether the formal structure of the government calls for decentralized elections. The government must have representatives “taking the pulse of the people” in each area (or group) even if all the votes are pooled nationally and no local representatives are elected. According to Downs (1957, p.90) decentralization has a constitutional as well as a functional basis in nations where citizens do elect non national representatives; this is the case in the Netherlands as has been shown in the paragraph concerning the Dutch electoral institutions.

5.5.2.2 Party Politics; a political party as a single rational actor?

In the paragraph concerning the interaction between voters and politicians it has not been necessary to see whether the assumption that a political party can be conceptualized as a single rational actor is accurate or not; the hypotheses arrived at in that paragraph would not change such that other condition of confirmation and falsification would follow. In this paragraph, however, this assumption is a crucial part in the formation of hypotheses. Members of the Dutch parliament – being a member of a political party – have to vote on the cabinet’s policy proposals, thus it makes a difference for the result of the parliamentary process when they vote on their own behalf or that they vote as being a member of a political party.

A political party according to Downs is defined usually (Downs, 1957, p.25) as a “coalition of men seeking to control the governing apparatus by legal means”. A coalition is usually as “a group of individuals who have certain ends in common and cooperate with each other to achieve them”. The consequence of this definition of political parties is that it constitutes a political party as a “loosely formed group of men who cooperate in order to get some of them elected to office while they may strongly disagree with each other about the policies which those elected should put into practice”. Down’s claims that this definition has two disadvantages: (1) such a coalition (the political party) does not possess a unique, consistent preference ordering. This means that the actions taken by the party as a whole are likely to be in the form of compromises that are the result of a “power struggle rather than any rational decision making”. And (2), this definition necessitates that an analysis of intra party power struggle must be made in order to see which parts of the party are the most powerful in determining the course of the party (Downs, 1957, p.25).

Down’s definition of political parties, however, solves the problem of over individualizing the decision making of a political party. Downs does this in the following way: “a political party is a team of men seeking to control the governing apparatus by gaining office in a duly constituted election”.

Master Thesis Delft University of Technology
Rutger van Bergem, August 2009

120
Downs regards a team as a coalition whose members agree on all their goals instead of on just part of them. Because of this definition, political parties are viewed as if they are single person. According to Downs, this does not mean that a false personification is being made of a political party since the definition of political parties is based on the assumption that there is complete agreement among the members of a political party (Downs, 1957, p.26).

The implication of Down’s definition of political parties, however, is at odds with the Dutch political imperative of ‘dualism’ which applies to the nature of the relation between the Dutch cabinet and the Dutch parliament. Dualism refers to the way in which individual members of the parliament should control their cabinet despite their party affiliation; it should thus not matter for a member of parliament while making a political decision whether he is a member of an opposition party or a member of a party within the governing coalition. In short, ‘dualism’ is an imperative, which holds that members of parliament should control the cabinet on their own behalf (Parlement & Politiek, n.d.). If it is the case that individual members of parliament make political decision within the Dutch parliament despite their party affiliation, this means that the definition of political parties as teams is not a very good approximation of the reality of the Dutch parliamentary decision making process. In the next paragraph, we will test whether the definition of political parties Downs uses in his economic theory of democracy yield better predictions compared to what you would expect if the concept of ‘dualism’ is a good approximation of parliamentary decision-making.

5.5.3 Hypotheses concerning the interaction between politicians in the case of the Betuwelijn

The central question in this paragraph is how the interaction between politicians in the Netherlands influences the nature of policy making in general and how it influences the nature of policy making concerning mega projects. In the previous paragraph the issue concerning the conceptualization of political parties has been discussed; in Down’s economic theory of democracy, political parties are treated as if they are a single rational actor; however, in Dutch parliamentary tradition the imperative of ‘dualism’ holds which stresses the independence of an individual parliamentary member in making political decision. If Down’s definition is an accurate definition the following hypothesis would have to hold;

Dutch political parties (1) vote as if it is one single person and (2) political parties, which are a member of the governing coalition, do not vote against or propose laws that are at odds with agreements made within the governmental accord.

Falsification instances have the following identity; (1) voting instances within the parliament in which members of all political party have a random distribution of votes and (2) voting instances in which the coalition parties do not support the proposals made by the cabinet in the majority of cases. The second hypothesis pertains to the role of government intermediaries in discovering and

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communicating the popular will to members of the governing coalition: Based on Down’s economic theory of democracy the following would be expected with respect to the case of the Betuwelijn:

Members of parliament and local politicians act as representatives of the popular will by trying to discover and communicate this will, concerning policies relevant to Betuwelijn, to members of the cabinet.

This hypothesis will be falsified if no attempts have been undertaken by any Member of Parliament or any local politician, to discover and communicate the popular will concerning the Betuwelijn to the Dutch cabinet.

5.5.4 The case of the Betuwelijn and the interaction between the Dutch Politicians

In this paragraph, hypotheses that have been posed in the previous paragraph will be tested. In paragraph 5.5.4.1 the hypotheses concerning whether it is appropriate to regard Dutch political parties as one single rational acting person when they act in the parliamentary process; the parliamentary process in general will be discussed as well as the parliamentary process concerning the Betuwelijn. The second hypotheses will be dealt with in paragraph 5.5.4.2 which holds that members of parliament and local politicians will act as representatives that try to discover and communicate the popular will to the cabinet.

5.5.4.1 Voting behaviour of political members of the coalition parties in the Netherlands

According to De Jong and Schuzier (1999, p.65), political parties in the Netherlands perform a coordinating role within a democracy. This role of political parties serves to keep in check all who performs political functions for the party. “With respect to the parliamentary process this comes down to agreements that party members have with the party to follow the political program of the party”. Elzinga and Wisse (1988, pp.160-161) have given an overview in their research of all the agreements that hold for party members that are part of the parliamentary process. They conclude that a political party has a number of ways of exercising influence on the behavior of their members that are part of the parliamentary process; (1) a political party can threaten to expel a non conformist party member from the list of members that is up for elections and (2) the party can exercise their influence on an individual member through party meetings; the party’s political point of view – the point of view which is defended within the parliament - is usually determined within such a party meeting. According to Elzinga and Wisse (1988, pp.160-161), individual members rarely take another political stand then the one which is agreed upon within the fraction meetings. Political members in the parliament thus vote in line with the political point of view that is taken within the fraction meeting. But what about the relation between the opposition and the coalition parties? Do coalition parties almost always support the plans of their fellow party members in the cabinet?

As indicated before, after the elections a number of parties try to form a majority, which is expected to be able to govern for a period of four years. Political parties that are likely to form such a stable majority compare their political programs in order to find out whether it is possible to form a joint political program. If this process succeeds this will culminate in a governmental accord, which defines
the broad lines of the policy plans the new cabinet has. Sometimes this accord not only contains broad policy plans but also very detailed agreements about policy plans the cabinet will pursue according to Bovend’Eert (1988, pp.77-104). By doing this coalition parties (1) try to minimize the likelihood of a crisis occurring within the cabinet later on and (2) want to make sure that certain elements of their political program get realized. This means that the governmental accord can be described as a binding contract on many political issues which thus further narrow the freedom to act on account of the individual parliamentary member.

In the parliamentary process off the Betuwelijn, party members displayed voting behaviour, which is in line with the researches done by Elzinga, Wisse (1988) and Bovend’t Eert (1988). At the end of the final parliamentary debate concerning PKB3 of the Betuwelijn in 1993, the parliament approved the PKB procedure of the Betuwelijn. Coalition members PVDA and CDA (except members Mateman and Lansink) and opposition parties CD and the GPV voted in favour of the proposed PKB concerning the Betuwelijn while the rest of the opposition parties voted against almost unanimously (CDa, 2004, p.145). Also the second time that the Betuwelijn was subject of the parliamentary process – during the governmental period in which PVDA, D66 and VVD were member parties - the same pattern of party discipline can be discovered. D66 and VDD, that were adversaries in the previous governmental period, committed themselves to the verdict of the commission Hermans and thus had to change their previous political statements when the commission’s verdict proofed to be positive. At the end of the parliamentary process that followed the commission Hermans’ verdict, the coalition parties (VDD, D66 and PVDA) voted in favour of a renewed proposal of the Betuwelijn.

The researches done by Elzinga, Wisse and Bovend’t Eert and the voting instances during the parliamentary process concerning the Betuwelijn do not provide falsification instances for the hypotheses concerning Down’s definition of political parties. It seems that strict party discipline combined with the binding element of the governmental accord leaves little room for parliamentary members to act in a ‘dualistic’ way.

5.5.4.2 Politicians as representatives of the popular will concerning the Betuwelijn

The cabinet’s representatives within the institutional structure of the Netherlands had two formal moments in which they could communicate the popular will to the cabinet: the parliamentary processes during the PKB3 decision of cabinet – formed by member of the PVDA and CDA - and during the cabinet of the PVDA, VVD, and D66. During the parliamentary process concerning the PKB3, Geert Leers – parliamentary member of the CDA - was the first member of the parliament to comment on the cabinet’s proposal concerning the Betuwelijn. He claims that the parliamentary members of the CDA are in favour of the proposed plans for the Betuwelijn by endorsing its necessity and strategic importance. Members of the other coalition parties – Castricum and Feenstra of the PVDA – endorsed the point of view of the CDA in the parliament. However, representatives of both coalition parties exercise their right to make changes to the original proposal of the cabinet (the right to amend the cabinet’s proposal); these proposed changes - 11 in total of which 8 have financial consequences - represent a total worth of approximately 0, 5 billion Euros (see table 5.6) (CDa, 2004, pp.138-140).
Proposed changes (PC’s) by the coalition parties

<table>
<thead>
<tr>
<th>Proposed changes (PC’s) by the coalition parties</th>
<th>Expected increase in Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC #18: Decreasing sound nuisance to 50dB</td>
<td>+/- $ 100 Million</td>
</tr>
<tr>
<td>PC #19: Decreasing nuisance in Barendrecht</td>
<td>+/- $130 Million</td>
</tr>
<tr>
<td>PC #20: Deepening and shielding the track at Zevenaar</td>
<td>+/- $100 Million</td>
</tr>
<tr>
<td>PC #21: Including the ‘Kortsluitroute’ as a part of the Betuweroute</td>
<td>+/- $ 50 Million</td>
</tr>
<tr>
<td>PC #24: Decreasing the cumulative noise nuisance of the A15 highway and Betuweroute around Gorinchem and Tiel</td>
<td>+/- $ 24 Million</td>
</tr>
<tr>
<td>PC #25: Taking measures to integrate the railway around Geldermalsen</td>
<td>+/- $60 Million</td>
</tr>
<tr>
<td>PC #26: Deepening and shielding the track in the area around the ‘Gelderse Poortgebied’</td>
<td>+/- $24 Million</td>
</tr>
<tr>
<td>PC # 27: Taking care of problems at the inter governmental level</td>
<td>+/- $ 12 Million</td>
</tr>
</tbody>
</table>

Table 5.6; Proposed changes (PC) by the coalition parties CDA and PVDA (CDa, 2004, p.138)

The representatives of both coalition parties – Leers and Feenstra – explained why they proposed so many and such expensive changes to the original proposal of the cabinet:

**Mr. Feenstra**: “If you go into the country and visit a meeting concerning the Betuwelijn, you meet a lot of aggression, cynicism and agitation (among the population). But after the coffee, you notice that one can do business with the population. They are prepared to cooperate, but only in a responsible manner. I noticed that during this project too little attention is being paid in creating public support."¹⁴² (CDa, 2004, p.134)

**Mr. Leers**: “There has to be public support. That is why we had a meeting with the deputy of the province Gelderland; De Bondt. Also the minister of TPW, Maj – Weggen, acknowledges that there are some problems. As of this moment, she does not do anything to counteract those problems and tells us: you have to earn it during the debate, come with good arguments. This is all pretty reasonable….. However the disadvantage of her point of view is that you deteriorate the public support” (CDa, 2004, p.134).

The members of parliament were not the only politicians that tried to discover the popular will and communicate it to the members of the cabinet; local politicians of whom the representative of the province of Gelderland – Mr de Bondt - was the most active also played the role of representative in the Downsian sense of the word. The representative of the province of Gelderland described the contact he had with members of the parliament and the effect the contact had as follows:

**Mr. Slob**: “How did such a contact go? Did you call a member of parliament to discuss a number of problems”?

**Mr. De Bondt**: “This is usually the way it goes. In fact this is still the way it goes”.

**Mr. Slob**: “How did they take into account the problems you had with the Betuwelijn and of which you thought it was necessary that change was going to be made”?

**Mr. De Bondt**: “It was of course possible to differentiate between the coalition parties and the opposition (….) Members of parliament did come by a number of times, for example in delegations. The commission of the parliament dealing with issues concerning MTPW also came by a number of times. We held presentations and showed them a number of things. I remember that a number of members from the parliament visited Tiel, where

¹⁴² ‘Draagvlak’ is the Dutch expression for public support.
we organized a meeting to talk about the (...) and the noise nuisance. Often this conversation took place at an individual level or with a small number of the members from parliament. We most of the time had the initiative and what followed was most of the time a conversation in The Hague. We in any case tried to make clear what it was about in essence from our point of view”.

Mr. Slob: “Did you notice that what you said during those meetings, whether they were in The Hague or in the province, had any effect on the political debate within the parliament”?


On the 14th of December the parliament voted on the PKB3 (see appendix F) which contained only the changes the coalition parties CDA and PVDA proposed to the cabinet. As we have seen in the last paragraph, only the PVDA (except two members), the CDA, GPV143 and the CD144 voted in favour of the PKB3. The opposition parties D66 and the VVD, which were about to become part of the governing coalition after the elections in 1994, voted against the PKB3. Members of D66 commented on their negative voting decision concerning the PKB3 by claiming that their proposed changes were not taken into account by the cabinet in the preparation of the PKB3. The VVD voted against the PKB3 because they claimed that the PKB3 was qualitatively good enough to be voted on by the parliament at that moment (CDa, 2004, pp.145-146).

The ‘Tracewet’ procedure concerning the Betuwelijn got suspended after the VVD and D66 became a member of the governing coalition together with the PVDA, as discussed several times before. The commission Hermans as we have seen was instituted at that point to review the decision to build the Betuwelijn. The commission concluded after three months of deliberation and research that it would be desirable to build the Betuwelijn if a number of auxiliary policy measures were taken as well; the cabinet at that time endorsed the general conclusion to build the Betuwelijn. However, the then current cabinet had to increase the public support for the Betuwelijn since the local public resistance at time was still strong; the then new minister of MTPW commented on this as follows;

Mrs. Jorritsma – Lebbink: “The positive advice of the commission (concerning the Betuwelijn) did not mean that there was going to public support for it. In fact, there was no such support. Not a single municipality or province was in favour (...). We had to go into the country again to gain support (...) so I tried to get as much support from the municipalities and provinces as possible with an as small as possible amount of extra budget (...) (CDa, 2004, p.189)

Before those negotiations took place with the decentralized governmental institutions, consensus had to be reached first among the coalition parties about the question what an ‘as small as possible’ budget is. To come to such a consensus, an ‘ICES - meeting’ was held at 3 February 1995, which featured all involved ministers. One of the ministers of that cabinet was Minister Zalm who was informed about this meeting by his staff:

143 ‘Gereformeerde Politiek Verbond’; Protestant – Christian political party which merged, in 2000, with the RPF to form the ‘Christenunie’ (Parlement & Politiek, n.d.)
144 ‘Centrum Democraten’; Nationalistic political party (Wikipedia, n.d.)
“According to MTPW tomorrow’s meeting is meant to see which changes the coalition parties D66 and VVD would like in the original design of the Betuwelijn in order to justify their shift in opinion about the desirability of the Betuwelijn to their political support groups. The other elements out of the report of the commission Hermans (auxiliary policy measures, private financial contribution, economic viability) will be discussed later on” (CDa, 2004, p.190).

After this meeting and after the discussions that were held between the central and the decentralized institutions, the cabinet decides to spend +/- 240 million Euros to deal with the wishes of the provinces and municipalities, +/- 90 million Euros to make adoptions to the track near to ‘Tiel / Kerk Avezath’ and to build a tunnel near Giessen, and another +/- 25 million to make other various mitigating measures. The total costs equalled a total of +/- 350 million Euros (CDa, 2004, p.192). On April the 21st the final decision of the cabinet145 is made public. The parliamentary process following the cabinet’s decision mainly focused on three issues: (1) whether to build an extra tunnel at the ‘Pannerdensch’ channel, (2) whether to build the Betuwelijn in different steps as the CPB proposed as a viable alternative to curb the costs of the project146 (3) whether to take auxiliary measures to stimulate the positive environmental effects. The bigger political parties within the parliament among which the coalition PVDA, D66 and VVD were against CPB’s suggestion to build the Betuwelijn in different steps despite its potential cost reducing properties. Cost reduction did not seem to have played such a prominent role within the parliamentary decision making process at that time;

Mr. Blaauw: “I also think that economic viability should not be incorporated in this kind of discussions; it will never come out positive. I will be extremely happy whenever the costs of using the Betuwelijn will come out positive” (CDa, 2004, p.198).

During the parliamentary discussion regarding the auxiliary policy measures, most parties endorsed the importance of such measures. Coalition party VVD, however, emphasized the necessity to have such measures been taken on a European level. In the end, the cabinet as well as the majority of the parliament did not want to take any measures such as taxing road transport. This is off course in stark contrast with the recommendations the commission Hermans made. Minister Jorritsma of TPW defended the cabinet’s position as follows:

Mrs. Jorritsma – Lebbink: It was not possible nationally, but it has to be done on a European level. This is also what the point of view of Hermans came down to. We could not manage this in Europe on a short-term basis. Many countries were not in favour. The same holds for the Netherlands, there was no consensus on this topic. There were many different opinions. (CDa, 2004, p.202).

145 The main elements of the cabinets decision concerning the Betuwelijn are: (1) The Betuwelijn should be constructed following strategic considerations concerning the environment and the economy, (2) the newest calculations made by the CPB do not result in any reconsiderations concerning the decision to build the track, some economist even hold that the positive effects of the Betuwelijn are much bigger,(3) auxiliary policy measures should be taken to fully profit from the positive environmental effects of the Betuwelijn. The cabinet indicated however that these policy measures should be made on a European level, (4) approximately 350 million euros will be made available on improvements of the current design and (5) the cabinet remains a proponent of private participation in the project. However this can only be done when most political risks are gone and the market for rail freight has matured more (CDa, 2004, p.197).

146 See CDa, 2004, p.194 for the argumentation of the CPB in favor of the phased construction of the Betuwelijn.
The most important elaborate discussion in the parliament following the cabinet decision concerning the Betuwelijn focused around the question whether to build a tunnel at the ‘Pannerdensch’ canal. The GBO of the province of ‘Gelderland’ tried to get support in the parliament for this possibility. Especially the coalition parties\textsuperscript{147} within the parliament tried opted for this. The cabinet at first favoured a bridge; however, the majority of the parliament among which the coalition parties persisted in their preference. The cabinet indicated in the parliamentary discussion of the 28\textsuperscript{th} and 29\textsuperscript{th} of June that it will not make any major political problems if the parliament wishes to favour a tunnel (CDa, 2004, p.201). However, the cabinet notified that if a tunnel is favoured by the parliament, the project would likely to be finished a year later then initially intended. The parliament in the end agreed on a tunnel and all the other mitigating measures totalling over approximately 350 million Euros.

The instances in which the hypothesis concerning the role of representatives could be tested show indeed that the Dutch members of parliament and the local politicians act as representatives that take the “pulse of the people” on the cabinet’s proposed plans. The cabinet proposes policies while members of parliament and local politicians (1) try to find out what the public opinion on these proposals is and (2) try to amend the proposals of the cabinet based on this public opinion.

5.5.5 Conclusions relevant tot the interaction of Dutch politicians concerning the Betuwelijn

In this paragraph concerning the interaction between politicians in the Dutch political system, the central question has been how the communicated preferences by the various groups of intermediaries get translated into real policy. In order to answer this question, the Dutch parliamentary institutions have been reviewed as well as the economic theory of democracy of Downs. The most important institution concerning the interaction between the Dutch politicians is the Dutch parliament since it has the most powers to enact policies. In general, the cabinet proposes laws and the parliament has to deliberate, amend and finally vote on the desirability of the law. This parliamentary process is not very different when it features laws concerning mega projects. The procedures that shape the interactions between the various actors (Tracewet – Procedure) during the preparatory and parliamentary discussion phase of laws concerning mega project are slightly different compared to other subject matters, but the process in the parliament is roughly the same.

During the parliamentary process – concerning laws in general and laws concerning mega project- the various political parties can be conceptualized as a single acting person since individual party members have to follow a strict party discipline. This means that political parties make political decisions as a single actor; individual parliamentary members hardly ever vote on their own behalf. The binding character of the governmental accord, which contains the broad policy plans of the governing coalition, further narrows the individual freedom of the individual parliamentary members of coalition parties to act ‘dualistically’. With respect to the main question, the following can be said. Preferences get communicated by various voter groups to the various political parties. Subsequently

\textsuperscript{147} The proposed change on the original plan was initiated by parliamentary member Versnel-Smitz (D66) on behalf of two other parliamentary representatives of the coalition parties; Crone (PVDA) and Blaauw (VVD) (CDa, 2004, p.200).
the various political parties that have enough political importance will be able to form the governing coalition and are expected to negotiate a governmental accord which allows them to formulate policies that will favour as much of their constituents as possible. During that governmental period, the agreements between the coalition parties – which are formulated in the governmental accord - have a high likelihood of getting enacted because of party discipline and the binding role of the governmental accord. During the parliamentary process of the Betuwelijn, indeed a strict party discipline has been observed as well as the binding character of the governmental accord.

The role of the members of parliament can accurately be described as being representatives of the popular will concerning policies that the cabinet proposes. During the case of the Betuwelijn, the parliamentary members of the coalition parties, that proposed laws concerning the Betuwelijn, have indeed tried to discover the popular will and have been able to communicate this will to the cabinet, which in turn could alternate their initial policy proposals. The findings concerning the strict party discipline and the role of representatives can be combined, resulting in the suggestion that representatives do not have the possibility to represent the popular will if it is at odds with the proposals of the cabinet as they are formulated in the governmental accord. Thus, communicated preferences that find their way into the governmental accord have a high likelihood of getting enacted into law, while representatives have a high likelihood of only refining the initial proposals made by the cabinet.

5.6 The interaction between bureaucrats, politicians, bureaucrats, and voters.

So far, the interactions (1) between voters among themselves, (2) the interaction between politicians and voters / voter groups through the electoral process, (3) the interaction between political parties through the parliamentary process, have been discussed. Until now, a Public Choice analysis has shown how preferences, as they exist in society, get translated into policy proposals that get 'translated' through the parliamentary process into policy; this Public Choice framework, so far, has been able to provide an accurate explanation of the case of the Betuwelijn. However, the interaction of bureaucracies among themselves, with voters and the interaction with politicians have not been described until this moment. In this paragraph – the last paragraph in which the Public Choice Theoretical framework will be discussed and applied to the case of the Betuwelijn (see figure 5.5) – the role of the bureaucracy in general and with respect to the Betuwelijn will be discussed.

5.6.1 The relevant Dutch institutions concerning bureaucratic behaviour

As already mentioned in paragraph 5.2, bureaucracies can be seen as the supply side of the political market place. In many cases, government outputs are supplied by government controlled or regulated bureaucracies (Mueller, 2003, p.359). The Netherlands are no exception to this. A law that is proposed by the cabinet and approved of by the TK and EK of the parliament will be implemented by the relevant bureaucracy. Each bureaucracy has a minister as the political head of the organization. The minister is politically responsible for the behaviour of his or her particular bureaucracy, which means that the parliament can inquire with the minister about the bureaucracy’s performance during a parliamentary process.
In order to implement the laws that have been approved of by the parliament a bureaucracy needs resources. These resources come from taxation of the citizens and companies that have a legal status in the Netherlands and are collected by the treasury and kept by the ministry of Finance. The division of those resources across all the different bureaucracies is done through the budgetary process. The institutional part of this paragraph (paragraph 5.6.2.3) will start with an analysis of the institutions that govern the interactions between politicians and bureaucrats during the budgetary process. Another type of institution that governs the interaction between politicians and bureaucrats is the committee system, which will be the subject matter of paragraph 5.6.2.2. The institutions that govern the interactions between voters and bureaucrats are the subject matter of paragraph 5.6.2.3.

In paragraph 5.6.2, the behaviour of bureaucrats with respect to voters and politicians will be discussed from the Public Choice Theoretical framework. Based on the institutional- and the theoretical analysis, hypotheses will be formulated in paragraph 5.6.3 that will be tested with the case of the Betuwelijn (paragraph 5.6.4).

Figure 5.6: The interactions of Politicians (P), voters (V) and bureaucracies (B) in the political market place; the role of the bureaucracy.

5.6.1.1 The budgetary process in the Netherlands

Every year, the cabinet presents the government’s budget to the parliament. This budget consists of the budgets of every ministry. The budget of each ministry is presented to the parliament and is dealt with individually within the parliamentary process. This budgetary process, off course, already started before the presentation of each individual budget to the parliament; a year prior to the presentation each bureaucracy draws up their own budget by combining all the budget proposals of each department within the bureaucracy. This combined budget has to be approved by the relevant minister, who is politically responsible for the ministry as indicated before, before the preliminary budget is send to the ministry of finance who reviews all the budgets of all ministries. The ministry of finance subsequently indicates whether it foresees any troubles with the proposed budgets before the all the responsible ministers negotiate among each other about how to divide the national budget. After the responsible ministers have come to a final conclusion, they have their own ministry draft the
The Betuwelijn, or the failure of democracy as we know it?

The ministry of finance collects all the proposed budgets of each ministry and checks whether they are (1) in line with the agreements as they are formulated the governmental accord by the coalition parties and (2) whether they are in line with the previously made budgetary agreements. All the final budgets and policy plans of the ministries are used by the ministry of finance to draw up the ‘miljoenennota’ only if no problems have occurred in any of the previous budgetary stages. At the end of the preparatory phase of the budget process, the ‘miljoenennota’ and the national budget is presented to the parliament, which marks the beginning of the parliamentary budgetary process. Next to the ministers, their bureaucracies and departments and the parliament there are more actors involved in the budgetary process; these actors include the council of ministers and the ‘Raad van State’ (Parlement & Politiek, n.d.). The ministers, bureaucracies and the council of ministers are involved in the preparatory phase while the parliament is involved in the evaluatory phase. The specific rules and procedures of the Dutch budgetary process are listed in appendix H.

5.6.1.2 The committee system: political institution that oversees bureaucratic operations

As already briefly mentioned in paragraph 5.4.1.2, there are 150 members of political parties that are represented in the Dutch parliament. Those parliamentary members mainly control the cabinet’s policy proposals and hold the relevant ministers represented in the cabinet responsible for the operations of their bureaucracies. Although all 150 members of parliament can exercise their powers as members of parliament (see paragraph 5.4 for relevant powers) on all areas of policy, they do most of their preparatory work in permanent committees. There is good reason for this because a parliamentary member can hardly be an expert on each and every policy area. In the Netherlands, each ministry has a permanent committee that oversees their operations. There is a total of 13 permanent committees in which the political parties are represented in line with the ratio in which those parties are represented within the parliament. Next to the permanent committee, there are five other types of committees: (1) general committees, (2) temporal committees, (3) thematic committees, (4) inquiry committees and (5) miscellaneous committees (Parlement & Politiek, n.d.).

In permanent committees, issues relevant to the ministry are deliberated upon between members of parliament and the responsible minister. The committee does not only deliberate but also prepares policy proposals that have to pass the parliament: these sorts of meetings are called preliminary policy proposal meetings. Next to these activities, the committee also has the authority to install external advisors and hold public hearings to gain insight into the public opinion about the cabinet’s plans. General committees are committees that deal with subject matter, which is dubbed as important by the parliament and crosses the jurisdiction of several bureaucracies. Temporal committees can be distinguished from general committees because they have a very clearly delineated task. This type of committee is abolished at the moment when the committees fulfilled this task and their report has been subject of parliamentary debate. Thematic committees are like general committees, however thematic committees can deliberate and research a certain topic without the involvement of its product in the

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148 The ‘Miljoenennota’ is a document which is drawn up by the ministry of finance. The document contains the explanation of the proposed national budget, the most important policy goals of all bureaucracies and the overall economic situation in the Netherlands (see appendix H).

149 An example of a general committee is the committee for immigration and assimilation policy which was instituted by the parliament in 2004.
5.6.1.3. Public hearings: institutions concerning the interaction between voters and the bureaucracy

In one of the previous chapters, the relevant formal institutions that constrain the behaviour of the various political actors in the parliamentary process have been discussed (paragraph 5.5.1.2). The same institutional arrangements that have been discussed there also apply to the interaction between voter groups and the bureaucracy; those institutions are the SVV2, Trace – MER (see appendix E) and the PKB – procedure (see appendix F). The SVV2 contains the policy plans the MTPW wishes to undertake in a period of time given the developments the ministry is observing. The Trace – MER and the PKB – procedure are institutional arrangements that apply to a decision-making procedure relevant to policy proposals concerning new infrastructure projects and policies that have significant effects on the spatial environment in the Netherlands. These institutions have been discussed in the previous paragraph with respect to the way the shape the interaction between the politicians. The way these institutions shape the interaction between voters and bureaucrats is through public hearings. Public hearings are required by law to allow the public to react on the cabinet’s proposed plans. The public, however, does not react directly on the plans of the cabinet; the cabinet proposes plans in a rough outline while a bureaucracy - in its function as executioner of the cabinet’s proposed plans – is responsible for the detailed version of these plans. For example the NS was the responsible actor for the execution of the Trace - MER procedure and thus for presenting the plans to the public during public inquiries. The public inquiries are thus the only for this paragraph relevant institutions within the TraceMER and PKB procedure.

5.6.2 Public choice theories concerning bureaucracy behaviour

The Dutch institutions that govern the interactions between the bureaucracies and voters on the one hand and bureaucracies and politicians on the other hand politician have been discussed for a great deal in the previous paragraphs. In the following paragraphs, however, a theoretical analysis will be made concerning these interactions based upon the ‘explanans’ as it has been put forward in chapter 3, in other words; the theoretical ‘explanans’ of Public Choice Theory will be extended with relevance to the interaction between voters and politicians.

5.6.2.1 Bureaucratic dominance; the traditional view

There are two opposing views on the nature of bureaucratic behaviour in its interaction with politicians and with voter groups. One of these views within the Public Choice literature focuses on the behaviour of bureaucracies, assuming that these bureaus are relatively independent from the political actors. This view is called the traditional or bureaucratic view. The essence of this view is that in “order to understand regulatory policy making we must understand bureaucratic discretion in operation” (Weingast and Moran, 1983, p.766). In other words, if we want to understand how a government
shapes society we have to understand how a bureaucracy operates. The second view existing in the Public Choice literature rests on the opposite assumption that bureaucracies are controlled by political actors and thus have little autonomy of their own. This view claims that “in order to understand regulatory policy making we must understand legislative politics” (Weingast and Moran, 1983, p.766). This view is called the congressional dominance view. Weingast and Moran (1983, p.766), however, argue that these two opposing views are observationally equivalent on “the basis of the usual sort of evidence amassed through case studies”. In other words, “both views lead to the same predictions about the relationship between bureaus and the political actors”. Weingast and Moran add to this that this observational equivalence is only apparent during periods of stable policy. A conclusion, which shall soon become apparent. The predictions that both views share amount to the following five (Weingast and Moran, 1983, p.766);

“(1) the lack of oversight hearings, (2) the infrequency of political investigations and policy resolutions, (3) the perfunctory nature of confirmation hearings of agency heads, (4) the lack of ostensible political attention or knowledge about ongoing operations and policy consequences of bureaucratic choice and (5) the superficiality of the annual appropriations hearings”

Weingast and Moran add to this that this observational equivalence is only apparent during periods of stable policy; a conclusion, which shall soon become apparent when the two opposing views are getting more explicated. According to the traditional view, these previously mentioned observations are based on the presumed failure of the political actors to oversee and control the behaviour of the bureaucracies. Weingast and Moran argue that several factors contribute to the failure of political actors to control the bureaucracy: “First, bureaucracies control information from their policy area and thus have superior knowledge of their field of operation. Second, access to voter groups fosters bureau-voter group alliances to protect from their political overseers. And third, the high cost of passing new legislation to redirect the bureau’s policies limits political action in most of the cases” (Weingast and Moran, 1983, p.767). In the language of agency theory, this issue concerns the relation between the principal (the political actors in power) and the agent (the bureaucracies). The essence of the traditional approach expressed in terms of the agency theory is that “because little monitoring of political actors takes place, considerable shirking occurs – so much that so that it is most fruitful to ignore the influence of the principal on the agent”. The resulting bureaucratic isolation affords bureaucrats a degree of discretion in order to pursue their own private goals. In paragraph 5.2 it has already been reasoned what this pursuit of private goals of a bureaucrat leads towards; this is the behavioural tendency of budget maximization.

The analysis made by Niskanen (1971) proofs to be a good illustration to see what the previous line of argumentation means for the efficiency of bureaucratic operations. Niskanen estimates the behaviour of the bureaucracy in terms of an equilibrium analysis (Holcombe, 1983, p.116). His model starts by claiming that a politician desires certain services to be provided by the bureau. Niskanen

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150 See Weingast (1980) and Calvert, Moran, and Weingast (1981) and Noll’s survey (1976)

assumes that both the politician and the bureaucracy know the politician’s value of the service, but only the bureaucracy knows the cost of providing the service. For example, in the Netherlands the cabinet is formed based on a government accord which contains the broad policy goals for the elected government. Politicians also debate in the parliament, thereby, revealing their policy preferences. The bureaucracies are thus aware of the politician’s preferences while the politicians are relatively ignorant of the supply curve (read; costs) of the bureaucracy that has to put those policy goals into action. This means that the bureaucracy is in a better bargaining position than its sponsor152; the bureaucrats have information concerning the supply function of their bureaucracy, and the demand function of the sponsor is easily detected. Another element according to Niskanen (1971) which strengthens the bargaining position of the bureaucracy is its monopoly position in providing certain services. Each bureaucracy has a more or less bounded mandate. In the Netherlands the MTPW, for instance, has the sole digression to regulate issues related to transport and public works.

The consequences, in terms of resource allocation in bureaucracies, are revealed through a study into the supply and demand functions facing a bureaucracy (Holcombe, 1983, p.116). Niskanen assumes that the bureaucratic supply curve is the usual marginal cost curve (see figure 5.7; MC) resulting from input prices and a production function. Niskanen also assumes that a bureaucracy produces at the minimum total cost for each level of output, uses the most efficient scale of plant, and has the same marginal and average cost curves as an analogous firm in the market. Thus, there is nothing unique about the bureaucratic supply curve. The demand conditions faced by the bureaucracy, however, differ from the usual market conditions: The superior bargaining position the bureaucracy holds over its sponsor causes the bureaucracy to face an all – or nothing demand curve (see figure 5.7; DA). Given the demand and supply curves faced by a bureaucracy, the constraints placed on bureaucrats cause them to produce an output, which is identical to the result obtained in a competitive environment. Both the bureaucracies and competitive firms are constrained to producing at minimal average cost. A competitive firm does so in order to maximize its profit. Thus the bureaucratically controlled market will exhibit the same type of equilibrium as the competitive market: Both produce at a point where supply equals marginal costs; but whereas the ‘Marshallian’ demand curve (see figure 5.7; D) is the relevant demand curve for the market, the all or nothing demand curve is the relevant demand curve in a bureaucracy. Thus the bureaucracy will maximize its budget, given the assumption that it has no rational self-interest in maximizing its profits (see paragraph 5.2), by producing Qb (see figure 5.7). The cost of the bureaucratic output exceeds its value by distance ‘de’ (see figure 5.7).

The traditional view thus regards bureaucracies as acting relatively independent from their political overseers thus allowing them to pursue their own private goals. This pursuit of bureaucrats can be described as budget maximization, which results in efficiency losses according to Niskanen (1971).

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152 The sponsor of the bureaucracies in the Netherlands is the Ministry of Finance (MoF)
5.6.2.2. The congressional dominance view

The congressional dominance\textsuperscript{153} view begins with the opposite assumptions about bureaucracies and the political actors then the traditional view does: The political actors according to this view are able to control the bureaucracies through a system of incentives, despite the agency problems, which are the main focus of the traditional approach. As indicated at page 119, observations 1 till 5 are also consistent with the congressional dominant view under a situation of stable policy. The congressional dominance approach assumes that politicians – or specifically, particular ministers or politicians in the relevant commissions – possess sufficient rewards and sanctions to create an incentive system for bureaucracies. “Bureaucracy mandate and budget rewards go to those bureaucracies that pursue policies of interest to the current ruling politicians; those bureaucracies that fail to do so are confronted with sanctions of some sort” (Weingast and Moran, 1983, p.768). It then follows that if the incentive structure worked effectively, then bureaucracies would pursue political goals even though they received little direct guidance from their political overseers. The relevant politicians and ministers may appear ignorant of the proceedings of a certain bureaucracy because they measure the success of the output of the bureaucracy through their constituents’ reaction rather than through detailed study of the bureaucracies’ operations (Weingast and Moran, 1983, p.768). Public hearings and investigations – such as the investigation of the commission Duivesteijn into the budget overruns of the Betuwelijn and HSL - Zuid – are resource intensive activities. So they will hardly be used by politicians for those areas that are operating smoothly\textsuperscript{154}. Their real purpose is to police those areas functioning poorly: “The threat of ex post sanctions creates ex ante incentives for the bureau to serve the interest groups” (Weingast and Moran, 1983, p.769). The implication of this is that the more effective the incentive system is, the less often the observation of sanctions in form of political attention through hearing and investigations should be made. In this case, direct and continuous monitoring of inputs rather than of result is an inefficient mechanism by which the political principal constraints the bureaucratic agent.

\textsuperscript{153} In the public choice literature G.Stigler (1971) and S.Peltzman (1976) are adherents of this view. They do not distinguish between bureaucracies and the legislature because of their presumed close connection.

\textsuperscript{154} With smoothly we mean, benefiting the relevant politicians’ constituency.
The incentive system that constrains bureaucratic behaviour consists of the following contributing factors: First, in the budgetary process – the Dutch equivalent of which is described in the previous paragraph – each bureaucracy and each department within that bureaucracy is competing for budgetary favours. It is in the rational self-interest of politicians pursuing their own electoral goals to favour those bureaucracies /departments that provide the best voter group service and thereby maximize their chance for re-election. Second, oversight plays an important role in sanctioning bureaucracies that do not serve voter groups well enough. This oversight according to Weingast and Moran (1983, p.769) includes new “legislation, specific prohibition on certain bureau activities, and other means that serve to embarrass agency heads, hurt future career opportunities etc”. Finally and perhaps, the most effective means (Weingast and Moran, 1983, p.769) of influence, “the minister of each department controls who gets appointed and reappointed”.

According to the adherents of the congressional dominance view, “the traditional approach focuses on the behaviour of bureaucracies in isolation and therefore misses the effects of competition and sanctioning effects that mitigate, in part, the monopoly aspects that Niskanen (1971) highlights” (Noll, 1976). In sum, the congressional dominance view is also in accordance with observations 1 till 5 when the incentive system maintained by the political actors to control bureaucratic behaviour is operating effectively (Weingast and Moran, 1983, p.770). In situations in which this system is not operating effectively, it would be expected that political control would be exercised in order to keep the bureaucracies operations in line with political interests.

5.6.2.3. An alternative model of legislative choice

The congressional dominance view focuses on the vote-maximizing politician who controls the bureaucracy. In combination with interest group formation trying to influence politicians in their policy making (see Olsen (1965) and Downs (1956); paragraph 5.2- 5.3), a fundamental bias in policy making is shown by Stigler (1971) and Peltzman (1976). This fundamental bias is caused since some interest groups are more likely to form and to influence policymaking than others and these groups thus gain a disproportionate share of the political benefits, as shown before. Weingast and Moran (1983, p.770), however, claim that this explanation falls short of completely explaining resource allocation through the political market place; “the presumption that the interest- group demand for specific legislation is simply translated into political outcomes ignores the political institutions that provide legislation (Sheple, 1982). If regulation benefits specific constituencies (read: interest groups) at the expense of others, and if regulatory agencies (read: bureaucracies) carry out the bulk of policy administration at the behest of the legislature, then a complete theory of political allocation must have a model of the legislature to complement our models of the demand for legislation”. Weingast and Moran would for instance argue that the congressional dominance approach helps explain why for example the Parliamentary Commission for Transport and Public Works (PCTPW) benefits companies operating in the transportation sector, but does not explain how benefits are simultaneously redelivered to so many interest groups. Weingast and Moran (1983, p.771) propose that legislative institutions allow interest groups to benefit simultaneously without any substantial clashing between interest groups occurring. Within their model Weingast and Moran assume that each congressional
representative responds to the interest within his district, which is of course in line with the theoretical analysis of the interaction between politicians and voters (paragraph 5.3). A congressional representative within this model is then expected to maximize his political support within the district he is a representative from. Because interests are not distributed uniformly across districts, the groups that are important for one representative congressional representative’s electoral success are different from another congressional representative. Weingast and Moran (1983, p.771) claim that because of this, legislators can gain enormously by developing a means of “regularizing the provision of benefits to a variety of groups and avoiding inter group conflict”. The mechanism employed for this by the congress of the United States is the committee system. According to Weingast and Moran (1983, p.771) the committee system functions as follows:

“This institutional arrangement allocates influence over policy making that makes all legislators better off: Firstly, congressional committees have near-monopoly jurisdiction over a small set of policy issues. This incorporates the power to make proposals that alter the status quo. Thus, committees afford members extraordinary influence over a subset of policies. Secondly, members are assigned to the committees based on self-selection. The advantage to each member of a committee is that he gains greater leverage over those issues relevant for his own political support and hence re-election”.

Weingast and Moran (1983, p.771) summarize the benefits of the committee system for a member of congress as follows: “the committee system enforces the following trade: each legislator gives up some influence over many areas of policy in return for a much greater influence over that the one that, for him, counts the most”.

The question at this point is whether this theoretical conception of how the incentive system by means of a committee system is also applicable to the Dutch situation? In the Netherlands, there is an institutional system comparable to the committee system employed in the United States. There are also numerous committees in which all the members of parliament are divided at all times. These committees are permanent and deal with issues relevant to a certain ministry, for example the Permanent Committee\footnote{Next to the permanent committees such as the PCTPW there are also temporal, thematic and inquiry-committees of which the commission Duivesteijn is an example.} for Transport and Public Works (PCTPW) deals with issues relevant to the MTPW. These permanent committees system in the Netherlands, which is mostly organized along the lines of the several ministries, is roughly equivalent to the committee system in the United States. The difference between the two countries lies in the fact that legislators in the Netherlands are not chosen through a district system, as is the case in the United States. In the Netherlands, the national legislators are chosen nationally, the provincial legislators provincially and the local legislators are chosen locally. In this way, it is not per se, possible for national and provincial legislators in the Netherlands to maximize the chance to get (re-) elected as a legislator by representing the largest interest in the region he is from as is the case in the United States.

Does this mean the alternative model of legislative choice ceases to be applicable to the committee system, as it exists in the Netherlands? It surely still holds, for instance, that members of the PCTPW have a greater influence on issues concerning the MTPW then for example, members of
the committee on education, culture and science; given the role a permanent committee plays within
the parliamentary decision making process in the Netherlands (see paragraph 5.6.2.2). It also holds
that a certain legislator becomes a member for a political party in a certain committee based on the
supposed public support and knowledge he has in that policy area. In other words; it is not rational for
a political party, given the assumption of vote maximizing, to nominate and appoint legislators to
committees concerning policy areas in which the legislators have little public support and knowledge
about the subject matter. For ‘would-be’ politicians it is rational, on the other hand, to convince a
political party of the public support and knowledge he has in certain policy area to maximize his
chance of being a part of eligible members of the political party.

In sum, there seems to be no a priori reason to disregard the alternative legislative model in terms
of its anticipated success in the case of predicting the nature of the interactions between politicians
and bureaucrats. The advantage of a committee member whether it is an American or a Dutch
committee is the same; “each legislator gives up some influence over many areas of policy in return
for a much greater influence over that the one that, for him, counts the most”. Thus for both nations the
committee system is a means of exerting political influence on bureaucratic operations more
efficiently. The difference between the two committee systems is that committee members in the
United States are expected to ‘vote their district’156 , since in the American system legislators are
chosen within a district. In the Netherlands committee members are expected to maximize votes, not
per district but in general, with respect to the subject matter of the committee in which they are
employed.

5.6.3 Hypotheses on the interaction between bureaucracies, political actors and voter groups
concerning the Betuwelijn

The interaction between bureaucracies and the political actors and the bureaucracies and various
voter groups through the institutions as they exist in the Netherlands, can be described as follows.
Because little monitoring takes place, considerable bureaucratic shirking occurs. However, the
relevant politicians – the ones who are dependent for their public support on the operations of the
bureaucracy – can make use of several institutions such as public hearings, investigations and
sanctions to police those bureaucratic operations that are not operating smoothly in terms of pleasing
public opinion. The more public opinion proves to be unfavourable of certain bureaucratic operations,
the more it is expected that the relevant politicians will engage in monitoring and policing those areas.

The political decision as a whole to build the Betuwelijn and several sub decisions, such as which
mitigation measures to take, can be characterized as significant policy changes. This means that
current bureaucratic operations, at the time right before the Betuwelijn appeared on the political
agenda, with respect to transport policy are not expected to be satisfactory enough for public opinion.

Changes in the demand for policy proposals by the cabinet, related to the Betuwelijn, are the result of
public opinion communicated through the therefore intended institutions in the majority of cases..

156 Voting his district means as much as “choosing the actions (voting, introducing new legislation) so as to
maximize his political support function generated by the interests within the district”. See Fiorina (1974), Fenno
(1978) and Peltzman (1982) for the empirical evidence for this proposition.
The ‘therefore intended’ institutions include the committee system, as it exists in the Netherlands and the system of public inquiries as they are required by law in the TraceMER and PKB-procedure. Falsification instances of this hypothesis have an identity equalling changes in policies proposals concerning the Betuwelijn, which are not communicated through the therefore intended institutions.

The second hypothesis in this paragraph concerns the strategies bureaucracies employ to maximize their budget. The Betuwelijn as an infrastructure project is mainly a product of the MTPW, as has been indicated before. This means that the budget of the MTPW and other relevant bureaucracies are expected to be significantly increased if the policy proposal concerning the Betuwelijn is going to be implemented. This means that the following hypothesis can be formulated, given the postulated budget maximizing nature of bureaucratic behaviour:

The bureaucracies that gain from the incorporation of the Betuwelijn into the transportation policy plans of the cabinet employ strategies to maximize the likelihood of this happening.

Falsification instances are instances in which a bureaucracies, who are expected to gain from the Betuwelijn, do (1) not employ strategies to maximize the likelihood of the Betuwelijn getting incorporated into the policy plans of the cabinet and/or (2) employ counterproductive strategies.

5.6.4 The case of the Betuwelijn and bureaucratic behaviour

In this paragraph the hypotheses, which have been posed in the previous paragraph, will be tested. In paragraph 5.6.4.1 the hypothesis on whether changes in the cabinet’s policy proposals concerning the Betuwelijn are communicated through the therefore intended institutions. Here the most notable changes in policy concerning the Betuwelijn will be discussed to derive a conclusion. The second hypotheses will be dealt with in paragraph 5.6.4.2. The question is whether bureaucracies, that stand to gain from the Betuwelijn, are employing strategies to maximize the chance of getting the Betuwelijn incorporated into the policy plans of the cabinet.

5.6.4.1 Shifts in policy proposals concerning the Betuwelijn

Determining the changes in proposed policy concerning the Betuwelijn is done based upon the chronological description of the case of the Betuwelijn in chapter 4. Determining what the major shifts are in policy proposals is of course arbitrary since there have been many changes in transportation policy since the advent of the SVV2. Four major shifts in transportation policy relating to the case of the Betuwelijn are identified for this paragraph; (1) incorporation of the Betuwelijn into the SVV2d, (2) PKB – procedure applicable to the Betuwelijn, (3) measures mitigating negative externalities, (4) extra mitigating measures and (5) installation of commission Duivesteijn. These five changes will be dealt with in the next paragraphs.

5.6.4.1.1 Incorporation of the Betuwelijn into the SVV2d; the commission Van der Plas

The Betuwelijn as a project appeared on the political agenda after the public hearings concerning the SVV2a; a report concerning the expected transportation policy was made public in 1988. The
SVV2a - the initial plan that was made available for public inquiry - contained no plans concerning a new railway through the Betuwe and holds very little new plans about the future of freight transport via rail;

“Fast block trains will drive between the Dutch harbours and the European mainland. Extension of infrastructure is very expensive. That is why better capacity management of the current infrastructure has main priority” (SVV2a, p.39; CDa, 2004, p22).

Much critique\(^{157}\) was exerted during the public hearings of the SVV2a. Minister Kroes\(^ {158}\) and public official Smits\(^ {159}\) explain the MTPW’s lack of focus on transport via rail by claiming that there was no vision or any concrete plan of the transportation sector as well as the ministry;

**Ms. Kroes:** “The SVV indicated that we had to go for better capacity management. In the mean time developments were going much faster then we had expected (…). During the public hearing, a number of organizations indicated that we would not make it with better capacity management alone and that we might have to do more then was initially indicated in the SVV2. This has always been the function of publishing a SVV, after which the public hearings and finally the part in which the government’s decision takes shape” (CDa, 2004, p.22).

**Mr. Smits:** “The SVV2 lacked plans concerning freight transportation via rail. There are a number of factors causing this. Firstly, there were no concrete visions and plans made by the involved parties (…) you could say that the railways were not on the top of our minds at that moment, as well as with us or with other parties (…) The debate concerning freight transportation via rail was stimulated because of the publication of the SVV2a; plans were suddenly presented. The railways as well as regional governments had made a plan. In short, there were strong signals that this part (freight transportation via rail) was neglected (…) (CDa, 2004, p.23).

As a reaction on the critique, Minister Kroes installed a commission – chaired by Mr. Van der Plas - to investigate the future of freight transport via rail and to give her advice on the proper course of action. The members of that commission almost exclusively represented the companies that are operating in the harbour of Rotterdam, the MTWP and the NS (see table 5.7).

The report made by the commission Van der Plas was published on the 12\(^{th}\) of July 1989. The main conclusion in the report is that the railways have to be developed as an alternative for transportation via the roads, considering the problems with congestion and positive effect it can have on the environment. One of the necessary measures to be taken is the construction of new lines of transportation between west and east that are independent from passenger transport. The Betuwelijn is indicated by the commission as one of those transportation lines. The report itself found its way into the SVV2d; on the 26\(^{th}\) of June minister Maj – Weggen of TPW included the Betuwelijn as a project in the SVV2d (CDa, 2004,p.28).

\(^{157}\) See paragraph 5.3.2.2 for the actors that were criticizing the SVV2a
\(^{158}\) The then current minister of TPW
\(^{159}\) One of the main department heads of the MTPW between 1988 and 1992
The Betuwelijn, or the failure of democracy as we know it?

## Members of Commission Van der Plas

<table>
<thead>
<tr>
<th>Name</th>
<th>Representing</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.B.M. Van der Plas</td>
<td>Philips; former member of public works in Rotterdam</td>
</tr>
<tr>
<td>J.D. Hooglandt</td>
<td>Koninklijke Hoogovens</td>
</tr>
<tr>
<td>D.J.A. Kalff</td>
<td>Shell</td>
</tr>
<tr>
<td>J. Kasteel</td>
<td>EVO</td>
</tr>
<tr>
<td>F. Kuiper</td>
<td>SVZ</td>
</tr>
<tr>
<td>H. Molenaar</td>
<td>GHR</td>
</tr>
<tr>
<td>H.E. Portheine</td>
<td>NS; ECT (as member of board)</td>
</tr>
<tr>
<td>H.N.J. Smits</td>
<td>MTPW (as secretary general)</td>
</tr>
<tr>
<td>E.J. Verloop</td>
<td>NS</td>
</tr>
<tr>
<td>B. Westerduin</td>
<td>MTPW (as Director General Transport)</td>
</tr>
<tr>
<td>L.M. van Wijk</td>
<td>KLM</td>
</tr>
<tr>
<td>G.J. Wormmeester</td>
<td>ECT</td>
</tr>
</tbody>
</table>

Table 5.7: Members of the commission Van der Plas and their private functions (CDa, 2004, pp.24-28; Boom & Metze, 1997, p.32)

### 5.6.4.1.2 The cabinet’s decision to make the PKB – procedure applicable to the Betuwelijn

The applicable legal procedure for a project as the Betuwelijn at the time the SVV2d was published was the ‘TraceMER – procedure. The NS - given their unique expertise in rail projects - was the main actor to provide the reports necessary for the ‘Trace-MER’ procedure. The first document in this procedure – the ‘startnotie/MER’- was published by the NS on the 14th of January and was made available for public inquiry (CDa, 2004, p.38). The NS also organized several meetings along the planned track of the Betuwelijn to inform inhabitants and municipal governments. He inhabitants as well as the local politicians were shocked to find out what the consequences were for the living conditions of their environment. These public meetings, organized by the NS, were the starting point of local resistance of both civilians, local and provincial politicians. The political responsible minister for who was responsible for the NS – Maj –Weggen of the MTPW – described her reaction on the way the NS communicated their plans as follows:

**Mrs. Maj –Weggen:** “The ‘Trajectnota – MER’ had to be published by the NS, according to the then current ‘Trace-MER’ procedure; that is why the NS was responsible for the public inquiries (…) The NS did this in a rather authoritarian way (…) It was done in such a crude manner that I got several phone calls from befriended mayors from the region. They claimed: Minister, this is going wrong since the interests of the civilians were totally neglected (…) This was the reason for me to take the process of public inquiry and spreading information into my own hands. Much wrong had been done already at that time since the image of the Betuwelijn amongst the civilians was far from positive (CDa, 2004, p.39).

The cabinet tried to get a stronger hand in the development, finance and the budget control of large infrastructure project, parallel to the ‘TraceMER’ procedure, which was being conducted by the

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160 Koninklijke Hoogovens, currently Corus, is an iron producing company.
161 KLM; Royal Dutch Airlines
162 Minister Maj Weggen adds to this that she can make this claim since the people that were responsible for this were no longer in service. This is an example of the power the politician has over the bureaucrat.
NS. A refinement of the ‘Tracewet’ had to result in this. The essence of the new ‘Tracewet’ is that it allowed for a faster decision-making procedure with respect to infrastructure via a reduction of the moments in which policy proposals were made available for public inquiry and via the binding character, the law has with respect to local spatial plans. Another element was added later on by the cabinet referring to projects concerning the national interest, allowing the PKB – procedure to be applicable for project such as the Betuwelijn and HSL - Zuid. In the spring of 1992, the cabinet decided also to allow retrospectively the PKB – procedure to be applicable to the Betuwelijn. Gains in time and the increasing local resistance were the main reason to allow for the applicability of the PKB – procedure for the Betuwelijn according to the commission Duivesteijn (CDa, 2004, p.48). The reports made by the NS were used for the PKB1, which was published short after the PKB- procedure, was found to be applicable to the Betuwelijn at the 16th of April 1992 (CDa, 2004, p.53). However, the proposed variant of the Betuwelijn, which was communicated by the NS during the public inquiries of the ‘TraceMER’ – procedure, was a different one then the variant, which was communicated during the PKB1163. The public inquiry into the PKB1 was held from 16th of April until the 27th of June 1992. The secretariat of the RARO summarized a total of 1879 reactions received during the public inquiries; the critique was mainly directed at the way in which the representatives of the NS and the MTPW were presenting themselves and at the lack of solid research endorsing the necessity to have the Betuwelijn build. According to the commission Duivesteijn the reactions during the public inquiry had many similarities with the critique that was uttered on the bureaucratic level by the RPC and the ICES (see the next paragraph). The cabinet at that time, however, already decided to have a number of studies conducted into economic viability of the Betuwelijn.

5.6.4.1.3 The PKB3 and the PCTPW; mitigation measures

A lot of work is done at the end of 1992 by the involved ministries to formulate the cabinet’s decision concerning the Betuwelijn in the PKB3. The advice generated by several advisory committees is bundled together with the results of the PKB2, which finally resulted in the cabinet’s decision at the 18th of May (CDa, 2004, p.102). The PCTPW as a reaction on the PKB3, decided to have the cabinet’s decision checked by an external institute and held a public inquiry concerning the Betuwelijn. At the 10th of October, there has also been a congress organized by the VLOB concerning the Betuwelijn; many of the members of PCTPW were among the visitors (CDa, 2004, p.131). PCTPW member Feenstra argued at the end of October, in public, that a number of extra measures were necessary to mitigate the negative externalities of the Betuwelijn. Feenstra also contacted his PCTPW member Leers at that time about the necessity of more mitigation measures. During the parliamentary process, Feenstra and Leers argued that CDA and PVDA were in generally in favour of the Betuwelijn but would like to see extra mitigation measures being taken. The total amount of this proposal amounted to +/- 500 million Euros. These mitigation measures were described in 12 amendments that were

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163 Minister Maj Weggen said the following about the proposed variant of the NS during the public inquiries held during the ‘TraceMER’ procedure: “At that time, it was not about the new railway track as it was incorporated in the PKB1, but about the improvement of the old existing track from village to city and from city to village” (CDa, 2004, p.39).
exclusively the initiative of coalition parties; the other amendments proposed by the opposition parties were voted down (CDa, 2004, p.138).

5.6.4.1.4 New elections and the commission Hermans; extra mitigating measures

The decision to build as we have seen before was recalled after the 1994 elections. The political majority in favour of the Betuwelijn - as it was proposed in the PKB3 – vanished; the new coalition government included former opposition parties VVD and D66. In the governmental accord, the coalition decided to have a commission – the commission Hermans – to re-evaluate the necessity to have the Betuwelijn build. The commission Hermans, after having more research conducted and having talked to some actors like the VLOB, finally recommended that it is favourable to have the Betuwelijn build under a number of conditions (CDa, 2004, p.205). One of those conditions, which found its way into the cabinet’s decision, was to have more mitigation for the negative externalities; the commission specifically mentioned five problem areas, which equalled a total investment of +/- 400 Million Euros to solve (see paragraph 5.5.4.2 for the substance of the mitigating measures). These investments were necessary to have PVDA’s new coalition member VVD and D66 to agree with the cabinet decision to build the Betuwelijn.

5.6.4.1.5 The cabinet’s decision to install the commission Duivesteijn

The difference between estimated costs and available resources in the budget of the Betuwelijn got constantly bigger during the construction phase of the Betuwelijn (see table 5.8); the minister of TPW has thus been forced to increase the budget of the Betuwelijn several times. The parliament has not been notified fully and timely about these increases in the project’s budget according to the commission Duivesteijn (CDa, 2004, pp.317-320); sometimes, for example during the ‘Malle Jan’ accord in November 2000, the parliament even has been misled by the minister of TPW who claimed that the project could be realized within the estimated budget. The parliament did only see quantitative estimations of the project’s budget at moments in which they had to vote on appropriating a bigger budget during the budgetary parliamentary process. During these moments, the parliament always agreed upon a bigger budget.

<table>
<thead>
<tr>
<th>Moment</th>
<th>Budget estimation (Billion Euros)</th>
<th>Estimated year of completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>PKB1 (1992)</td>
<td>2.335</td>
<td>2000</td>
</tr>
<tr>
<td>PKB3 (1993)</td>
<td>2.832</td>
<td>2000</td>
</tr>
<tr>
<td>Committee Hermans (1995)</td>
<td>3.744</td>
<td>2004</td>
</tr>
<tr>
<td>Latest Estimation</td>
<td>4.844</td>
<td>June 2007</td>
</tr>
</tbody>
</table>

Table 5.8: Estimated budget and estimated time of completion throughout the years (CDa, 2004, pp.313-314)

However, the escalation of the project’s budget took a different turn in the fall of 2002; at that time, the parliament was confronted with the financial risks of both the Betuwelijn and the HSL – Zuid in a
not very transparent manner. The cabinet at that time incorporated a so called budgetary ‘risk reservation’ to curb more possible future budget overruns in the two infrastructure projects. The parliament this time reacted by asking the ‘Algemene Rekenkamer’ to conduct a research into (1) the necessity of a budgetary risk reservation with respect to the Betuwelijn and HSL-Zuid, (2) the cause, composition and amount of the risk reservation, (3) the communication with the parliament concerning the risks that are involved with the risk reservation and (4) possible improvements in future control of financial risks associated with large projects (CDa, 2004, p.310). Eventually, because of the findings of the ‘Algemene rekenkamer’, the parliament decided to install the commission Duivesteijn to investigate the causes of the budget overruns of the Betuwelijn and the HSL-zuid. The installation of the commission Duivesteijn can be seen as the result of the worsening bureaucratic performance with respect to mega project development; the more budget has to be allocated there, the less can be allocated in other policy areas, which are also of electoral importance.

5.6.4.2 Bureaucratic strategies to maximize the budget

There are several ways in which a bureaucracy can try to maximize its budget. As indicated before bureaucracies in the Western world are the supply side of the public sector. Not only do they finally implement the policies enacted by a government, but they also create knowledge to support the parliamentary decision making procedure. The MTPW is mostly responsible for the ‘production’ of knowledge with respect to the infrastructure projects and the NS has a bigger role in this when a rail project is on the political agenda. If knowledge produced by a bureaucracy substantiates the governmental decision making process, how can a bureaucracy maximize its budget and scope of authority using that knowledge? Given the supreme bargaining and monopoly position a bureaucracy has with respects to its overseers it can be expected that a bureaucracy will produce knowledge that maximizes the likelihood that a project like the Betuwelijn gets build. Other strategies that bureaucracies can employ are trying to influence the opinions of influential members of parliament or influential members of society etc. The MTPW, MEZ, NS, VROM, RHB and the involved provinces and municipalities are bureaucratic organizations that are the main benefactors of the Betuwelijn in terms of increased budget and / or authority. The MTPW and the NS are off course the primary organizations to implement the Betuwelijn; VROM and the involved provinces and municipalities are responsible for spatial planning issues relating to the Betuwelijn (De Jong et al., 1999, p.75); the RHB is expected to benefit from the expected increase of trade in the harbour of Rotterdam. Paragraphs 5.6.4.2.1(2) deal with the relevant bureaucracies’ production of knowledge, which was used to support the parliamentary, decision-making process. Other strategies employed by the relevant bureaucracies are discussed in paragraph 5.6.4.2.3.

164 The production of knowledge by the relevant bureaucracies concerning infrastructures is part of the ‘TraceMER’ and PKB – procedure (see appendix E&F)
165 A. Wildavsky (1964, p.117) calls this strategy employed by bureaucracies to expand their base; “It pays for itself; it makes a profit”. “Although government is presumably not conducted for profit, the delight Congressmen take in finding an activity that returns money to the Treasury is indicated by the frequency with which they use this fact to praise administrators and to support programs they prefer”.
166 The province of Gelderland is politically represented by the BGDB Gelderland and the province of Zuid Holland is politically represented by BGDB Zuid Holland.
5.6.4.2.1 The production of knowledge during the second governmental period (1989-1994).

The Betuwelijn, as a project, first appeared in the SVV2, which is a document that contains the cabinet’s long-term policy plans with respect to transportation issues. However, it was during the second governmental period that the first study was done into the project; the NS conducted a ‘Trace’-study in accordance with the legal procedure that was applicable to the Betuwelijn at that time; the ‘Trace-MER’ procedure (see appendix E). The study should have focused on the different alternatives to and variants of the Betuwelijn in terms of their expected economic costs and benefits. The study of the NS, however, only focused on one alternative way of planning the Betuwelijn. NS’s analysis into the costs and benefits of the Betuwelijn are mainly based on their assumption that freight transport via railways in the Netherlands is going to increase to 65 million tons in 2010 (see table 5.9). (CDa, 2004, p.36).

<table>
<thead>
<tr>
<th>National</th>
<th>International</th>
<th>Total</th>
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<tr>
<td>Road</td>
<td>365</td>
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<td>Rail</td>
<td>5</td>
<td>8</td>
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<tr>
<td>Shipping</td>
<td>91</td>
<td>106</td>
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<tr>
<td>Total</td>
<td>461</td>
<td>588</td>
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| Road | 365 | 469 | 570 | 90 | 112 | 145 | 455 | 581 | 715 |
| Rail | 5 | 9 | 13 | 13 | 39 | 52 | 18 | 48 | 65 |
| Shipping | 91 | 110 | 130 | 143 | 181 | 196 | 234 | 291 | 326 |
| Total | 461 | 588 | 713 | 246 | 332 | 393 | 707 | 920 | 1106 |

Table 5.9: National and international freight movements in the Netherlands (Million Tons) from 1987 until 2010

These estimations by NS cargo are based on the research by a research consortium formed by Prognos, Kessel and NEA in 1991 (CDa, 2004, p.36). This research formed the basis for the research of the NS and culminated into freight transportation estimates, which are depicted in table 5.9. This table shows that 40 million tons of freight could be transported via rail in 2010 (‘Base scenario’; rail in 2010) given the presumption that a flexible and efficient rail company is operating on the rails and enough rail capacity is available. The 65 million tons that could be transported via rail as the ‘quality scenario’ indicates are based on the assumption that environmental policy in surrounding countries will favour transport via rail at the detriment of transport via roads. However, this increase from 40 to 65 million tons is not backed up by any quantitative analysis. Another dubious analysis was the calculated increase of the market share of the railroads as compared to the other modalities (road and shipping). This would equal an increase from 5,3 % to 13,2 % in the ‘quality scenario’ and an increase from 5,3 to 8,1 % in the ‘base scenario’. This, according to the Commission Duivesteijn (CDa, 2004, p.43), could only be explained by a strong improvement of the position of the railroads compared to shipping.

\[167\] The NS, at that time the NS was the national railway company, had a lot of interest in seeing that the Betuwelijn got constructed; in their perception the new railway equaled the survival of NS’s freight transportation divisions; NS cargo.
and road transportation. The NS however does not give any price development indications of the different modalities about container transportation on which any of the estimations could be justified\footnote{A salient point is that the NS in this study is confident of the possibility that it can accommodate 65 million tons of freight via rail given the uncertainties the NS gave two year prior to this study in another report (The ‘Toekomstplan’). In this report (CDa, 2004, p.21), which contains NS cargo’s vision on its future given the unfavorable market conditions, a number of threats to likelihood of the potential of 65 million ton freight were given (Cooper & Lybrand estimated this market potential for NS cargo without any analysis); (1) low prices for container freight via shipping, (2) lower prices for road freight transportation, (3) little cooperation between the rail companies across Europe, (4) the lack of capacity on the European railroad network and the lack of a uniform policy on a European level to improve a European network. The report also mentions some weak point concerning the organizational capabilities of NS cargo; the organization was not perceived to be able to deal with the by Cooper & Lybrand’s estimated growth (CDa, 2004, p.44).}. In addition, the NS estimated the positive environmental effects the Betuwelijn would yield as very favourable; it calculated that a reduction of the emissions of CO$_2$, NO$_x$ en SO$_2$ would be realized if 30 million tons of freight would be transported by rail. The reductions would amount to 4, 6,6 and 5,7 % respectively. NS cargo concludes that these projected reductions made possible by the Betuwelijn are vital in achieving the environmental goals as they were set in the NMP+\footnote{The NMP+ of 1990 is a document that contains the national environmental goals with regards to the reduction of harmful emissions and the saving of energy. The goals specially regard the reduction of the emission of CO$_2$, SO$_2$ and NO$_x$ (CDa, 2004, p.45).} in 1990. However, the calculations that the NS made are based on outdated emission ratings of freight transport via rail; no attention is paid to developments concerning cleaner engines of trucks (CDa, 2004, p.45). The NS also estimated the effects on the Dutch economy of not having the Betuwelijn constructed. This situation is quantified as having a maximum of 10 million tons of freight transported via rail. The combined detrimental economic effects are summarized by the NS as follows (CDa, 2004, p.44):

- The impossibility of a commercial privatized freight company operating independently has negative image effects concerning the view of the Netherlands as a country of transport and logistics. For example American and Japanese companies will be less likely willing to invest which will result in a net aggregate loss of +/- 200 million Euros;
- There will be shipping companies that will choose for different harbours in Europe, representing 1.347,000 containers that equal a net total present value of +/- 550 million Euros;
- The reduction of harbour activity will be accompanied in the reluctance to invest in the harbour of Rotterdam, which will result in a loss of investments of +/- 2,5 billion a 3,8 billion Euros; assuming that the amount of investments will decrease as much as the number of containers.

The study NS conducted into the effects of the Betuwelijn was done as a part of the ‘Trace/MER’ procedure, as indicated before. However, the then current cabinet decided that the PKB – procedure\footnote{The alleged reason to deviate from the ‘TraceMER’ procedure to the ‘PKB-procedure’ is the increased mandate the central government has under the ‘PKB- procedure to speed up the decision making process and to be better able to deal with local resistance with respect to the Betuwelijn (CDa, 2004,p.48).} see appendix F) was applicable for the Betuwelijn (CDa, 2004, p.37).

The cabinet at that time received a lot of criticism on the quality with which the PKB- procedure was done; this criticism mainly came form several bureaucracies. This criticism was especially vented in the ‘Interdepartmental Commission for Structural Economic improvements’ (ICES) and the ‘Commission for National spatial Planning’ (RPC) where the MPTW was challenged by the MoF and...
the ‘Ministerie van Algemene Zaken (MAZ) (CDa, 2004, pp.48-49). The MoF and the MAZ claimed that there was not enough knowledge about the economic effects of the Betuwelijn and the feasibility of other alternatives also considering the costs of the cabinet’s preferred alternative were already higher then initially indicated. The cabinet defied the critique and continued the PKB- procedure but agreed that additional research should be done to justify the feasibility of the project (CDa, 2004, p.63): Three studies should bring more clarity into the financial and economic effects of the Betuwelijn (CDa, 2004, p.70):

1. Research into the costs and benefits, involved uncertainties and risks (a cost audit) which was done by Lloyd’s Register and the engineering branch (‘bouwdienst’) of the MTPW.
2. A macro economic and a cost – benefit analysis of the effects of the Betuwelijn which was done by Knight Wendling;
3. And a research into the market potential of freight transportation via rail which was done by Mckinsey.

The first cost audit (see pointer 1) was done in 1992 by NS cargo at the time of the ‘TraceMER’ procedure. The costs of the by the cabinet preferred variant were then estimated at around 2 billion Euros with a level of uncertainty of 20 %. This cost audit included a container terminal in the province of Gelderland and a connection with a marshalling yard at Kijfhoek, but did not include the improvements on another part of the track (Havenspoorlijn). The audit of Lloyd’s register and the ‘Bouwdienst’, which does not include the marshalling yard and the container terminal, indicate the costs at around 2,2 billion Euros at a level of uncertainty of 15 %. This research consortium, however, does not come up with any scenarios that could cause a large diversion from their costs indication of 2,2 billion Euros (CDa, 2004, p.71).

The research on the macro economic effects that Knight Wendling conducted (see pointer 2) was not very broad in its scope since Knight Wendling was limited in their assignment by the MTPW to only investigate the differences in effects between constructing the Betuwelijn and doing nothing (CDa, 2004,p.73). Knight Wendling indicated that the international freight transport would be not existent through the Netherlands, when the Betuwelijn would not be constructed. The total freight transport volume via railways would then amount to approximately 5 million tons. This scenario equals the scenario that was made by NS cargo during the ‘TraceMER’ procedure to estimate the economic effects of not building the Betuwelijn. This scenario, made by the NS and used again by Knight Wendling, was not backed up by any analysis. Knight Wendling did also use the same assumptions as the NS did in their scenario in which the Betuwelijn is constructed; the volume of freight transport via rail would amount to 65 million tons. Also, this presumed amount of freight was not backed up by any analysis. Besides these two scenarios, Knight Wendling did not calculate a worst-case scenario. Sensibility analyses, however, were performed on the two scenarios that Knight Wendling did calculate but those analyses were performed in isolation from each other. This means that the combined effects of different values of the parameters were not estimated. In the end, Knight Wendling concluded that not building the Betuwelijn has severe negative macro economic effects for the Netherlands (CDa, 2004, p.75):
• A loss of 40000 till 50000 jobs in 2010;
• +/- 15 billion till 23 billion Euros loss of net constant value until 2010;
• +/- 3.6 Billion till 5.5 billion Euros tax losses

Mckinsey was asked in 1992 by the MTPW to conduct an evaluation of whether it is possible to have the Betuwelijn commercially exploited (see point 3). As opposed to the Macro economic studies of Knight Wendling and the CBS, Mckinsey has to define “markets, products and the competitive position the railway company can acquire when considering product- market combinations” (CDa, 2004, p.77). The costs and tariffs of transporting freight via rail and transporting freight via competing modalities are central concepts in this study. In their study, Mckinsey used a best cost scenario in which they assumed that the rail freight transportation company (the NS) would be operating at maximum efficiency in a liberalized market. Mckinsey claims that this assumption would only be viable if the “commercial, logistic and administrative performance” of transportation via rail and water will improve. The current problems that withhold efficiency in freight transportation via rail and water according to Mckinsey were (CDa, 2004, p.85); (1) “there is no door- to- door container product, (2) the management of the logistical chain is too fragmented and (3) the cooperation between different rail transport companies is not optimal within Europe to allow for an efficient operation. Mckinsey is positive about the commercial exploitation of the Betuwelijn if the previously stated conditions hold. The positive result of this study thus depends on the likelihood of these conditions being met. In their report, Mckinsey did not say anything about the chances of this scenario occurring (CDa, 2004, p.108).

Public officials from the ministries which were involved with the Betuwelijn reviewed the three reports (Lloyd Register, Knight Wendling and Mckinsey’s reports) almost immediately after these they were finished. The reports and the public officials’ findings were discussed again in the ICES. After some deliberation, the ICES decided that the macro-economic study done by Knight Wendling was not sufficiently corroborated: The ICES thus asked the CPB171 to review Knight Wendling’s study. This critical posture was for the most part the result of the MoF, which was very sceptical about Knight Wendling’s research (CDa, 2004, p.91).The CPB, in its second opinion on, used two macro economic scenarios, which were based on the data that Knight Wendling used as input variables172 for their research. The CPB holds that a number of the effects that Knight Wendling indicates as direct effects of the Betuwelijn cannot be attributed to the Betuwelijn as such; for example, Knight Wendling attributed positive “image-effects” directly to the Betuwelijn. The economic benefits of the Betuwelijn are significantly lower when CPB corrects for these effects but are still positive; the constant value of benefit of the Betuwelijn equals 3.4 Billion Euros in the one and 5.8 Billion Euros in the other scenario. The CPB thus still is positive about the Betuwelijn, however the effects are considerably lower compared to the results of Knight Wendling. The second opinion CPB gave did not challenge the fundamental assumptions used by Knight Wendling.

171 The CPB is the national governmental research institute doing statistical analyses.
172 The CPB did not challenge the underlying transport estimation as the where made by Prognos, Kessel and NEA since they were not asked to do so (CDa, 2004, p.96).
After the PKB1 (see appendix B) was made available for public inquiry, all the reactions from various organizations were bundled in PKB2 and the studies by Lloyd Register, Knight Wendling, Mckinsey and the CPB were published and reviewed, the cabinet made a preliminary decision on the Betuwelijn. The ICES and the RPC again reviewed the cabinet’s decision before the cabinet made their final decision public in the PKB3 about whether to build the Betuwelijn and, if so in which variant. The ICES and RPC are both almost completely positive\textsuperscript{173} on the cabinet’s proposed variant of the Betuwelijn. The cabinet in the end regards the various reports and advice as a sufficient endorsement for the decision to have the Betuwelijn build\textsuperscript{174}; the cabinet sent its decision, the PKB3, to the parliament on the 14\textsuperscript{th} of May 1993. Members of parliament now have to form their opinion on whether to vote in favour or against the cabinet’s proposed variant of the Betuwelijn. This is certainly not an easy task since many reports have been published since the Betuwelijn appeared on the political agenda (see front cover picture). The parliamentary commission for MTPW decided to have an external institute perform a review on the cabinet’s decision to have the Betuwelijn build in the proposed variant. Another reason to have an external institute conduct a review, besides the argument that there was too much material to review for members of parliament, was given by Member of Parliament Feenstra:

*Mr. Feenstra:* “the research done by the cabinet is mainly done from one perspective; the perspective of the NS and the MPTW (…) the parliament will have an independent research conducted if there are question about this (CDa, 2004, p.118).

Twijnstra Gudde\textsuperscript{175} was chosen by the parliamentary commission on the MTPW to conduct a review of the decision of cabinet in terms of its “completeness, correctness, consistency, clearness and its quality” (CDa, 2004, p.119). The results published by Twijnstra Gudde indicated the institute’s scepticism about the decision of the cabinet. The report notes that only the ‘kwaliteitsscenario’, the most positive scenario made by the NS, has been used in the PKB3, while the NS also calculated a less positive scenario. The report also indicated that the studies the cabinet used to endorse its decision (e.g. the study by Knight Wendling, the CPB etc.) are based on assumptions concerning the modal split and the increase in transport volumes, which are unclear. Concerning the report of Mckinsey the cabinet used, Twijnsta Gudde commented that the positive estimations of Mckinsey concerning the market potential of freight transport via rail could only be a reality under a number of conditions. The cabinet however did not take the likelihood of a situation in which those conditions were not realized very seriously by assuming that those conditions will be met (CDa, 2004, p.122). Despite the concerns of Twijnsta Gudde, the minister of TPW, Maj-Weggen, concludes the following during her discussion with the members of parliament:

\textsuperscript{173} The ICES dubs the decision to build the Betuwelijn economically viable and strategically sound given the information available. The RPC is also positive but remarks that some societal interests vented by various organizations during the PKB2 were not honored in the cabinet’s proposed variant (CDa, 2004,p.103).

\textsuperscript{174} The cabinet concludes that the decision to build the Betuwelijn, taking sustainable development into account, is important for the sustainable and economic development of the Netherlands from a macro economic- and environmental perspective. The cabinet’s reasoning in the PKB3 is almost similar to its reasoning in the PKB1 (CDa, 2004, p.105).

\textsuperscript{175} Twijnstra Gudde is a Dutch Consultancy firm.
Mrs. Maj-Weggen: “All the advice indicates doubts and certainties. Let us be honest about that. However, all the advice indicates one conclusion: do it” (CDa, 2004, p.129).

Illustration 5.1 Gert Leers (CDA), standing next to reports made concerning the Betuvelijn (CDa, 2004, p.117)

Twijnstra Gudde’s critique of the cabinet’s decision and the reports on which it is based, resulted in new doubts about the macro economic viability of the Betuwelijn. The discussion in the parliament concerning this point did not come to a final conclusion however: The political points of view were starkly polarized within the parliament; the coalition parties CDA and PVDA were in favour while the opposition parties were against the proposal to build the Betuwelijn in the proposed variant. In the end, the majority of the parliament (PVDA and CDA) voted in favour.

Another discussion that got a lot of attention was the discussion concerning the possibility to build the Betuwelijn (in parts) under the ground. The cabinet indicated during the presentation of the PKB3 to the parliament, despite the wishes from the provincial governments, that this option is not up for consideration. The cabinet indicated that the necessity to build the Betuwelijn fast left no room for technological experimentation with unproven technologies. A committee (SOVI) instituted by the cabinet to research the possibilities of alternative ways to build the Betuwelijn indicated that the alternative to build the Betuwelijn underground would take +/- 8 years and would cost somewhere in between 6 and 9 billion Euros. The provinces, however, decide to have their own research conducted
concerning the possibilities to have the Betuwelijn build under ground; they hire ISDS\textsuperscript{176} from Delft. Their report, which is published at the 13\textsuperscript{th} of May, concludes that it is possible to have the Betuwelijn build under ground and that the costs will amount to approximately 2,5 billion Euros (CDa, 2004, p.111). The report made by ISDS is not very favourable to the position that the cabinet took in the PKB3 since the results are totally different from the results that the SOVI came up with. Minister Maj-Weggen decided to institute a committee to evaluate the result of the report made by ISDS. Van Engelshoven who at that time was the president-commissioner of ECT chaired the committee – the committee Van Engelshoven. The study was finished on the 30\textsuperscript{th} of August 1993 and presented to the parliament. May – Weggen concludes that the committee’s research confirmed the SOVI’s conclusions that it would be too expensive and too time consuming to have the Betuwelijn build underground. The provinces did try to convince the minister and the parliament one more time: the province of Gelderland worked together with Obayashi and a number of Dutch companies that have tunnelling and other engineering capabilities. The result of this cooperation was another report in which the conclusion was reached that the Betuwelijn could be build underground for approximately 4,5 billion Euros. The reports financed by the provinces did not lead to any change in the plans of cabinet despite the parliamentary debates (CDa, 2004, p.113). Provincial deputy of Gelderland, de Bondt, commented the following on this debate:

\textbf{Mr. De Bondt}: “The MTPW had the attitude of not wanting to seriously consider different alternatives (...) We were fed with several ideas or opinions by several groups within the society (...) Any alternative that we brought up was calculated to be extremely expensive. I remember that Maj – Weggen told us – during a public hearing - that the alternative to have a tunnel build would amount to +/- 12 billion Euros (...) Three months later the same alternative was calculated by the same minister to be approximately 6 billion Euros. They were playing with numbers. For example, we got no answer if we wanted to know how big the elevation has to be to enter a tunnel. Necessary information to calculate an alternative was not provided (...) (Cda, 2004, p.115).

5.6.4.2.2 The production of knowledge during the third governmental period (1994-1998)

The Betuwelijn seemed a political formality once the parliament had approved the PKB3, however the process took an unexpected turn after the elections on the 3\textsuperscript{rd} of may 1994;the political majority which was in favour of the Betuwelijn (PVDA and CDA) vanished during the elections. The CDA and the PVDA lost many votes; however, the PVDA remained the biggest political party. The VVD and D66 who were not in favour of the cabinet’s proposed variant of the Betuwelijn won significantly. The new governing coalition consisted of PVDA, VVD and D66. During the negotiations, the Betuwelijn became a major discussion point since it was politically almost impossible for the VVD and D66, given their previous point of view, to be in favour of the Betuwelijn. The political compromise that followed from this was that the decision to build the Betuwelijn was postponed but not recalled; the new cabinet decided to install a commission, the commission Hermans, to re-evaluate the Betuwelijn. The cabinet has assigned the commission to do the following (CDa, 2004, p.157):

\textsuperscript{176} ISDS is a foundation specialized in underground building / tunneling and is chaired by Professor Hoorn (CDa, 2004, p.111)
1. Pass judgment on the necessity to build the Betuwelijn;
2. Give advice on possible better and finance-able alternatives to the Betuwelijn;
3. Pass judgment on the design of the Betuwelijn as it was proposed by the former cabinet

In order to fulfil this task it was crucial that the commission gained knowledge about the current capacity of the railway network. The MTPW gives the assignment to calculate the current capacity of the rail network to Mckinsey and both parties agree on having Railned providing Mckinsey with data the necessary to complete the task. The exact formulation of the research questions Mckinsey had to answer were as follows:

1. “What are the expected future amounts of freight transported via rail?
2. How much rail infrastructure is needed to accommodate this amount?
3. What are the current problem areas in the rail transportation network and what are the options to solve those?”

Despite being contractually obliged to supply the data, Railned did not fulfil its task completely: the information that was supplied was incomplete and arrived late during Mckinsey’s research. The MTPW, however, did not encourage Railned to cooperate with Mckinsey according to the commission Duivesteijn (Cda, 2004, p.204). This resulted in delays concerning McKinsey’s research. The commission Hermans initially wanted to wait for the result of Mckinsey, however, the minister of TPW closed off the research of McKinsey before they could finish their research. As a result, McKinsey only reported the first two phases of the research178 to the MTPW. In the end, the commission Hermans decided to disregard the results of McKinsey and to use the calculations made by Railned to form their final opinion on the Betuwelijn. The conclusion reached by Railned came down on the following: “it is technically possible to support the future estimated freight transport via rail on the current rail network, however considering safety and nuisance standards this capacity will drop considerably, especially at night”. Railned adds to this conclusion that by claiming this it did not even consider the capacity that needs to be reserved to enable maintenance to be done. Based on these arguments, the commission Hermans concluded that the estimation of the current capacity of the rail network by Mckinsey, which was far more optimistic compared to the estimations of Railned, could not be realized179 (see CDa, 2004, p.171 for the difference in assumptions between Railned and Mckinsey). Concerning the option to have the Betuwelijn built in different phases the commission Hermans concluded “despite the fact

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177 Railned just like Railinfrabeheer and NS cargo are full daughters of the NS (CDa,2004,p.180)
178 The project director for the Betuwelijn representing the MTPW sent a letter, signed by the director-general and the Minister of TPW to the commission Hermans on the 29th of December 1994 on the parts of McKinsey’s research that were completed. The project director claims that McKinsey’s results concerning what they estimated as the maximum amount of volume can be seen, in some positive instances, as the minimum amount of volume. McKinsey estimates that 31 million tons can be accommodated by the current railway network. The commission Hermans, based on the calculation provided by Railned, concludes that 15 million would be a more realistic figure (CDa, 2004, p.179). This 15 million is dubbed the environmental capacity of the current network by the commission Hermans. The commission adds that investments comparable to building the Betuwelijn are necessary to raise the environmental capacity of the Betuwelijn to acceptable levels, thereby eliminating the current network as an option to accommodate estimated future growth in transportation needs.
that this option could generate a considerable capacity\textsuperscript{180}, it would also create relative high environmental costs in some urban areas”. Based on these two considerations and the idea that the Betuwelijn would yield considerable positive environmental effects compared to other proposed variants, the commission Hermans advised the cabinet, on the 23rd of January 1995, to have the Betuwelijn build. The commission Hermans, however, did not back their positive opinion on the Betuwelijn up with macro economic calculations. Because this lacked in the commission’s verdict, the cabinet decided to have the CPB do another macro economic evaluation of the Betuwelijn. On the 2nd of March 1995, the CPB sent a preliminary sketch of their findings to the ICES. CPB’s conclusion is that it has become extremely dubious to prioritize the construction of the Betuwelijn since (1) the costs have been escalating since the beginning of the decision-making procedure and (2) the capacity on the current rail network is bigger than originally estimated in 1993. The CPB summarized their opinion thus (CDa, 2004, p.194):

“The chances that an alternative investment is better for the economy are increasing due to the rising break even points (the freight necessary to come to a societal viable Betuwelijn) (…). Based on this we must say that the central conclusion from WD-52\textsuperscript{181}, that the Betuwelijn is an economically viable investment even under conservative assumptions, do not hold any more considering the current information”.

The CPB also regarded the variant to build the Betuwelijn in different phases as more hopeful than the commission Hermans did. The new conclusion reached by the CPB is, however, not very well received in the ICES: The ICES claimed that the report made by the CPB can be ‘very dangerous’ since organizations that oppose the construction of the Betuwelijn could immediately use it to their advantage. In the end, the conclusions reached by the CPB were not taken seriously by the minister of TPW, public officials from several departments and also the parliament (CDa, 2004, p.194). The cabinet, following the advice of the commission Hermans, formulated their decision to have the Betuwelijn build on the 13\textsuperscript{th} of April 1995 and sent it to the parliament. The discussion within the parliament is mostly focused on policy possibilities to mitigate the negative externalities associated with the Betuwelijn and the policy options that would encourage the modal shift in favour of transport via rail. During the discussion the cabinet agreed upon budgeting another +/- 400 million Euros for the mitigation of the externalities as a result of wishes of the coalition parties VVD and D66 (CDa, 2004,p.205). The majority of the parliament in the end agreed with the cabinet’s point of view on the Betuwelijn.

The reports made to support the commission Hermans’ verdict were not the only reports that were made during the third governmental period; several other reports are noteworthy as well: (1) the research done by NYFER into the economic effects of the Betuwelijn and (2) the research conducted by university of Erasmus economist Muller (1994) and (3) studies done by TNO – INRO and RIVM into the environmental effects of the Betuwelijn. The research done by research institute NYFER, which

\textsuperscript{180} The research with regards to option to have the Betuwelijn built in different phases was done by DHV and Twijnstra – Gudde. The conclusion were that a capacity of 20 to 38 million tons could be generated for a total amount of investment equaling +/- 2,5 to 3,5 billion euros.

\textsuperscript{181} WD-52 (‘Werkdocument’ 52) is a report made by the CPB on the macro economic viability during the PKB procedure of the Betuwelijn.
was founded by economist Bomhoff, was sponsored by the GHR\textsuperscript{182}. The GHR thereby was the launching customer of NYFER (Boom & Metze, 1997, p.112). Bomhoff (1995) reaches the conclusions that a +/− 4,5 billion Euros investment in the Betuwelijn would yield a positive effect on the economy. He claims that the CPB was too conservative in their report in 1993 (WD-52); the wage escalating effects the Betuwelijn would create were too prominent in their research resulting in lower estimations of the benefits. The report holds that the return on the investments in the Betuwelijn would come down to 600\% (CDa, 2004, p.188).

The research conducted by economist Muller (1994) was done out of professional curiosity. In the fall of 1994, right before the commission Hermans started; Muller\textsuperscript{183} questioned the macro economic viability of the Betuwelijn as it was estimated by the CPB in 1993. Professor Muller reached the following conclusions concerning the macro economic viability in his research thereby severely criticizing the earlier report made by the CPB (WB-52):

- The construction of the Betuwelijn will lead to considerable economic losses for the Netherlands; total costs (private and public) will amount +/− 17 billion Euros;
- Some costs and benefits are not or incorrectly attributed to the Betuwelijn; some parts of the railway are not considered in the total cost figure and many benefits are wrongly ascribed to the Betuwelijn;
- The positive effects ascribed to the Betuwelijn are valued much too high.

The studies done into the environmental effects of the Betuwelijn by TNO – INRO\textsuperscript{184} and RIVM\textsuperscript{185} together and RIVM separately challenged the alleged positive environmental effects of the Betuwelijn. This is controversial since it are the alleged positive effects to the environment that were one of the main reasons why many political parties in the parliament, according to their own statements, voted for the construction of the Betuwelijn in 1993 as well as in 1995. The first report made into the environmental effects was finished in 1994 by TNO – INRO and RIVM together. The researchers of both institutes conclude that reduction of emissions that could be attributed to the Betuwelijn, are not as big as was estimated in the PKB1. RIVM and TNO - INRO claim that the environmental effects are still positive but smaller: a CO\textsubscript{2} reduction between 0-2 \% and a reduction of NO\textsubscript{x} between 1-2.5 \% instead of the reduction in CO\textsubscript{2} and NO\textsubscript{x} of 4\% and 6,6\% respectively (CDa, 2004, p.45). The results of this report, however, were not used during the parliamentary decision making process concerning the PKB3 in 1993 because the report was not available yet. In addition, the commission Hermans did not use the report during the preparation of their advice, since the commission was not provided with the results of the report (CDa, 2004, p.258). One of the RIVM-researchers, Van Wee, published his own article based upon the research done by TNO – INRO and RIVM. Therein Van Wee claimed the following concerning the cost-effectiveness of the Betuwelijn as a tool to reduce emissions:

\textsuperscript{182} The GHR (‘Gemeentelijk Havenbedrijf Rotterdam’) is a municipal bureaucratic organization aimed at regulating Rotterdam Harbor commerce.
\textsuperscript{183} Muller was Professor of economics at the Erasmus University in Rotterdam at that time.
\textsuperscript{184} TNO Inro is a research institute with respect to issues concerning transport, logistics and the regional economy.
\textsuperscript{185} Dutch governmental research institute is responsible for monitoring, and scientific research with respect to public health.
Mr. Van Wee: “If we want to meet the 2010 goal for NOx emissions with solutions with the same costs –
effectiveness ratio as the Betuwelijn, we would need an investment until 2010 of approximately 125 billion Euros
(…) and very stringent NOx emission standards for lorries (…) A very expensive solution in order to meet the NOx
goals” (Van Wee, 1994).

The RIVM conducted another research concerning the environmental effects of the Betuwelijn in
1997 following the research done in 1994 and the article made by Van Wee. This report yielded even
more negative conclusions then the one reached upon in the earlier reports and articles on the
environmental effects of the Betuwelijn. The RIVM concludes that with recent information, the positive
environmental effects are even smaller compared to the estimation in 1994. According to the RIVM, it
is even imaginable that the environmental effects of the Betuwelijn will yield a negative result under
certain conditions:
1. Even more favourable lorry emission factors then previously assumed;
2. Higher levels of energy consumption of freight transport via rail due to higher velocities of the
transport;
3. When indirect levels of energy consumption of the Betuwelijn are attributed to rail
transportation in case of lower levels of usage of the Betuwelijn then estimated and/ if
4. The modal split from road to rail is not occurring.

5.6.4.2.3. Other strategies employed by the relevant bureaucracies

Other apparent strategies that the bureaucracies benefiting from the Betuwelijn conducted can be
categorized as follows: (1) inviting members of parliament to convince them of the positive effects of
the Betuwelijn and (2) pressuring critical influential members of society. One of the most apparent
instances in which an influential member of society was pressured was during a congress organized
by the VLOB and NIROV at the 10th of October 1993. Professor Pols was one of the speakers and
was very critical of the decision to build the Betuwelijn. He summarized his position as follows:

Mr. Pols: “The Betuwelijn had all the hallmarks of what in the literature is called a planning disaster: a project
running out of control because of a systemic underestimation of the costs and overestimation of the benefits (…)
I indicated that the budget could increase to approximately 6,5 billion Euros. No attention was paid to this
possibility. Besides that, I criticized the lack of a strategic consideration and a number of instances of wishful
thinking. I had a lot of appreciation for the report made by Twijnstra Gudde. The only conclusion was that the
studies done were not valid and that all the work had to be done again. However, the MTPW was able to present
a positive viewpoint to the parliament. It said that all the reports made indicated one course of action, which was
to do it. I could not find that conclusion anywhere in those reports and I think no-one could. I even indicated that
presumed positive environmental effects would be almost non-existent or even negative. (…) The positive
conclusion was not founded (CDa, 2004, p.132).

186 The strategies summed up here are taken from the Wildavsky’s (1964) discussion of the politics of the
budgetary process in the United States (pp.118-119; p.65).
187 NIROV is a research institute which deals with issues concerning spatial planning and public housing (CDa,
Professor Pols was invited by secretary-general Van der Plas to pay a visit to the MTPW to discuss his critique on the decision to build the Betuwelijn. Professor Pols commented the following on the meeting:

Mr. Pols: He (Van der Plas) indicated that my reaction was not well founded and totally irresponsible (...) Van der Plas was surrounded by the four of the most important economists of the ministry, which were at the same time the heads of several departments within the ministry. They indicated that I, being a professor at the TU-Delft, should not criticize such an important project, but that I had to make a constructive contribution. They also indicated that my criticism was not justified (...) “how could you do this? This is ridiculous. Didn’t you read the reports”? (Cda, 2004, p.132).

Besides this instance of the strategy of intimidation, there have also been instances in which relevant bureaucracies tried to convince members of parliament of the necessity of the Betuwelijn. Three instances are discussed here; (1) the attempt of the NS and MTPW to influence the formation process with respect to the Betuwelijn in 1993 and (2) the study trip organized by the GHR for members of parliament and journalists.

The NS and the MTPW got worried that after the elections in 1993, the decision-making process concerning the Betuwelijn would get delayed significantly (Boom & Metze, 1997, p.98). In May of that year, during the initial phase of the formation process, the director of the NS, Rob den Besten, sent a letter to Van Aardenne – one of the key persons in forming the new cabinet – urging her to prevent any delay in the decision-making process concerning the Betuwelijn. The GHR at that time organized a field trip for members of parliament and journalists to Germany and Switzerland. The goal of that trip was to make the participants aware of the growing local resistance of the expanding freight transport via the roads and to inform them of the plans of rail transportation. According to Boom & Metze (1997, p.98), the participant were bombarded with presentations and were offered a helicopter trip along the envisioned Betuwelijn. Parliamentary member Blaauw (VVD) was invited later on by the GHR (Gemeentelijk Havenbedrijf Rotterdam) and was send freight transportation forecasts that endorsed the necessity of the Betuwelijn (Boom & Metze, 1997, p.98; Pestman, 2001, p.121).

5.6.5 Conclusions concerning the bureaucratic behaviour

In this paragraph, the institutions relating to the interaction between bureaucracies, politicians and voter groups have been discussed, as they exist in the Netherlands. Three types of institutions have been reviewed that govern those interactions; (1) the budgetary process and (2) the committee system that governs the interaction between bureaucracies and politicians and (3) the system of public inquiries that governs the interaction between bureaucracies and voter groups. In the theoretical section of this paragraph, two opposing models relating to bureaucratic behaviour - the traditional and the congressional dominance view – have been put forward. The traditional view highlights the agency problems that the political actors experience due to the superior bargaining position a bureaucracy has. The congressional dominance view stresses that the threat of ex post sanctions creates ex ante incentives for a bureaucracy to serve interests represented by several groups in society. Both approaches are in line with the observations that there is little political oversight on bureaucratic operations during periods of stable policy. However, during periods of policy change, such as the
decision making procedure concerning the Betuwelijn, the opposite would be true. There was relatively much political involvement into the operations of the bureaucracy. The legislative model of Weingast and Moran (1983) explains the mechanisms by which this involvement takes place; they argue that their exist institutions such as the committee system that allow politicians to exert influence on bureaucratic operations.

The model’s application to the policy situation of the Betuwelijn is possible since there are enough a priori reasons to assume that the committee system, as it exist in the Netherlands, would not lead to significant different behaviour of the relevant political and bureaucratic actors. The bureaucratic operations change at the moment that public opinion aimed at change is communicated through the various institutions. Those institutions concerning infrastructure projects in the Netherlands include obligatory public hearings related to the ‘TraceMER’ and the PKB procedure and public hearings the PCTPW can hold. The Betuwelijn appeared on the political agenda after the criticism that was vented during the public hearing of the SVV2a. The decision to make the PKB – procedure applicable to the Betuwelijn came after the public hearing the NS held relating to the ‘TraceMER’ procedure; the cabinet centralized after the NS enraged local public opinion. The extra mitigating measures that the cabinet incorporated as part of their final decision to build the Betuwelijn, were also the result of public hearings held by the PCTPW. The cabinet originally – in the PKB1 and the PKB3 – opted for a minimal design of the Betuwelijn, but agreed with the wishes of the coalition parties PVDA and CDA concerning the mitigating options. The commission Hermans was instituted to re-evaluate the decision to build the Betuwelijn after the political landscape changed in during the election of 1994. The commission, among other activities, talked to several actors like the VLOB and finally recommended that extra mitigating measures are necessary. These extra mitigating measures were necessary to get the new coalition parties VVD and the D66 to agree. Also the eventual installation of the commission Duivesteijn can be seen as the result of the worsening bureaucratic performance with respect to mega project development; the more budget has to be allocated there, the less can be allocated in other policy areas, which are also of electoral importance.

These instances verify the hypothesis that the changes in the cabinet’s policy proposals concerning the Betuwelijn are the result of public opinion communicated through bureaucratic and political institutions (procedural public hearings and hearings done by the PCTPW). These are the institutional mechanism, as they exist in the Netherlands that keep bureaucratic behaviour in line with the political interests.

The bureaucracies that were going to benefit from the Betuwelijn in terms of budget and/or scope of authority have used strategies to maximize the likelihood of getting the Betuwelijn build. The primary beneficiaries188 of the Betuwelijn, for example the MTPW and the NS, produced knowledge or have knowledge produced by other institutes that are biased in their assumptions and calculations towards the favourability of the construction of the Betuwelijn. Organizations or individuals, whether bureaucratic or private, which have produced knowledge and are not directly beneficiaries of the construction of the Betuwelijn, for example Twijnstra Gudde, economist Muller and the CPB, have been extremely critical of the construction of the Betuwelijn and the reports that endorsed that

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188 Beneficiary in terms of the expected increase in budget and scope of authority (see chapter 5.2)
decision. It therefore seems impossible to conclude that the knowledge that has been created by the direct beneficiaries of the Betuwelijn has been directed at supporting an investment decision as good\textsuperscript{189} as possible. That knowledge rather functioned as a means of shifting the political power balance in favour of the construction of the Betuwelijn. Other strategies aimed at expending this power base have also been used by benefiting bureaucracies.

5.7 Public Choice conclusions concerning the Betuwelijn

As indicated in chapter 3, public choice theory or the theory of political allocation parallels the theory of markets. Both in private choice as in public choice actors are assumed to pursue their own rational self-interest through the interaction with one another. Public choice however differs from private choice because of institutional differences that exist between the two. The first institutional difference that is discussed in this chapter concerns the mechanism of political allocation (e.g. voting and political representation) and the way it differs from market mechanisms. Olsen’s theory concerning the logic of collective action (1965) offers a framework of interest group formation, which demonstrates that small or pre-institutionalized groups are more likely to exert influence on the political actors. Because certain groups are more likely to form then others and thus reveal their preferences, these groups enjoy a disproportionate share of the political benefits. A support maximizing politicians welcomes the revelation of preferences by members of society since it serves as a reduction mechanism for the uncertainty that exists about the preferences of the members of society. Down’s (1956) economic theory of democracy shows that it is rational for both politicians and interest groups to enter into an exchange relationship: interest groups get favourable public policy while politicians profit from the preference revelation and interest groups’ capabilities to shape public opinion. Knowing what members of society want and having ways to influence their opinion about certain policies pursued by the government are necessary elements to the calculus of maximizing the likelihood of getting (re) elected. Interest group demand for specific policies cannot be simply translated into legislative outcomes since it ignores the political institutions through which that legislation is provided. The Netherlands is a parliamentary democracy, which means that any legislative proposal a cabinet makes, has to be approved by the members of parliament. The members of the cabinet are representatives of the political parties that have a majority in the parliament, in this way it is institutionally secured that policy proposals have a significant chance of getting approved. Despite this, every Member of Parliament is expected to act on his or her own insights in being a check on the government as a representative of the people; this imperative is expressed by the term dualism. However, despite parliamentary reality seems to be quite different; instead of dualism there is a strict party discipline. For political parties and their representatives that are a part of the governing coalition, this means that there is little room to vote against what is formulated in the governmental accord. The governmental accord thus can be described as a sort of informal contract between the coalition parties about the policy proposals that are acceptable for all parties within the coalition. Thus, one can say that in the Netherlands interest group demand for specific policies gets translated into the governmental accord. The details of the several proposals in the governmental accord are most of the

\textsuperscript{189} Good with respect to the alleged effects on the economy, society and the environment.
time worked out during the period in which the then current cabinet has the exclusive right to formulate policy proposals. These ‘details’ are then mostly the subject of parliamentary discussions. This, however, does still not offer the complete explanation of the patterns of resource allocation through the political market place. The last missing link is the bureaucracy – being responsible for the implementation of approved legislation - and its interaction with the politicians and the interest groups. There are two alternative models that explain bureaucratic resource allocation: (1) the traditional view and (2) the congressional dominance view. The traditional view explain the observations concerning the lack of apparent political oversight on bureaucratic behaviour as a result of the superior bargaining position the bureaucracy has with respect to its political overseers. The congressional dominance view, which is also in accordance with the previously stated observations, stresses that the political actors control the bureaucracy through a set of ex post sanctions that function as ex ante incentives for bureaucracies to serve the relevant interest groups. Weingast and Moran’s model of legislative choice extends the congressional dominance view by highlighting the mechanism through which the public opinion gets communicated. In the Netherlands public opinion concerning infrastructure projects such as the Betuwelijn gets communicated through institutions such as the by law obligatory public hearings related to the ‘TraceMER’ and ‘PKB’ - procedures and public hearings facilitated by the Permanent Committee Transport and Public Works (PCTPW). In times of significant policy change, such as the proposal to build the Betuwelijn, these public hearings are omnipresent allowing the political actors to have a tighter grip on bureaucratic behaviour.

In sum it can be concluded that the public choice provides an accurate explanation of mega project budget overruns in general, it certainly proofs to be an accurate explanation of the budget overrun of the Betuwelijn: interest groups that benefit from the policy proposals such as the Betuwelijn reveal their preference to the relevant politicians through formal and informal institutions. Through organizing and communicating their preferences these interest groups, of which NDL was one of the most important examples, gain a disproportionate leverage over the benefits in this area of policy. In the case of the Betuwelijn this amounted to a publicly financed railway line that connects the port of Rotterdam with the German mainland. In the course of the parliamentary process and the legal procedures as they are institutionalized in the Netherlands, the initial proposal to build the Betuwelijn takes shape; new interest groups such as the VLOB and the SNM emerge that try to communicate their preferences to the cabinet and the members of parliament. The ‘pro-Betuwelijn’ interest groups, however, held a significant advantage over the ‘contra-Betuwelijn’ interest groups because of their early involvement in the decision making procedures, their subsidized activities and better institutionalized positions in terms of shorter lines of communication with the relevant politicians. Since (1) every tax paying citizen in the Netherlands is contributing to the construction of the Betuwelijn but is not able to effectively express its preference concerning the Betuwelijn and (2) since it is not rational for the decision making actor (the political actors) and the actor which implements the previous decision to concern themselves primarily with optimizing the return on investment ratio of the Betuwelijn, it follows that budget overruns are likely to happen to those mega projects that are financed and planned through the public sector.
6. Theory Choice: rivalling theories put to the test

“IT IS NOTHING MORE THEN A MORAL PREJUDGMENT THAT TRUTH IS MORE VALUABLE THEN FICTION; IT IS EVEN THE WORST ESTABLISHED PROPOSITION IN THE WORLD. LET US ADMIT THE FOLLOWING TO OURSELVES: LIFE IS ONLY POSSIBLE BASED ON PERSPECTIVE GUESSES AND DEGREES OF TRUTH LIKELINESS; AND IF ONE ERADICATES... THE ‘FICTITIOUS’ WORLD IN TOTAL... THEN THERE WILL BE NOTHING LEFT OF THAT ‘TRUTH’ OF YOURS” (Nietzsche, 1886, p.44).

“There is a peculiarity with the ‘truth’ and the search for the ‘truth’: if a human being does it in a ‘human’ way – ‘il ne cherche le vrai que pour faire le bien’ – I guess that he wouldn’t find anything!” (Nietzsche, 1886, p.45).

6.1 Introduction

In this chapter, the rivalling theories that remain after the discussion in chapter 1, chapter 3, and chapter 5 and 6 and are put to the test. The criteria to distinguish between the theories with respect to which one is ‘best’ have been established in chapter 2 by means of a review of the philosophy of science literature. Empirical material that has been collected in the previous chapters will be used to see how the rivalling theories, hold up in terms of their predictive adequacy (paragraph 7.2). In paragraph 7.3 it will be concluded which theory is regarded to be the best according to the criteria established. The following research question should thus be answered in this chapter:

What is the best theory, among the rivalling theories to explain the phenomenon of budget overruns and to be the basis of a new design, which can be implemented in the Netherlands in order to minimize the likelihood of future mega project budget overruns?

6.2 Rivalling theories put to the test

During chapter 1 and chapter, a number of theories have already been disregarded with respect to the phenomenon of mega project budget overruns. This paragraph deals with selecting the best theory – according to the philosophy of science criteria established in chapter 2 - among the remaining theories. The remaining theories include: (1) the ‘parliamentary’ explanation, (2) the explanation concerning the ‘lack of institutional mechanisms that enforce accountability’, and (3) the Public Choice Theoretical explanation.

6.2.1 The parliamentary explanation

The commission Duivesteijn explained the budget overrun of the Betuwelijn and the HSL – Zuid in terms of the inability of the Dutch parliament to provide an adequate check on the decision-making procedure concerning large infrastructure projects. The commission claimed that there are structural causes that hinder the parliament to fulfil their role as a check on the Dutch Government concerning mega projects. Three areas need improvement according to the commission to meet that end: (1) The possibilities of the parliament to direct decision making and to be able to control the policies of the government need to be aligned better with crucial decision making stages concerning mega project decision making, (2) the quality of the information that the parliament receives needs to be more

\[190\] He searches the ‘truth’ in order to do the ‘good’.
accurate and (3) the parliament’s ability to process information needs to be improved. The commission Duivesteijn recommends a new institutional framework for parliamentary decision making concerning mega projects to enhance parliamentary oversight.

This institutional framework however assumes a “self-conscious” and “dualistic” way of parliamentary action. The empirical material collected in the Public Choice analysis however shows that the parliament does not behave dualistically which in effect makes the recommendations made by the commission Duivesteijn less likely to be effective. There is good reason why a parliament does not behave dualistically since the democracy itself would be much more instable in its operation. Coalition parties that share the right to make policy for a period of four years negotiate which policy items will be pursued within that period. It is rational for those parties to make agreements among each other concerning which of their original parts of their political program they want to pursue and which they want to leave out. This agreement is called the ‘governmental accord’, which thus contains in general terms what a new government will be pursuing in the coming governmental period. The cabinet thus counts on coalition parties in the parliament to vote in accordance with the governmental accord, which in reality often happens. The prediction of the Commission Duivesteijn with relevance to mega project performance – by implementing a new institutional framework, better decision-making procedures will result in infrastructure projects that are less likely to budget overrun - hinges on the ‘dualistically’ behaving politicians, which in reality is not occurring.

6.2.2 The lack of institutional arrangements that enforce accountability

Flyvbjerg et al (2003, p.91) argue that the conventional approach, which is used in most nations and contexts, is not the appropriate institutional framework for the appraisal and development of mega projects. An appropriate institutional framework, namely a framework that would provide for transparency and other checks and balances to enforce accountability, does not exist for the development, planning, implementation and operation of mega projects according to Flyvbjerg et al.

Flyvbjerg et al (2003, p.91) identify three main institutional deficiencies with the conventional approach: (1) Under-involvement of the general public and of other stakeholder groups concerned by outcomes and the over involvement of business lobby groups, (2) lack of identification of public interest objectives to be met by projects and (3) lack of clearly defined roles for government and involved parties; the government consequently plays a host of roles (both promoter of a project while using public money and guardian of the public interest), which are according to Flyvbjerg et al conflicting. According to Flyvbjerg et al this lack of accountability in the appraisal and development of mega projects is characterized by the absence of arrangements concerning : (1) measuring how objectives of a mega project are being met; and (2) rewarding good and penalising poor performance.

Four basic instruments of accountability have been put forward by Flyvbjerg et al (2003, p.123) to deal with the shortcomings in those institutional mechanisms and thus to enforce accountability: (1) improving the transparency of the decision making process; all documents and other information should be made available to the public. Stakeholder and civil society groups should be invited to

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191 The majority of the parliament supports the government’s policies in principle but is supposed to be critical on the government’s policies.
participate from an early stage in feasibility studies and decision making, (2) Performance specifications should be decided up front and should be derived from public policy objectives and public interest requirements, (3) an explicit formulation of the regulatory regime should be set up before project appraisal and development of a mega project and (4) risk capital should be involved; the decision to go ahead with project should, where at all possible, be made contingent to the willingness of private financiers to participate without sovereign guarantee\(^{192}\) for at least one third of the total capital needs of a project.

Flyvbjerg et al’s explanation of the phenomenon of mega project budget overruns is thus in terms of the lack of appropriate institutional mechanisms for mega project appraisal and development that enforce accountability and transparency. The main institutional deficiencies that are mentioned by Flyvbjerg et al concerning mega project development are observations which can be made according to the Public Choice analysis of the case of Betuwelijn; (1) over involvement of business lobby groups and under involvement of the general public and other stakeholders, (2) lack of up front identification of public interests (see paragraph 5.6.4.2.; the decision to build by the cabinet was made without specifying any public interest performance indicators) and (3) the government in the case of the Betuwelijn also played a number of roles, both as promoter using public money and guardian of the public interest (for Flyvbjerg et al these are conflicting).

The prediction that can be made based on the recommendations of Flyvbjerg et al is that by implementing the four recommendations, the possibility of a mega project budget overrun would become less likely. However, concerning the recommendation concerning the involvement of civil society stakeholder groups the following can be said: The logic of collective action (Olsen 1965) shows that it is not rational for the general public to get involved in a mega project decision-making process. It is only rational for small groups of actors or groups of actors that receive an outside incentive to get involved. Because of the rational ignorance of the general public and other stakeholders that might be affected by mega projects and the preoccupation of some business actors with mega project development, the latter group gets a significant influence over policy formation in a certain area. All these predictions have been verified in the case of the Betuwelijn. With respect to the second recommendation, it is claimed that public interest and public policy objectives must enter in pre set performance specifications. However, politicians within a parliament have no rational self-interest in seeing that a mega project meets ‘public interest’ standards, or to formulate those, if this is at the detriment of maximizing their chance for re-election. The same holds for bureaucrats for whom it is also not in their rational self-interest to uphold public interest standards since by doing so they do not maximize their budget and scope of authority. These statements have proven to be accurate predictions about government behaviour in general and in the example of the Betuwelijn. Also, the third recommendation from Flyvbjerg et al., in its expected success, suffers from the empirical findings done in the Public Choice literature.

In sum, the explanation offered by Flyvbjerg et al is according with the empirical facts of mega project budget overruns; however, this explanation is the logical consequence of the assumptions

\(^{192}\) Sovereign guarantee means that whatever cost overruns are going to occur, financial streams are secured through the public financial system to make up for those cost overruns.
used in Public Choice theory, which are widely used in mainstream economics and have lead to successful predictions in closely related phenomena.

6.2.3 The Public Choice explanation of mega project budget overruns

The theory of Public Choice parallels the theory of markets; in both cases, actors pursue their own rational self-interest in the interaction with each other. One part of Public Choice theory focuses on how the mechanisms of political allocation work, such as the electoral processes and how they translate into political representation. The other part of Public Choice theory focuses on how political decision-making translates into policy implementation by the bureaucracies. Public choice theory would expect, based on the logic of collective action that a small group of business actors involved in the transport business gets a significant influence over decision making in this sector of mega project development. Politicians use this demand revelation and the ability of these interest groups to shape public opinion to maximize their chance for (re) election. The translation of legislation, being the result of the previous process, into practice is the task of the Bureau. The bureaucracy, in its aim to maximize their budget and scope of authority, will try to maximize the chance of getting projects, which are under their jurisdiction, to get realized with a big as possible budget. This means that all the actors that are involved in the development of mega projects—interest groups, politicians and bureaucrats—have no direct rational self-interest in seeing that a mega project does not budget overrun. It could only be at the detriment of politicians that loose assets for other policy areas if a mega project overrun it budget. Public Choice theory would thus expect with high logical probability that mega projects produced through the public sector budget overrun. The empirical data gathered by Flyvbjerg et al—almost all of the mega projects were realized through the public sector - verify (see paragraph 1.2) this hypothesis as well as the case study of the Betuwelijn. The data concerning the comparison between public and private outputs of the same goods (see appendix G) show that the Public Choice hypothesis concerning mega projects can be extended; all publicly financed projects have a high logical probability of budget overrunning. A prediction that does not follow from the explanation offered by Flyvbjerg et al. The Public Choice explanation, however, suggests that there is no fundamental difference in the nature of budget overruns of different governmental outputs whether it is a mega project or a public hospital for instance.

6.3 Conclusion; theory choice

In this chapter, three rivalling theoretical explanations for the phenomenon of mega project budget overruns have been tested against instrumentalist criteria arrived at in chapter 2. The vast empirical study into mega project performance of Flyvbjerg et al, the case study concerning the Betuwelijn, performance comparisons between public and private provision of goods and the data concerning the relation between affluence and economic freedom has been used to test the theories. At the end of the chapter one theory remains: the Public Choice explanation that produces accurate predictions concerning the empirical material that has been reviewed. This means, considering that "strictly speaking, public choice theory has no policy implications except that in some cases it might be demonstrated that a particular policy is impossible or extremely unlikely to achieve its stated policy
goals” (see paragraph 3.2), it is not possible to formulate any policy recommendations upon Public Choice Theory. To do so the Austrian Economic Perspective must be worked out.
7. Conclusion: The Failure of Democracy as we know it

“Government is a contrivance of human wisdom to provide for human wants. Men have a right that these wants should be provided for by this wisdom” (Edmund Burke in Mueller, 2003, p.9)

The title of this report ‘the Betuwelijn or the failure of democracy as we know it?’ at this time can be clarified since the Public Choice and Austrian economic perspective on the budget overrun of the Betuwelijn have been concluded. In order to do this the terms ‘failure’ and ‘democracy’ need some elaboration. Joseph Schumpeter (1947, p.269) has a very minimal definition of ‘democracy’; “democracy is a system for arriving at political decisions in which individuals acquire the power to decide by means of a competitive struggle for the people’s vote”. The word ‘democracy’ also corresponds with the image of the sovereignty of the citizens; “the citizens decide collectively the policies of the state and only their preferences count” (Mueller, 2003, p.424). In the western world most democracies, and also in the Netherlands, are representative democracies in which “an assembly of elected representatives decides what government policy ought to be, and appointed bureaucrats to implement it” (Mueller, 2003, p.425). The failure of the ‘democracy as we know it’ (representative democracy) comes down to the economic consequences of the policies enacted by the representative assembly being worse compared to other institutional systems in which more of those decisions are not democratized and thus are left more to voluntarily cooperating individuals.

The economic consequences of mostly publicly provided mega projects (see chapter 1; paragraph 1.2), comparable goods and services provided both publicly and privately (see appendix F), and economic freedom have been reviewed (see appendix H). The following can be said concerning the previous; (1) the vast majority of publicly provided mega projects have experienced budget overruns, (2) the vast majority of comparisons between publicly and privately provided goods/ services have been in favour, economically, of the private provision, and the (3) relation between economic growth and economic freedom shows that generally the more economic freedom there is in a nation the more economic growth can be expected. Based on these empirical findings we can tentatively conclude that the type of democracy which allows for less economic freedom, has more of its production publicly arranged for, will fail more in terms of positive economic consequences compared to a type of democracy which allows for more economic freedom. In short, the more the economic decisions within a nation are democratized, the less economic wealth is expected to be created.

Throughout the course of this report, two different rationales (The Public Choice Analysis and the Austrian Economic Perspective) have been explicated in relation to the phenomenon of mega project budget overruns. The empirical findings, spoken of earlier, allow for a generalization of the Public Choice and Austrian Economic conclusions. The Public Choice explanation of the ‘failure of democracy’ comes down to the following: the institution of the representative democracy produces problems of aggregating citizen preferences to select representatives due to the rational ignorance of the most and the informedness of the few (special interest groups). The relative large influence the few have on moulding public opinion in their favour with the help of the political actors further aggravates this problem. Principal – agent problems that arise from the relation between politicians and the
bureaucracies also have a negative impact on the economic consequences that are made within a representative democracy. In short the Public Choice explanation of the ‘failure of democracy’ can be described as a mismatch between the assumed nature of human behaviour – rational self interest - and the institutional environment in which this behaviour takes place.
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Commission Duivesteijn; D (2004). Onderzoek naar infrastructuurprojecten; Hoofdrapport. ’s Gravenhage, NL; Sdu uitgevers, 29283, nrs. 5-6.
The Betuwelijn, or the failure of democracy as we know it?


http://en.wikipedia.org/wiki/Keynesian_economics
http://flyvbjerg.plan.aau.dk/whatisamegaproject.php


Appendix A: Forecasters talking about forecasting ‘mistakes’

Two studies exist that succeeded in getting forecasters to talk about strategic misrepresentation (Flyvbjerg and Cowi, 2004; Wachs 1990). Flyvbjerg and Cowi (2004) interviewed public officials, planners, and consultants who had been involved in the development of large UK transportation infrastructure projects. Wachs conducted this type of study in cases of poor project performance in the USA. In this appendix, a number of the reactions planners had on the causes of erroneous forecasts are picked out of the study. The first example, from the study done by Flyvbjerg and Cowi, concerns a planner with a local transportation authority. According to Flyvbjerg and Cowi this reaction is typical of how respondents explained the basic mechanism of cost underestimation:

“You will often as a planner know the real costs. You know that the budget is too low but it is difficult to pass such a message to the counsellors (politicians) and the private actors. They know that high costs reduce the chances of national funding.”

Experienced professionals like the interviewee know that outturn costs will be higher than estimated costs, but because of political pressure to secure funding for projects they hold back this knowledge, which is seen as detrimental to the objective of obtaining funding. Similarly, an interviewee explained the basic mechanism of benefit overestimation:

“The system encourages people to focus on the benefits--because until now there has not been much focus on the quality of risk analysis and the robustness (of projects). It is therefore important for project promoters to demonstrate all the benefits, also because the project promoters know that their project is up against other projects and competing for scarce resources.”

According to Flyvbjerg and Cowi (2004), projects that look highly beneficial on paper are more likely to get funded than ones that do not. Specialized private consultancy companies are typically engaged to help develop project proposals. A project manager explained:

"Most decent consultants will write off obviously bad projects but there is a grey zone and I think many consultants in reality have an incentive to try to prolong the life of projects which means to get them through the business case. It is in line with their need to make a profit."

The consultants interviewed confirmed that appraisals often focused more on benefits than on costs. However, they said this was at the request of clients and that for specific projects discussed "there was an incredible rush to see projects realized". One typical interviewee saw project approval as "passing the test" and precisely summed up the rules of the game like this:

"It’s all about passing the test (of project approval). You are in, when you are in. It means that there is so much focus on showing the project at its best at this stage."
The second study was carried out by Martin Wachs (1990; 1986). Wachs interviewed public officials, consultants, and planners who had been involved in transit planning cases in the US. In case after case, planners, engineers, and economists told Wachs that they had had to "revise" their forecasts many times because they failed to satisfy their superiors. The forecasts had to be cooked in order to produce numbers that were dramatic enough to gain federal support for the projects whether or not they could be fully justified on technical grounds. Wachs (1990, p.144) recounts from his interviews:

"One young planner tearfully explained to me that an elected county supervisor had asked her to estimate the patronage of a possible extension of a light-rail (streetcar) line to the downtown Amtrak station. When she carefully estimated that the route might carry two to three thousand passengers per day, the supervisor directed her to redo her calculations in order to show that the route would carry twelve to fifteen thousand riders per day because he thought that number necessary to justify a federal grant for system construction. When she refused, he asked her superior to remove her from the project, and to get someone else to 'revise' her estimates."

In another typical case of cost underestimation and benefit overestimation, Wachs (1990, pp.144-145) gives the following account:

"A planner admitted to me that he had reluctantly but repeatedly adjusted the patronage figures upward and the cost figures downward to satisfy a local elected official who wanted to compete successfully for a federal grant. Ironically, and to the chagrin of that planner, when the project was later built, and the patronage proved lower and the costs higher than the published estimates, the same local politician was asked by the press to explain the outcome. The official's response was to say, 'It's not my fault; I had to rely on the forecasts made by our staff, and they seem to have made a big mistake here'."

The studies done by Flyvbjerg, Cowi and Wachs concerning cases in the UK and the USA support the notion that it is beneficial for planners, under high political and organizational pressure, to lowball the costs and to highball the benefits. There seems to be an incentive to misrepresent the data in order to maximize the likelihood of project approval.
Appendix B: Economic of Institutions' four-layer model
### Appendix C: The conventional approach to project development

<table>
<thead>
<tr>
<th>Steps</th>
<th>Actions</th>
<th>Responsibility</th>
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<tbody>
<tr>
<td>1.</td>
<td>Undertake policy study; publish policy document</td>
<td>Government</td>
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<tr>
<td>2.</td>
<td>Prepare terms of reference; and recruit consultants to draft</td>
<td>Government</td>
</tr>
<tr>
<td></td>
<td>performance specifications</td>
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<td>3.</td>
<td>Prepare draft performance specifications based on government policy</td>
<td>Consultants</td>
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<td></td>
<td>objectives, laws and regulations</td>
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<td>4.</td>
<td>Prepare terms of reference; recruit consultants to prepare</td>
<td>Government</td>
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<tr>
<td></td>
<td>feasibility study</td>
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<td>5.</td>
<td>Prepare terms of reference; recruit consultants to prepare</td>
<td>Government</td>
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<td></td>
<td>plan for public involvement (public hearings, stakeholder</td>
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<td></td>
<td>group involvement, peer review, etc.)</td>
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<td>6.</td>
<td>Prepare pre-feasibility study; if study indicates an</td>
<td>Consultants</td>
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<td></td>
<td>unfeasible project, the process may stop here</td>
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<td>7.</td>
<td>Prepare Consultation Document 1, to be used for wide</td>
<td>Government</td>
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<td></td>
<td>consultations with public and stakeholders</td>
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<tr>
<td>8.</td>
<td>Consultation with public, stakeholders and regulatory</td>
<td>Government</td>
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<tr>
<td></td>
<td>bodies</td>
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<td>9.</td>
<td>Prepare terms of reference; recruit consultants to: propose regulatory</td>
<td>Government</td>
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<td></td>
<td>regime; do further analysis of additional,</td>
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<td></td>
<td>associated costs; prepare risk management plan; and make</td>
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<td></td>
<td>proposals for operation, etc.</td>
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<tr>
<td></td>
<td>with public and stakeholders</td>
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<td>12.</td>
<td>Prepare Decision Document to identify:</td>
<td>Government</td>
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<td></td>
<td>* performance specifications</td>
<td></td>
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<td></td>
<td>* financing conditions for operation</td>
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<td></td>
<td>* risk management</td>
<td></td>
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<td></td>
<td>* mode of operation</td>
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<td></td>
<td>* tender procedures, if relevant</td>
<td></td>
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<td></td>
<td>* regulatory regime</td>
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<td></td>
<td>* cost estimates and financing conditions for additional</td>
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<td></td>
<td>associated costs</td>
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<td>13.</td>
<td>Develop necessary legislation and make decision in Parliament to stop</td>
<td>Government/Parliament</td>
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<tr>
<td></td>
<td>or go ahead with project</td>
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<td>14.</td>
<td>If project is ratified, undertake pre-qualification of bidders</td>
<td>Government</td>
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<td></td>
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<td>with assistance of consultants</td>
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<tr>
<td>15.</td>
<td>Prepare shortlist and ask for bids</td>
<td>Government</td>
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<td></td>
<td></td>
<td>with consultants</td>
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<tr>
<td>16.</td>
<td>Evaluate bids, including acceptance from performance point of view;</td>
<td>Government, including</td>
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<td></td>
<td>if no bids received, or bids fail to meet performance</td>
<td>relevant regulatory bodies</td>
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<td></td>
<td>specifications and bidders not willing to modify their bids</td>
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<td></td>
<td>accordingly, the process stops here</td>
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<tr>
<td>17.</td>
<td>Select concessionaire, negotiate and sign preliminary agreement</td>
<td>Government</td>
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<td></td>
<td></td>
<td>with consultants</td>
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</table>
### Appendix table 1: the conventional approach to mega project development (Flyvbjerg et al., 2003, pp. 86-91)

<table>
<thead>
<tr>
<th>Steps</th>
<th>Actions</th>
<th>Responsibility</th>
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<tbody>
<tr>
<td>18.</td>
<td>Prepare and circulate Information Document; publication subject to review by Auditor-General; at this point selected concessionaire can initiate final designs to obtain: (i) final permits from regulatory authorities (ii) bids from contractors</td>
<td>Government and concessionaire</td>
</tr>
<tr>
<td>19.</td>
<td>Submit negotiated agreement for approval and signature by relevant authorities and concessionaire</td>
<td>Concessionaire and government</td>
</tr>
<tr>
<td>20.</td>
<td>Prepare detailed design and obtain final clearance from environmental and safety authorities; if clearance not obtained the project may be terminated at this point</td>
<td>Concessionaire and government</td>
</tr>
<tr>
<td>21.</td>
<td>Implement agreement</td>
<td>Concessionaire</td>
</tr>
<tr>
<td>22.</td>
<td>Monitor and audit agreement</td>
<td>Government</td>
</tr>
</tbody>
</table>
Appendix D: Contemporary Philosophy of Science critiques and models

In paragraph 2.3, we saw a number of criticisms on the logical empiricists’ philosophy. The logical empiricists of 1950s settled on confirmation as a means for assessing the acceptability of hypotheses. They went on to construct an inductive logic by which the relative strength of hypotheses could be judged. The problems with induction (most notably Hume’s problem of induction) have been discussed in paragraph 2.3 next to the challenge Popper made on the value of making statements of high inductive probability (statements of high empirical content are more important, in terms of growth of knowledge, then statements of low empirical content but those statements have a low inductive probability). In this paragraph, other problems of the positivist tradition, next to the ones that have already been described in chapter 2, are discussed. Next to the criticism raised, the position that has been taken by contemporary philosophers of science is reviewed in paragraphs D1 until D5. Paragraph D6 concludes the contemporary philosophy of science critique on the positivist tradition.

D.1 Contemporary critiques on traditional positivism

Logical empiricists, as discussed in chapter 2, made a distinction between theoretical and non-theoretical terms, which could be made on observation grounds. This distinction was needed to argue that theoretical terms gain meaningfulness if some of the theoretical terms have empirical counterparts, which could be tested and confirmed (Caldwell, 1982, p.62). A number of criticisms of that position have emerged, including the following (Caldwell, 1982, p.62):

1. “No hard division between theoretical terms and non observables, on the one hand, and no theoretical terms and observables, on the other, hand, can be drawn”\(^\text{193}\);
2. It is not always clear whether a phenomenon is observable or not; degrees of observability exist\(^\text{194}\);
3. Observation is not neutral; any observation requires both the selection of the data to be observed and the interpretation of that data of the observer\(^\text{195}\);
4. The meaning of observation terms (and, indeed, all terms) is influenced by the theoretical framework from which they originate\(^\text{196}\);

\(^{193}\) This point of criticism is raised by Putnam (1973, p.113) and is explicated as follows; (a) “If an ‘observational term’ is one that cannot apply to an unobservable then there are no observation terms, (b) many terms that refer primarily to what Carnap would class as ‘unobservables’ are not theoretical terms; at least some theoretical terms refer primarily to observables, (c) observational reports can and do frequently contain theoretical terms, (d) a scientific theory, properly so-called may refer to only observables. According to Putnam, Darwin’s theory of evolution, as originally put forward, is one example (Putnam, 1973, p.113).

\(^{194}\) Grandy (1973) makes an argument against the tenability of any distinction between observable and unobservable objects: “There seems to be only a slight difference of degree between directly seeing and observing though a magnifying glass, and only a slight difference between using a magnifying glass and using a microscope...But if observability is merely a matter of degree, then there is no plausible way of drawing a sharp line on this basis between objects which do and objects which do not exist” (Grandy, 1973, p.3).

\(^{195}\) Hanson explicates this argument by claiming that two scientists observing the ‘same’ phenomenon may have different interpretation because of their unique perspectives on reality: “In Kohler’s famous drawing of the goblet and faces we ‘take’ the same retinal/ cortical / sense-datum picture of the configuration; our drawings might indistinguishable. I see a goblet however, and you see two men staring at one another. Do we see the same thing? Of course we do. But then again we do not”(Hanson, 1958, p.12)

\(^{196}\) Hanson takes his argument further by claiming that that every person uses a different ‘theoretical framework’ to observe reality; “To say that Tycho and Kepler, Simplicius and Galileo, Hooke and Newton, Soddy and Einstein...all make the same observations but use them differently is too easy. It does not explain controversy in
5. Finally, the existence of brute atomic facts which are independent of the linguistic framework by which they are defined is questionable.\(^{197}\); The deductive nomological (D-N) and inductive-probabilistic (I-P) covering law models (see paragraph 2.3) do not cover all scientific explanations\(^{198}\). Not all scientific explanations are capable of predictions as the symmetry thesis (every explanation must also be capable of being a prediction over time) proposes\(^{199}\). More damaging according to Caldwell (1982, p.63) to those models are the arguments which fit the D-N and I-P covering law models but cannot count as explanations\(^{200}\).

D.2 Contemporary Philosophy of science; the growth of knowledge tradition

Within certain of the traditional positivist categories critique arose, alternative models to look science and what constituted scientific knowledge were proposed. According to Caldwell (1982, p.68) the essential point of the contemporary philosophical models of science is that “no unified approach has arisen in response to the failures of the positivist tradition”. However Caldwell (p.68) claims that despite this lack of one unified approach that “there are some common elements shared among all contemporary philosophers of science”. Contemporary philosophers of science see their job differently then their positivist predecessors: “Whereas logical empiricists concerned themselves with the elaboration of universal models and procedural rules which they believed aptly characterized legitimate scientific practice, post-positivists emphasize the growth of knowledge over time, the dynamics of change within individual disciplines, and the actual practices of scientists” (Caldwell, 1982, p.68). In other words: the context of justification of scientific knowledge can be rightly claimed to be more central in the positivist philosophers of science while the context of discovery of scientific knowledge is more central in post-positivist analyses.

Caldwell (p.68) asks the question whether this new post-positivist position affects positivist methodology. His answer, in short, is the following: Studying the history of science reveals that it is questionable whether a “static set of procedural rules for the appraisal of appropriate theoretical structure or the definition of appropriate theoretical structure” (p.69) has ever been followed, which research science. Were they no sense in which they were different observations they could not be used differently... There is a sense, then, in which seeing is a ‘theory laden’ undertaking” (Hanson, 1958, p.19)\(^{197}\). The argument made by Hanson claims that observation and the meaning of terms are theory dependent. Rom Harré even claims that no-public domain of ‘brute atomic facts’ exists; “the only facts which seem genuinely independent of any scientific theory are those of the present experiences of touch, taste, smell, hearing and sight that each individual scientists is currently experiencing. But such facts are not, of course, public facts; they are private to each individual” (Harré, 1972, p.43).

\(^{198}\) These explanation are teleological explanations including motivational explanations and functional explanations.

An example from psychology: it may be possible to explain a suicide by reference to certain antecedent conditions, prior knowledge that those conditions hold does not enable one to predict suicides (Caldwell, 1982, p.57). A famous example is the Empire State Building Case (Bromberger, 1970, p 71); “There is a point on Fifth Avenue, M feet away from the base of the Empire State Building, at which a ray of light coming from the tip of the building makes an angle of x degrees with a line to the base of the building. From the laws of geometric optics, together with the ‘antecedent’ condition that the distance is M feet, the angle x degrees, it is possible to deduce that the Empire State Building has a height of H feet. Any high school student could set up the deduction given actual numerical values. By doing so, he would not, however, have explained why the Empire State Building has a height of H feet, nor would he have answered the question ‘Why does the Empire State Building have a height of H feet?’ nor would an exposition of the deduction be the explanation of or answer to (either implicitly or explicitly) why the Empire State Building has a height of H feet.”
according to Caldwell raises the question whether, given the previous observation, scientists should ever be following those sets of rules and procedures. Thus in a sense, the new approach taken in philosophy of science can be perceived as asking the question: is methodology possible? This contemporary philosophy of science tradition, that arose partly based upon the critique on the positivists tradition (see A1) and on the previously mentioned findings of the historical analysis of ‘practice’ science is discussed in the next paragraph. The line of Caldwell’s book is followed in the following summary of this contemporary period. This means that the contribution of; Kuhn, Feyerabend and Lakatos are discussed in the subsequent paragraphs.

D.3 Kuhn; the Structure of scientific revolutions

Kuhn addresses his audience in the introduction of the structure of scientific revolutions thus (Caldwell, 1982, p.70): “my work will challenge the usual positivist approach to problem of the growth of science, since his interpretation gives a fundamental role to the history of science”. Kuhn begins by two concepts, which are essential to his analysis: normal science and paradigm. Normal science is the hallmark of science; it allows progress because the legitimate areas and methods of investigation are clearly spelled out. Normal science requires the existence of a paradigm by which Kuhn means “some accepted examples of actual scientific practice-examples which include law, theory, application and instrumentation together – which provide models from which spring particular coherent traditions of scientific research” (Kuhn, 1970, p. 35). Kuhn suggests that the existence of a paradigm and that what the paradigm allows as normal science are prerequisites for calling a field a science (Caldwell, 1970, p.71)

Caldwell then asks the question; what is the nature of normal science? “Much of the research that practitioners of normal science engage in” can be characterized as “activities which extend and articulate the paradigmatic structure assumed”; Kuhn puts it thus; it is an “attempt to force nature into preformed and relatively inflexible box that the paradigm supplies” (Kuhn, 1970, p.24). The scientist, who can be called a member of a certain paradigm, proceeds in accordance to a well-specified set of rules; such activities test the scientist’s skill with the tools, given or allowed by the paradigm itself, he employs. This ‘normal science’, according to Kuhn, does not proceed uninterrupted. By its own nature, Kuhn claims that normal science leads its practitioners to “awareness of anomalies, which are prerequisite to new discoveries that ultimately can produce a paradigm change” (Caldwell, 1982, p.72). According to Kuhn these anomalies take time to be recognized because they are often met with resistance (Kuhn, 1970, p.93). Small change in a paradigm can occur when new discoveries can be handled by the normal science practitioners. From time to time however, a number of anomalies emerge within a certain normal science tradition, which starts a crisis such that the normal science breaks down. According to Kuhn, normal science then changes into ‘extraordinary’ research: according to Kuhn (1970, p.90) there are a number of symptoms that indicate a transition from normal to ‘extraordinary research’: (1) proliferation of competing articulations, (2) the willingness to try anything, (3) the expression of explicit discontent, (4) the recourse to philosophy and the debate over fundamentals. If a new paradigm emerges, it differs from its predecessor in a number of ways: “First, it provides answers to anomalies that plagued the old one. Next, it often involves a new perception of
which problems are relevant. And finally, methodological differences may emerge, since a paradigm also dictates the methods and standards of solution that are acceptable to the community” (Caldwell, 1982, p.73). This description of how science ‘progresses’ leads Kuhn to make some statements about whether ‘progress’ in science is possible or not. Kuhn claims that as a paradigm develops from a pre-paradigmatic period, which can be characterized as a period of warfare of competing worldviews, to a development of a certain victorious paradigm and their normal science assure progress. Kuhn adds that the definition of progress is not rightly captured by the statement ‘moving closer to the truth’, “since there are no Meta – methodological standards by which to judge between competing paradigms” (Caldwell, 1970, p.74). Kuhn (1970, p.65) uses the term progress as ‘evolution of the state of knowledge’ which is supposed to better address the concept of revolutionary progress by which science moves on.

D.4 Feyerabend’s anti-methodology

In his early writings according to Caldwell, Feyerabend shows an extreme version of theory dependence hypothesis, “one that undermines two of the pillars of modern empiricism: (1) the condition of meaning invariance and (2) the consistency condition” (Caldwell, 1982, p. 79). Feyerabend asserts that the meanings of both observational and theoretical terms are completely dependent on the theory in which they are embedded (Caldwell, 1982, p.79): Any new theory as a “consequence will contain terms which are different from their previous usage; though the terms might be the same, their meanings are not”. He supports his claim with the numerous historical examples of theories in which terms are used differently. However counter arguments exist in which theories are altered but many meaning remain intact. Critics of the position of Feyerabend claim that all that Feyerabend has done is to “point out the limiting case and on the basis of a few examples that it is the only relevant case” (Caldwell, 1982, p.91).

The consistency condition, as indicated before, is rejected as well by Feyerabend; this condition demands that “new theories either contain or be consistent with well-established theories in their domain” (Caldwell, 1982, p.79). Feyerabend supports his rejection based on a number of examples in which this condition was fruitfully ignored. Feyerabend (Caldwell, 1982, p.79), however, admits that a counterargument exists. The rejection of the consistency condition would open the door for scientists to waste their time in adding new theories, which do nothing more then re-explain the same facts, in a different framework. It is known that an infinite number of theories can be provided to explain a given set of facts: recognition of this leads directly to the consistency condition. Proponents of the consistency hypothesis will consider a new theory only if it is capable of explaining novel facts.

The defence of the consistency hypothesis depends on the viability of the assumption ‘the relative autonomy of facts’, which holds that facts are theory independent; Feyerabend, as indicated before, denies the relative autonomy of facts. Another of Feyerabend’s arguments against the case of the consistency hypothesis is that it restricts the growth of empirical knowledge: “whereas any tenable empirical methodology should aim at increasing the empirical content of knowledge” (Caldwell, 1982, p.80). The best way to go, when assuming the theory dependence, is to increase the number of alternative mutually inconsistent theories. In his later works, Feyerabend “defends the thesis that
methodological anarchism is a precondition of progress in science” (Caldwell, 1982, p.83), that “there is only one principle that can be defended under all circumstances and in all stages of human development. That principle is “anything goes” (Feyerabend, 1975, p.28).

D.5 Imre Lakatos: the methodology of scientific research programs

According to Caldwell (1982, p.85), Lakotos’ work is best viewed as a contemporary extension on popper’s methodology. Lakotos attempts to show that the rejection of the ideals of proven or highly probable knowledge, as is the case in positivism, need not force someone in accepting the Kuhnian social psychology of science or all out scepticism as put forward by Feyerabend; a third alternative is falsificationism. According to Lakatos, “there are at least three forms of falsificationism: dogmatic, naïve methodological and sophisticated falsificationism” (Caldwell, 1982, p.86). Lakatos argues that many of Popper’s critics wrongly accused him of being dogmatic falsificationist, when in truth his position moved from naïve towards sophisticated falsificationism. According to Caldwell (1982, p.86) Lakatos’ aim was then to complete Popper’s program, of which he said that Popper was heading towards in his later works (1982, p.88): Lakatos’ “sophisticated falsificationism not only lays down prescriptions by which science can proceed – as all positivist had done -, it also provides a basis for a descriptive rational reconstruction of how disciplines evolve”.

It recognizes that theories do not exist in isolation; “they are part of larger and dynamic system. Within such as system, or research tradition, theories are undergoing modifications” (Caldwell, 1982, p.86); hypotheses are constantly revised, added or deleted. Because of constant revision, it does not make sense according to Lakatos to talk about a theory; instead, the point of reference of methodological discussion should be a series of theories; “where each subsequent theory results from adding auxiliary clauses to the previous theory having at least as much content as the unrefuted content of its predecessor” (Lakatos,1970, p.118). The way to judge this evolution of subsequent theories through time is to determine “whether such theory change is either progressive or degenerative”. To distinguish between ‘progressive’ and ‘degenerative’ Lakatos has developed the distinction between theoretical and empirical problem shifts:

“A series of theories is theoretically progressive if each new theory has some excess empirical content over its predecessor, that is, if it predicts some novel, hitherto unexpected fact. Let us say that a theoretically progressive series of theories is also empirically progressive if some of this excess empirical content is also corroborated, that is, if each new theory leads us to the actual discovery of some new fact. Finally, let us call a problem shift progressive if it is both theoretically and empirically progressive, and degenerating if it is not. We accept problem shifts as scientific only if they are at least theoretically progressive; if they are not, we reject them as pseudo – scientific… We regard a theory in the series falsified when it is superseded by a theory with higher corroborated content”.

This continuity of subsequent theories is supported by what Lakatos calls a ‘research program’ (Caldwell, 1982, p.87). Such a program consists of two general sorts of methodological rules: (1) a negative heuristic which indicates which paths of research are legitimate and (2) a positive heuristic, which indicates which paths of research are legitimate. The negative heuristic disallows investigation
of the 'hard core' which is the part of the research program that is considered irrefutable, while the positive heuristic consists of partially articulated set of suggestions on how to change, develop refutable variants of the research program, sophisticate the protective belt of the research program (Lakatos, 1970, p.135). The positive heuristic does not focus on much on anomalies and refutation; rather it stresses modifications of the protective belt, which would help strengthen the assumptions implicit in the hard core of the research program. Whether the alterations in the protective belt represent degenerative or progressive problem shifts can be determined by the previously mentioned methodology. Lakatos adds to this that this process of determining this is a long run affair; "there is no 'instant rationality' by which to evaluate the success or failure of a research program" (Lakatos, p.137).

In conclusion it can be said, to the contrary of Kuhn and Feyerabend, that Lakatos retains a "prescriptive role for methodology and avoids what he perceives as subjective quagmire of Kuhn’s social psychology or Feyerabend’s Dadaism" (Caldwell, 1982, p.89).

D.6 Conclusion; the contemporary philosophy of science critique

Three influential contemporary philosophers of science have been discussed in this appendix: Kuhn, Feyerabend and Lakatos. Kuhn’s work challenges the usual positivist approach to problem of the growth of science, since his interpretation gives a fundamental role to the history of science. Kuhn uses two essential concepts, normal science and paradigm, to make his case. Feyerabend based his critique on the positivist methodology by taking an extreme version of theory dependence hypothesis. Later on Feyerabend arrives at the conclusion that methodological anarchism is a precondition of progress in science; his methodological position is thus one of ‘anything goes’. Lakatos, however, builds on Popper’s work and retains that there is a prescriptive role for methodology and avoids what he perceives as subjective quagmire of Kuhn’s social psychology or Feyerabend’s Dadaism. The contemporary philosophers of science showed that (1) science is not actually progressing the way the positivists are claiming it to progress and propose different models to account for the growth of knowledge over time and (2) show that there is a number of inconsistencies in the position of the positivist tradition of philosophy of science. However, the contemporary philosophers of science do not come up with new demarcation criteria of their own and this period of philosophy of science is thus of no importance with respect to the research question which has been answered in chapter 2.
Appendix E: ‘Trace – MER (Milieu-Effect Rapport)’ procedure

Projects that have a considerable impact on the environment are required to follow the ‘Trace – MER’ procedure. Several actors from civil society have several possibilities to voice their opinions concerning the project (Pestman, 2001, p.12).

<table>
<thead>
<tr>
<th>Phase</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>Phase 1</td>
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</tr>
<tr>
<td>‘Start notitie’ (Start-up document for a new project)</td>
<td>1. AA publishes ‘start notitie’, which contains the alternatives concerning the project and their economic and environmental effects.</td>
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<tr>
<td>Phase 2</td>
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<tr>
<td>‘Trajectnota / MER’</td>
<td>1. TI establishes the ‘Trajectnota / MER’ based on the ‘Startnotitie’, the MER-guidelines and the results from the public inquiries in phase 1.</td>
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<tr>
<td>Phase 3</td>
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<tr>
<td>‘Ontwerp tracebesluit’</td>
<td>1. AA sends the preferred project variant to the ‘Tweede Kamer’ of the parliament.</td>
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<tr>
<td>Phase 4</td>
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<tr>
<td>‘Tracebesluit’</td>
<td>1. AA takes a definite decision on the project design (‘tracebesluit’).</td>
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<tr>
<td>Phase 5</td>
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<td></td>
<td>1. Project is executed</td>
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<td></td>
<td>2. Environmental impact is monitored</td>
</tr>
</tbody>
</table>

AA: Authorized authority; in the case of the Betuwelijn this is the MTPW.
TI: The taker of the initiative; in the case of the Betuwelijn this is the NS.
OVI: ‘overlegorgaan verkeersinfrastructuur’; Commission within the MTPW dealing with infrastructure issues.
The ‘PKB – procedure’ is applicable whenever the government decides to make changes in the current spatial plans. Several actors from civil society have several possibilities to voice their opinions concerning a project (Pestman, 2001, p.14).

<table>
<thead>
<tr>
<th>Phase</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
<td>1. The Cabinet forms the PKB 1 in which the cabinet shows how their plans are going to affect the environment in the Netherlands.</td>
</tr>
<tr>
<td>PKB 1</td>
<td>2. A MER study is conducted about the environmental effects of the proposals in the PKB 1.</td>
</tr>
<tr>
<td></td>
<td>3. PKB 1 is made public and interested groups can inquire and critique the document.</td>
</tr>
<tr>
<td></td>
<td>4. The PKB 1 and the MER report are sent to the Tweede Kamer of the parliament.</td>
</tr>
<tr>
<td></td>
<td>5. The cabinet deliberates the plans with the provinces and the municipalities.</td>
</tr>
<tr>
<td>Phase 2</td>
<td>1. All the reactions of the public inquiry are put together in the PKB 2.</td>
</tr>
<tr>
<td>PKB 2</td>
<td></td>
</tr>
<tr>
<td>Phase 3</td>
<td>1. The council of ministers establishes a plan concerning the PKB and sends it to the ‘Tweede Kamer’.</td>
</tr>
<tr>
<td>PKB 3</td>
<td>2. The ‘Tweede kamer’ amends the PKB whenever a majority finds that necessary.</td>
</tr>
<tr>
<td></td>
<td>3. The cabinet incorporates the changes due to the debate with the ‘Tweede kamer’ and sends the document to the ‘Eerste kamer’.</td>
</tr>
<tr>
<td></td>
<td>4. The ‘Eerste Kamer’ has the possibility to reject the PKB within four weeks.</td>
</tr>
<tr>
<td>Phase 4</td>
<td>1. The document that has passed the ‘Eerste kamer’ is called PKB 4.</td>
</tr>
<tr>
<td>PKB 4</td>
<td>2. The document is made public and interested groups can inquire and critique the document.</td>
</tr>
<tr>
<td></td>
<td>3. Any objections to the PKB-decision can be filed at the ‘Raad van State’.</td>
</tr>
</tbody>
</table>
## Appendix G: Performance comparison between private and public provision of goods

The following tables are adopted from Mueller (2003, pp.374-379). They give an overview of studies in which similar service provision has been compared with respect to private and public provision.

<table>
<thead>
<tr>
<th>Activity: author</th>
<th>Unit/organizational form</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Airlines</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Davies (1971, 1977, 1981)</td>
<td>Australia/sole private domestic vs. its lone public counterpart</td>
<td>Efficiency indices of private 12–100% higher</td>
</tr>
<tr>
<td>Forsyth and Hocking(b) (1980)</td>
<td>Australia’s one private and one publicly owned airlines (1964–76)</td>
<td>Similar performance</td>
</tr>
<tr>
<td>2. Banks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Davies (1981)</td>
<td>Australia/one public vs. one private bank</td>
<td>Sign and magnitude in all indices of productivity, response to risk, and profitability favor private banks</td>
</tr>
<tr>
<td>Davies and Brucato (1987)</td>
<td></td>
<td>Government-owned banks hold less risky assets and are less profitable than private banks</td>
</tr>
<tr>
<td>3. Bus and transit service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oelert (1976)</td>
<td>Municipal vs. private bus service in selected West Germany cities</td>
<td>Cost public bus service 160% higher per km than private equivalents</td>
</tr>
<tr>
<td>Bails (1979)</td>
<td>School buses in six U.S. states (1976–7)</td>
<td>Costs are lower in school districts which contract with private sector than for state-owned systems</td>
</tr>
<tr>
<td>McGuire and Van Cott (1984)</td>
<td>School buses in 275 districts in Indiana (1979–80)</td>
<td>Privately owned bus services have 12% lower costs than state-owned</td>
</tr>
<tr>
<td>Pashigian (1976)</td>
<td>Transit systems in 117 U.S. cities (1971)</td>
<td>Publicly owned systems have lower profit margins and revenue per vehicle</td>
</tr>
<tr>
<td>4. Cleaning services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bundesrechnungshof (1972)</td>
<td>Public production vs. private contracting out in West Germany post office</td>
<td>Public service 40–60% more costly</td>
</tr>
<tr>
<td>Hamburger Senat (1974), Fischer-Menshausen (1975)</td>
<td>Public production vs. private contracting out in West Germany public building</td>
<td>Public service 50% more costly than private alternative</td>
</tr>
<tr>
<td>5. Debt collection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bennett and Johnson (1980a)</td>
<td>U.S. General Accounting Office study/federal government supplied service vs. privately contract-for-equivalents</td>
<td>Government 200% more costly per dollar of debt pursued</td>
</tr>
<tr>
<td>6. Electric utilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meyer(e) (1975)</td>
<td>Sample of 60–90 U.S. utilities/public vs. private firms</td>
<td>Very weak indication of higher costs of private production</td>
</tr>
<tr>
<td>Activity: author</td>
<td>Unit/organizational form</td>
<td>Findings</td>
</tr>
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<tr>
<td>Moore (1970)</td>
<td>Sample of U.S. utilities/27 municipal vs. 49 private firms</td>
<td>Overcapitalization greater in public firms; total operating costs of public production higher</td>
</tr>
<tr>
<td>Spann² (1977b)</td>
<td>Four major U.S. cities/public (San Antonio, Los Angeles) vs. private (San Diego, Dallas) firms</td>
<td>Private firm adjusted for scale as efficient and probably more so with respect to operating cost and investment (per 1,000 kWh)</td>
</tr>
<tr>
<td>Wallace and Junk (1970)</td>
<td>By region in U.S./public vs. private firms</td>
<td>Operating costs 40–75% higher in public mode; investment (per kWh) 40% more in public mode</td>
</tr>
<tr>
<td>Atkinson and Halvorsen³ (1986)</td>
<td>U.S. electric utilities (1970)</td>
<td>Privately and publicly owned are equally efficient</td>
</tr>
<tr>
<td>DiLorenzo and Robinson³ (1982)</td>
<td>U.S. electric utilities</td>
<td>Privately and publicly owned are equally efficient</td>
</tr>
<tr>
<td>Peltzman (1971)</td>
<td>135 U.S. electric utilities (1966)</td>
<td>Privately owned are more efficient</td>
</tr>
<tr>
<td>7. Fire protection</td>
<td>Scottsdale, Arizona (private contract) vs. Seattle area (municipal) fire departments</td>
<td>Municipal fire departments 39–88% higher cost per capita</td>
</tr>
<tr>
<td>Ahlbrandt (1973)</td>
<td>56 electric utilities in the U.S. (1965, 1970)</td>
<td>Publicly owned have 24–33% lower costs</td>
</tr>
<tr>
<td>Pescutrice and Trapani³ (1980)</td>
<td>56 electric utilities in the U.S. (1965, 1970)</td>
<td>Publicly owned have 24–33% lower costs</td>
</tr>
<tr>
<td>8. Forestry</td>
<td>Public vs. private forest harvesting in West Germany (1965–75)</td>
<td>Operating revenues 45 DM per hectare higher in private forests</td>
</tr>
<tr>
<td>Bundesregierung Deutschland (1976)</td>
<td>Private vs. public forests in state of Baden-Württemberg</td>
<td>Labor input twice as high per unit of output in public compared with private firms</td>
</tr>
<tr>
<td>Pfister (1976)</td>
<td>Sample of U.S. hospitals/private nonprofit vs. for profit</td>
<td>“Red tape” more prevalent in nonprofits; greater variation in input ratios in nonprofits; both suggest higher cost of nonprofit outputs</td>
</tr>
<tr>
<td>9. Hospitals and nursing homes</td>
<td>U.S. Veterans Administration vs. proprietary hospitals</td>
<td>Cost per patient day less in V.A. hospital unadjusted for type of care and quality; less “serious” cases and longer patient stays in V.A.; preference for minority group professionals compared with proprietary hospitals</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Activity: author</th>
<th>Unit/organizational form</th>
<th>Findings</th>
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</thead>
<tbody>
<tr>
<td>Rushing (1974)</td>
<td>Sample of 91 short-stay hospitals in U.S. mid-South region/private nonprofits vs. for-profit</td>
<td>Substitution among inputs and outputs more sluggish in nonprofit hospitals</td>
</tr>
<tr>
<td>Wilson and Jadlow (1982)</td>
<td>1,200 U.S. hospitals producing nuclear medicine/government vs. proprietary hospitals</td>
<td>Deviation of proprietary hospitals from perfect efficiency index less than public hospitals</td>
</tr>
<tr>
<td>Becker and Sloane (1985)</td>
<td>1979 data on 2,231 U.S. hospitals</td>
<td>Costs and profitability similar in private for profit, private nonprofit, and publicly owned hospitals</td>
</tr>
<tr>
<td>Frech (1985)</td>
<td>U.S. nursing homes</td>
<td>Private profit-seeking have 5–29% lower costs than nonprofit homes; 34–41% lower costs than state-owned homes</td>
</tr>
<tr>
<td>Tuckman and Chang (1988)</td>
<td>Nursing homes in Tennessee</td>
<td>No significant cost differences between for-profit and nonprofit homes</td>
</tr>
<tr>
<td>10. Housing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muth (1973)</td>
<td>Construction costs in U.S. cities, private vs. public agencies</td>
<td>Public agencies 20% more costly per constant quality housing unit</td>
</tr>
<tr>
<td>Rechnungshof Rheinland-Pfalz (1972)</td>
<td>Public vs. private cost of supplying large public building projects in the West German state of Rheinland-Pfalz</td>
<td>Public agencies 20% more costly than private contracting</td>
</tr>
<tr>
<td>Schneider and Schuppener (1971)</td>
<td>Public vs. private firm construction costs in West Germany</td>
<td>Public firms significantly more expensive suppliers</td>
</tr>
<tr>
<td>11. Insurance sales and servicing</td>
<td></td>
<td></td>
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<tr>
<td>Finsinger (1981)</td>
<td>5 public vs. 77 private liability and life firms in West Germany</td>
<td>Same rate of return and no obvious cost differences between organizational forms</td>
</tr>
<tr>
<td>Kennedy and Mehr (1977)</td>
<td>Public car insurance in Manitoba vs. private insurance in Alberta</td>
<td>Quality and services of private insurances higher than those of the public one</td>
</tr>
<tr>
<td>Finsinger, Hammond, and Tapp (1985)</td>
<td>96 German life insurance companies, 83 German automobile insurance companies (1979)</td>
<td>Public enterprises have lower costs than private stock companies</td>
</tr>
<tr>
<td>Frech (1976)</td>
<td>78 health insurance companies</td>
<td>Profit seeking companies have 15% lower costs than nonprofit</td>
</tr>
<tr>
<td>Activity: author</td>
<td>Unit/organizational form</td>
<td>Findings</td>
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<td>---------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>12. Ocean tanker repair and maintenance</td>
<td>U.S. General Accounting Office/Navy vs. commercial tankers and oilers</td>
<td>U.S. Navy from 230 to 5,100% higher</td>
</tr>
<tr>
<td>Bennett and Johnson (1980a)</td>
<td></td>
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<tr>
<td>13. Railroads</td>
<td>Canadian National (public) vs. Canadian Pacific (private) railroads</td>
<td>No productivity differences recently, but CN less efficient before 1965, the highly regulated period</td>
</tr>
<tr>
<td>Caves and Christensen(^b) (1980)</td>
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<tr>
<td>14. Refuse collection</td>
<td>53 cities and municipalities in the St. Louis County area, Missouri/public vs. private contracting-out modes</td>
<td>No significant cost differences</td>
</tr>
<tr>
<td>Collins and Downes(^a) (1977)</td>
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<tr>
<td>Columbia University Graduate School of Business Studies: Savas (1974, 1977a, 1977b, 1980), Stevens and Savas (1978)</td>
<td>Many sorts of U.S. cities/municipal vs. private monopoly franchise vs. private nonfranchise firms</td>
<td>Public supply 40–60% more expensive than private, but monopoly franchise only 5% higher than private nonfranchised collectors</td>
</tr>
<tr>
<td>Petrovic and Jaffee (1977)</td>
<td>83 cities in midwestern U.S./public vs. private contracting-out modes</td>
<td>Cost of city collection is 15% higher than the price of private contract collectors</td>
</tr>
<tr>
<td>Hirsch(^b) (1965)</td>
<td>24 cities and municipalities in the St. Louis city-county area, Missouri/public vs. private firms</td>
<td>No significant cost differences</td>
</tr>
<tr>
<td>Kemper and Quigley (1976)</td>
<td>101 Connecticut cities/private monopoly contract vs. private nonfranchise vs. municipal firms</td>
<td>Municipal collections costs 14–43% higher than contract, but private nonfranchise 25–36% higher than municipal collection</td>
</tr>
<tr>
<td>Kitchen (1976)</td>
<td>48 Canadian cities/municipal vs. private firms</td>
<td>Municipal suppliers more costly than proprietary firms</td>
</tr>
<tr>
<td>Savas(^a) (1977c)</td>
<td>50 private vs. 30 municipal firms in Minneapolis</td>
<td>No significant cost differences</td>
</tr>
<tr>
<td>Pier, Vernon, and Wicks(^a) (1974)</td>
<td>26 cities in Montana/ municipal vs. private firms</td>
<td>Municipal suppliers more efficient</td>
</tr>
<tr>
<td>Pommerehn (1976)</td>
<td>102 Swiss municipalities/public vs. private firms</td>
<td>Public firms 15% higher unit costs</td>
</tr>
<tr>
<td>Spann (1977b)</td>
<td>Survey of various U.S. cities/municipal vs. private firms</td>
<td>Public firms 45% more costly</td>
</tr>
<tr>
<td>Bennett and Johnson (1979)</td>
<td>29 private firms vs. one public trash collection authority in Fairfax County, Virginia</td>
<td>Private firms more efficient</td>
</tr>
</tbody>
</table>

(continued)
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<thead>
<tr>
<th>Activity: author</th>
<th>Unit/organizational form</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edwards and Stevens (1978)</td>
<td>77 U.S. cities (1975)</td>
<td>Prices 41% lower when cities contract with private firms</td>
</tr>
<tr>
<td>Nicols (1967)</td>
<td>California Savings and Loans/ cooperative or mutuals vs. stock companies</td>
<td>Mutuals have 13–30% higher operating costs</td>
</tr>
<tr>
<td>Chubb and Moe (1990)</td>
<td>Test scores for over 7,000 U.S. high school students (1982, 1984)</td>
<td>Students in private schools outperform students in public schools</td>
</tr>
<tr>
<td>Pausch (1976)</td>
<td>Private vs. public firms in 5 major West Germany cities</td>
<td>Public firms significantly more costly because of overcapacity and overstaffing</td>
</tr>
<tr>
<td>Crain and Zardkoohi (1978)</td>
<td>112 U.S. firms/municipal vs. private suppliers; case study of two firms that each switched organizational form</td>
<td>Public firms 40% less productive with 65% higher capital-labor ratios than private equivalents; public firm that became private experienced an output per employee increase of 25%; private firm that became public experienced an output per employee decline of 40%</td>
</tr>
<tr>
<td>Mann and Mikesell (1976)</td>
<td>U.S. firms/municipal vs. private suppliers</td>
<td>Replicates Meyer’s (1975) electricity model, but adjusts for input prices; found public modes more expensive by 20%</td>
</tr>
<tr>
<td>Morgan (1977)</td>
<td>143 firms in six U.S. states/municipal vs. private suppliers</td>
<td>Costs 15% higher for public firms</td>
</tr>
<tr>
<td>Bennett and Johnson (1980s)</td>
<td>U.S. General Accounting Office study/U.S. Weather Bureau vs. private contracted-for service</td>
<td>Government service 50% more costly</td>
</tr>
</tbody>
</table>
a; Public Sector less costly
b; No significant difference in cost or efficiencies.

All studies without an ‘a’ or ‘b’ found the public sector firms to have higher costs or lower efficiency.

One should also note that in several studies comparing public and private provision of a good or service, the private firms are regulated in some degree. The differences between private and public provision might therefore be reduced or absent due to the regulatory process (Mueller, 2003, p.373).
# Appendix H: The Budgetary Process of the Netherlands

## H.1 The preliminary process; the creation of the budget

<table>
<thead>
<tr>
<th>Period in fiscal year</th>
<th>Bureaucracies</th>
<th>Ministry of Finance</th>
<th>Minister’s council (The TK and EK)</th>
<th>The parliament (The TK and EK)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>October / November</strong></td>
<td>2. Each bureaucracy draws up a preliminary proposal in which all individual departments within the ministry submit their own budgets. Each proposal will be reviewed by the central financial direction of each bureau, which is then sent to the political leader (of the ministry) who determines which programs require less or more funding.</td>
<td>1. Minister of Finance sends letter to all ministers wherein he calls for budget proposal from each bureaucracy; recommendation are given on what to account for in the budget proposals</td>
<td></td>
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</tr>
<tr>
<td><strong>February / March</strong></td>
<td>3. Preliminary budget of each bureaucracy is send to ministry of finance. The letter contains which policy goals and existing programs require less or more money.</td>
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</tr>
<tr>
<td><strong>March / April</strong></td>
<td>4. Ministry of finance produces a total of all budget letters of all the ministries. Along this total estimate and along the macro economic estimates from the Central Economic Plan (economic trends such as prices and wages and employment), the minister of finance produces a letter which states the possibilities or problems with the current budgetary proposals. The IRF assists the minister of finance in evaluating all the individual budgets. The result is the ‘Kaderbrief’ for all the ministers of the bureaucracies.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>April</strong></td>
<td></td>
<td></td>
<td>5. The ministers of all bureaucracies come together to discuss the national budget and try to decide what the policy goals, revenues and expenses are for the coming budgetary year.</td>
<td></td>
</tr>
<tr>
<td><strong>April / May</strong></td>
<td>6. The ministry of Finance produces the ‘Totalenbrief’ in which the budgetary total for each ministry is made up.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### June

<table>
<thead>
<tr>
<th>7a. The bureaucracies produce a concept budget based on the ‘totalenbrief’ made by the ministry of finance and send those to the ministry of Finance (process continues at step 9).</th>
</tr>
</thead>
<tbody>
<tr>
<td>---</td>
</tr>
</tbody>
</table>

### June / July

| 7b. The ministry can challenge the ‘Totalenbrief’ of the Ministry of Finance. This will result in deliberation between the different minister off the different bureaucracies (process goes to step 8). |
| 9. The ministry of finance will check the concept budgets whether they are in line with previously made agreements (Governing accord, preliminary budgetary agreements (see step 1) and ‘Totalenbrief’) and whether the bureaucracy made their policy goals clear enough. |
| 8. If the deliberations between the different bureaucracies lead to a new agreement, this new agreement has to be deliberated in the council of ministers. This leads to a change in the ‘Totalenbrief’ which has to be agreed upon (process goes further at step 7a). |

### June / July

| 10. The approved concept budget is improved by all bureaucracies until a final budget design is made by the bureaucracy. |
| 11. The ministry of finance works on the ‘Miljoenennota’. This document contains the explanation of the proposed budget, the most important policy goals of all bureaucracies and the overall economic situation. |

### August

| 12. The Final decision on the budget takes into consideration the latest Macro economic numbers. |

### 1st of September

| 13. After the final decision of the council of minister, all the bureaucracies make their budget proposals final. Together they form the national budget |
| 14. Ministry of Finance hands the national budget over to the ‘Raad van State’ for some last advice. |

### September

| 15. Every Bureaucracy writes a reaction to the advice of ‘Raad van state’ |
| 16. The ministry writes a reaction to the advice of the ‘raad van state’ in the ‘Miljoenennota’ |
H.2 The parliamentary process concerning the national budget

<table>
<thead>
<tr>
<th>Period in fiscal year</th>
<th>Bureaucracies</th>
<th>Ministry of Finance</th>
<th>Minister’s council</th>
<th>The parliament (The TK and EK)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd Tuesday in September</td>
<td></td>
<td></td>
<td></td>
<td>1. The minister of finance hands the national budget and ‘miljoenennota’ over to the 2nd chamber. This marks the end of budgetary preparation and the beginning of the reflection period on the budget.</td>
</tr>
<tr>
<td>September / October</td>
<td></td>
<td></td>
<td></td>
<td>2. The parliament begins with the evaluation of the ‘miljoenennota’ and the national budget. The discussion focuses on the broad policy goals of the Government.</td>
</tr>
<tr>
<td>October, November, December</td>
<td></td>
<td></td>
<td></td>
<td>3. Every independent bureaucracy’s budget is dealt with in the parliament. First in the 2nd chamber, who can propose adjustments and then in 1st chamber who can either reject or accept the budget that comes from the 2nd chamber.</td>
</tr>
</tbody>
</table>

H.3 Execution of the budget

<table>
<thead>
<tr>
<th>Period in fiscal year</th>
<th>Bureaucracies</th>
<th>Ministry of Finance</th>
<th>Minister’s council</th>
<th>The parliament (The TK and EK)</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>1. Bureaucracies give monthly overviews of their execution of their budget to the ministry of finance. Thus, the ministry keeps track of the budgetary developments of all the bureaucracies.</td>
<td></td>
<td></td>
<td>2. The ministry of finance produces the “voorjaarsnota” which contains the most important revises on the national budget of the previous year.</td>
</tr>
<tr>
<td>May</td>
<td></td>
<td></td>
<td></td>
<td>3. The “miljoenennota” of the new year contains the plans for the next year as well as the result of the last fiscal year.</td>
</tr>
<tr>
<td>3rd Tuesday of September</td>
<td></td>
<td></td>
<td></td>
<td>4. The ministry of finance produces the “najaarsnota” to the second and first chamber, which deals with the budget execution of all bureaucracies.</td>
</tr>
<tr>
<td>November / December</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### H.4 Budget control and responsibility

<table>
<thead>
<tr>
<th>Period in fiscal year</th>
<th>Bureaucracies</th>
<th>Ministry of Finance</th>
<th>Minister's council</th>
<th>The parliament (The TK and EK)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>February</strong></td>
<td></td>
<td>1. The ministry creates a document (&quot;voorlopige rekening&quot;) in which the expenditures and income of the previous fiscal year is summarized.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>March</strong></td>
<td>2. Every bureaucracy creates budgetary overview of the previous year containing the achievement and costs. Each ministry gives an account of their budget in a so called &quot;slot wet&quot; (final law)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>End of March</strong></td>
<td></td>
<td>3. All budgetary overviews of the bureaucracies are discussed in the minister’s council. The council sends all the reports to the &quot;algemene rekenkamer&quot; (office of calculations)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Third Wednesday in March</strong></td>
<td>4. The ministry of finance produces the budgetary overview of the last year. After this report has been approved by the &quot;algemene rekenkamer&quot;, the report is send to the parliament along with all budgetary reports of all bureaucracies.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>June</strong></td>
<td></td>
<td>5. At the End of the budgetary cycle, a debate about the main points of the budgetary reports of the bureaucracies is held with the responsible minister. If the &quot;slot wet&quot; is accepted by the parliament, then the fiscal year has come to an end.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix I: The relation between Economic Freedom and Prosperity

According to Hanke and Walters (1997), older models of economic growth have focused on the relation between economic growth and the physical resources a country possessed; the rational was that output flowed from a combination of various inputs (land, labour and capital). Better growth was then the result of additional inputs and better use of the existing inputs. Newer models of this sort also included many other variables such as knowledge spillovers resulting from increases in the stock of capital, technology transfers and human capital investment. According to Olson (1996), these growth models based on the relation between growth, resources and spillover effects fail to explain observed patterns of growth in countries. Recently researchers of economic growth have turned to different principles and concentrated on the nature of institutions and on the structure of rules and norms constrain economic behaviour and their relation with economic growth (North; 1990, 1994).


I.1 Early studies inquiring into the relationship between economic freedom and prosperity

According to Hanke and Walters, Gastil and Wright (1988) were one of the first to systematically measure economic freedom; the researchers assigned scores of 1 to 7 to countries for their degree of political and civil liberties and assigned scores for economic freedom. Friedman (1988) correlated these rankings for civil liberties (“consideration in this measure given to private property rights, business freedom and freedom from gross government indifference or corruption”) with two measures of economic welfare; GNP per capita and the level of infant mortality (Friedman, 1988, p.122). Scully built on the work done by Gastil and Wright by enhancing their measures of economic liberty and by conducting more empirical analyses. Scully (1988, p.661) concluded the following in his first published report on this issue;

“The choice of the institutional framework has profound consequences on the efficiency and growth of economies. Politically open societies, which bind themselves to the rule of law, to private property, and to the market allocation of resources, grow at three times (2.73 to 0.91 percent annually) the rate and are two and one-half times as efficient as societies in which these freedoms are circumscribed or proscribed”.

Scully did a series of follow up studies in which (1) a more detailed theory of the relationship between the relationship of a nation’s constitutional setting and its economic performance is provided, (2) a more detailed measure of economic liberty is given and (3) the relationship between these
measures and welfare have been estimated. Scully (1992) confirmed his earlier findings on the
favourable effects of economic liberty on income growth and efficiency and also established that
growth of the public sector has a negative effect on economic growth (Hanke and Walters). Scully
(1992, pp.196-197) also determined that next to the favourable effect economic liberty has on
economic welfare, economic liberty also had favourable effects on the distribution of income. Barro
and Lee (1994), among other, have confirmed the empirical relations Scully had uncovered earlier.

I.2 Surveys into the relation between economic freedom and prosperity

One drawback of the previous studies is that their results have not been confirmed over a longer
period of time. The fact that economic institutions are changing over time and since economic freedom
is likely to have an effect on economic welfare with a certain time lag, it is important to evaluate this
relation over a long period of time (Hanke and Walters, 1997). One survey has done this on a
systematic basis: The Fraser Institute’s economic freedom index. Two other comparable surveys -
Freedom House’s economic freedom indicators and the Heritage Foundation’s indices of economic
Freedom - with the same aim, namely establishing a link between economic freedom and prosperity,
are comparable but do not cover such a long time span.

The effort of the Fraser institute culminated in the publication of Economic Freedom of the World:
1975 – 1995 (1996), which included three indices of economic liberty for more than 100 nations over a
period of 20 years (Gwartney, Lawson and Block, 1996). The conclusion of this report was as follows:

"Clearly, these data indicate that during the last two decades there has been a strong relationship between
economic freedom and economic growth. Without exception, countries with either a high level or a substantial
increase in economic freedom achieved positive growth. Correspondingly, the overwhelming majority of countries
with low and/or contracting levels of economic freedom experienced declines in per capita GDP" (Gwartney,
Lawson, and Block 1996: 104).

Freedom House’s survey did not cover such a long time span as the study done by the Fraser
covered a two year period. The study confirms the results found earlier:

"Whereas only 27 of those nations sampled, with just 17 percent of the world's population, merited a "free" rating,
these 27 nations produced 81 percent of total world output. By contrast, the 20 nations rated "not free" contain
more than a third of the world's people yet produce only 5 percent of total output. The Survey thus joins a handful
of recent studies in showing that economic freedom is the surest path to growth and development "(Messick 1996:
9).

The Heritage Foundation’s aim is slightly different from the other two surveys: It aims at providing
evidence on the utility of externally funded development assistance in facilitating growth. This study -
Index of Economic Freedom (Johnson and Sheehy 1995, 1996) – however added to the weight of
evidence on the relationship of freedom to growth according to Hanke and Walters. The conclusion is
the following:
"Of the 76 countries ranked as "mostly unfree" or "repressed" on the Index, 34 have received U.S. foreign aid for over 35 years, many for as long as 51 years. Of these 34 countries, 14 are poorer today than they were in 1965. Twelve more have essentially the same amount of wealth as they did some 30 years ago. Of the 34 long-term recipients of U.S. foreign aid ranked by the Index as lacking economic freedom, 26 are no better off than they were over three decades ago . . . If development aid is essential to economic prosperity, why has there been so little progress by countries that are most dependent on foreign aid? The answer is simple: Economic freedom, not aid, is the key to economic development" (Johnson and Sheehy 1996, p.2).

The three surveys of economic freedom share more similarities than differences according to Hanke and Walters (see table 1). The similarities come down to the following:

- Great importance attached to institutions that protect property rights and enforce contracts;
- Support of freedom of international exchange of goods and capital;
- Negative opinion towards barriers to entry into labour and products market and disfavour with controls on wages and prices

The differences have to do with the degree of emphasis on monetary stability and on the size of government (Hanke and Walters, 1997, p.126). "Both the Fraser Institute and Heritage Foundation surveys take explicit account of the extent to which a country's monetary institutions have successfully controlled inflation; the Freedom House survey simply assesses whether there is an independent central bank that might protect against citizens' savings losses via inflation. In addition, both Fraser and Heritage include (as negative indicators) measures of the size of the government sector and tax rates; Freedom House is more neutral on these indicators".

<table>
<thead>
<tr>
<th>Fraser Institute</th>
<th>Freedom House</th>
<th>Heritage Foundation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection of money as a store of value and medium of exchange</td>
<td>Freedom to hold property</td>
<td>Freedom of international exchange</td>
</tr>
<tr>
<td>Low money supply growth</td>
<td>Private property rights</td>
<td>Low tariffs, trade barriers</td>
</tr>
<tr>
<td>Low inflation rate</td>
<td>Intellectual property secure</td>
<td>Freedom to earn a living</td>
</tr>
<tr>
<td>Foreign currency accounts OK</td>
<td>Free exchange of property</td>
<td>Low income, corporate taxes</td>
</tr>
<tr>
<td>Bank accounts abroad OK</td>
<td>Freedom to earn a living</td>
<td>Low value-added, other taxes</td>
</tr>
<tr>
<td>Freedom to decide what is produced and consumed</td>
<td>Freedom to operate a business</td>
<td>Freedom to decide what is produced and consumed</td>
</tr>
<tr>
<td>Low government consumption</td>
<td>Business formation easy</td>
<td>Low government consumption</td>
</tr>
<tr>
<td>Few state-owned enterprises</td>
<td>No market entry restrictions</td>
<td>Few state-owned enterprises</td>
</tr>
<tr>
<td>Absence of price controls</td>
<td>No market entry restrictions</td>
<td>Protection of money as a store of value and medium of exchange</td>
</tr>
<tr>
<td>Secure property rights, non-discriminatory courts</td>
<td>Absence of price controls</td>
<td>Low inflation rate</td>
</tr>
<tr>
<td>No interest rate controls</td>
<td>Freedom to invest earnings</td>
<td>Free flows of capital</td>
</tr>
<tr>
<td>Freedom to earn a living</td>
<td>Market credit allocation</td>
<td>No foreign ownership limits or entry barriers</td>
</tr>
<tr>
<td>Low transfers/subsidies</td>
<td>Central bank independence</td>
<td>No discrimination between foreign and domestic firms</td>
</tr>
<tr>
<td>Low top marginal tax rate</td>
<td>No profit interest controls</td>
<td>Open banking system</td>
</tr>
<tr>
<td>No military consumption</td>
<td>Freedom of international exchange</td>
<td>No entry barriers for foreign banks</td>
</tr>
</tbody>
</table>

Economic Freedom

(continued)
I.3 Competitiveness studies

The international Institute for Management Development (IMD) and the World Economic Forum (WEF) published an annual survey of the “competitiveness” of a number of nations. According to Hanke and Walters this survey comes down to an inventory of each country’s competitive strengths and weaknesses. The IMD defines competitiveness as “the ability of a country to create added value and thus increase national wealth by managing assets and process, attractiveness and aggressiveness, globality and proximity, and by integrating these relationships into an economic and social model” (Decosterd et al, 1996, p.6). The WEF defines competitiveness as “the ability of a national economy to achieve sustained high rates of economic growth as measured by the annual change in gross domestic product per person” (Schwab et al. 1996: 8). According to Hanke and Walters, the three surveys of economic freedom and the competitiveness studies have a number of things in common: (1) “an emphasis on openness to international trade”, (2) “on well functioning capital markets”, (3) “and on a lean and efficient government sector”. Both competitiveness surveys also value a country’s stock of intellectual and physical capital greatly. One of the major differences between the two survey’s is weight that is given to institutional factors such as protection of private property rights, the rule of law, and the economic impact of political and regulatory considerations; the WER gives relatively more weight to these factors compared to the IMD in estimating the level of competitiveness of a country. Table 3 summarizes the key characteristics of these two surveys.

<table>
<thead>
<tr>
<th>Fraser Institute</th>
<th>Freedom House</th>
<th>Heritage Foundation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freedom of international exchange</td>
<td>Freedom to participate in the</td>
<td>Freedom to earn a living, operate a business</td>
</tr>
<tr>
<td>Low tariffs</td>
<td>market economy</td>
<td>Absence of wage controls</td>
</tr>
<tr>
<td>No gap between official and</td>
<td>Anti-discrimination rules</td>
<td>Absence of price controls</td>
</tr>
<tr>
<td>black-market exchange rates</td>
<td>Absence of corruption</td>
<td>Freedom to hold property</td>
</tr>
<tr>
<td>Size of trade sector matches expectations</td>
<td></td>
<td>Private property rights</td>
</tr>
<tr>
<td>No capital controls</td>
<td></td>
<td>Low probability of expropriation</td>
</tr>
</tbody>
</table>

201 Paul Krugman (1994) pointed out that nations really do not compete in the way that in the end there must be a winner and a loser; economists refer to this as a zero-sum game. This is because trade that takes places between countries and economic development is a positive-sum game. Trading partners thus are both winners, and one nation can enjoy higher standards of living without undermining living standards in other countries.

202 The IMD published the Internation Institute for Management Development’s World Competitiveness Yearbook 1996

I.4 Regression function linking freedom indicators and prosperity

According to Hanke and Walters the various surveys discussed hitherto produce rankings that have much in common (high correlations among the surveys' rankings; see Hanke and Walters, 1997, p.19), despite "underlying differences in purpose, methodology, and philosophy, the various". This leads both researchers to the claim that there is "a broad agreement about the institutions that are fundamental to economic freedom and growth. The fact that these correlations are not perfect (i.e., rs is not equal to 1.00) leads to Hanke and Walters to make the following claim;

"... are differing views about what indicators matter most. But these differences provide us with a unique opportunity: If all the different survey measures turn out to have a statistically significant correlation with prosperity, then we will have additional evidence of the importance of economic institutions..."

In order to establish the correlations between the different survey measures of economic, political freedom and prosperity, Hanke and Walters use the standard statistical technique for estimating the influence of one variable on another; the ordinary least-squares (OLS) regression. Both researchers follow the method used by Friedman (1988) in order to establish a "simple model of liberty and prosperity". This model features (1) a constant term, (2) a country's GNP/capita (in log

<table>
<thead>
<tr>
<th>Indicators of Competitiveness</th>
<th>IMD</th>
<th>World Economic Forum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Economy</td>
<td>Productivity</td>
<td>Openness</td>
</tr>
<tr>
<td></td>
<td>Capital formation</td>
<td>Absence of barriers to foreign trade and investment</td>
</tr>
<tr>
<td></td>
<td>Past economic performance</td>
<td>Government</td>
</tr>
<tr>
<td></td>
<td>Competition governed by market forces</td>
<td>Share of GDP spent by government</td>
</tr>
<tr>
<td>Internationalization</td>
<td>Openness to trade</td>
<td>Size of budget deficits</td>
</tr>
<tr>
<td>Export-led growth</td>
<td>Integration with international economy</td>
<td>Marginal tax rates</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Minimal state intervention</td>
<td>Finance</td>
</tr>
<tr>
<td></td>
<td>Predictable macroeconomic and social conditions</td>
<td>Effect of financial markets on consumption and saving behavior</td>
</tr>
<tr>
<td>Finance</td>
<td>Internationally integrated financial sector</td>
<td>Infrastructure</td>
</tr>
<tr>
<td></td>
<td>Quality and quantity of physical assets</td>
<td>Technology</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Well-developed business support systems, information technology, and efficient environmental protection</td>
<td>Management</td>
</tr>
<tr>
<td></td>
<td>Attributes of management that may affect success of domestic companies in global competition</td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td>Competitive price/quality ratio of products</td>
<td>Labor</td>
</tr>
<tr>
<td></td>
<td>Long-run, efficiency</td>
<td>Labor costs relative to international norms</td>
</tr>
<tr>
<td></td>
<td>orientation of management</td>
<td>Obstacles to hiring/firing workers</td>
</tr>
<tr>
<td></td>
<td>Entrepreneurial orientation</td>
<td>Labor taxes</td>
</tr>
<tr>
<td>Science &amp; Technology</td>
<td>Investment in basic research</td>
<td>Skilled education levels of labor</td>
</tr>
<tr>
<td></td>
<td>Innovative application of existing technologies</td>
<td>Civil Institutions</td>
</tr>
<tr>
<td>People</td>
<td>Skilled labor force</td>
<td>Protection of property rights</td>
</tr>
<tr>
<td></td>
<td>Work ethic</td>
<td>Rule of law respected</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Impact of political and regulatory legislation</td>
</tr>
</tbody>
</table>
form) as the dependent variable while (3) the country’s level of economic freedom, its level of political/civil liberty serve as independent variables. This comes down to the following equation in which the coefficients a, b, and c are estimated by Hanke and Walters (1997, p.136):

- \( \text{Ln (GNP/capita)} = a + b \text{ (Economic Freedom)} + c \text{ (Political/Civil Liberty)} \).

The regression results\(^{204}\) (see Table 6) are as follows: (1) Each equation explains from 56 to 75 percent of the variation in income; (2) every estimated coefficient on economic freedom has the expected sign and is (3) statistically significant at the 99 percent confidence level.

<table>
<thead>
<tr>
<th>Survey</th>
<th>Constant Term</th>
<th>Coefficient on</th>
<th>Survey Measure of</th>
<th>Adjusted R²</th>
<th>F-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Economic Freedom</td>
<td>Political/Civil Liberty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fraser Institute</td>
<td>2.7845**</td>
<td>0.8847**</td>
<td>0.3426**</td>
<td>0.6900</td>
<td>101.9 (2, 59 d.f.)</td>
</tr>
<tr>
<td></td>
<td>(3.10)</td>
<td>(7.12)</td>
<td>(5.37)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freedom House</td>
<td>2.3737*</td>
<td>0.1746**</td>
<td>0.2711*</td>
<td>0.5631</td>
<td>44.47 (2, 59 d.f.)</td>
</tr>
<tr>
<td></td>
<td>(2.11)</td>
<td>(3.18)</td>
<td>(2.45)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heritage Foundation</td>
<td>9.1635**</td>
<td>-1.3295**</td>
<td>0.2108**</td>
<td>0.6233</td>
<td>59.36 (2, 108 d.f.)</td>
</tr>
<tr>
<td></td>
<td>(7.53)</td>
<td>(-8.56)</td>
<td>(3.57)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>JMD</td>
<td>2.8901**</td>
<td>0.0281**</td>
<td>0.3352**</td>
<td>0.7476</td>
<td>57.76 (2, 59 d.f.)</td>
</tr>
<tr>
<td></td>
<td>(4.90)</td>
<td>(6.08)</td>
<td>(3.57)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>World Economic</td>
<td>2.0321**</td>
<td>0.5946**</td>
<td>0.4152**</td>
<td>0.7546</td>
<td>54.58 (2, 42 d.f.)</td>
</tr>
<tr>
<td>Forum</td>
<td>(4.10)</td>
<td>(5.52)</td>
<td>(7.95)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: t-ratio in parentheses below estimated coefficients; * indicates coefficient is statistically significant at the 99 percent confidence level; ** indicates coefficient is statistically significant at the 95 percent confidence level.

The estimates in Table 6 suggest that “enhancing liberty yields very large improvements in living standards” (Hanke and Walters, 1997, p.23). Hanke and Walters provide an historical example of New Zealand to endorse their conclusion:

“In the early to mid-1980s, New Zealand’s economy was burdened by unstable monetary policy, high marginal tax rates, foreign exchange and capital market controls, and a large transfer sector. As a result, real GDP per capita fell for four of the five years from 1987-91. Since then, however, New Zealand has embarked on a program of monetary stabilization, market liberalization, and tax cutting. As a result, New Zealand’s economic freedom scores in the Fraser Institute survey improved by 33 percent from 1990 to 1993-95. The payoff has been phenomenal growth in real GDP per capita; exceeding 4 percent annually since 1992” (Gwartney, Lawson, and Block 1996, pp. 178-9).

Based upon (1) all the studies discussed hitherto, and (2) the regression analysis made by Hanke and Walters based on five surveys that have been discussed, it can be concluded that economic

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\(^{204}\) Note that the negative ‘economic freedom’ coefficient found by the Heritage foundation’s regressions scores does not indicate that the more economic freedom there is, the less economic growth is expected. Rather, the Heritage survey’s freedom scores were devised so that lower scores indicated more freedom; in contrast, all other surveys were devised so that higher scores indicated more freedom. However, there is something peculiar with the regression function based on this survey since the more political / civil liberties result in lower expected economic growth which is in contrast with the other four surveys.
freedom and economic wealth are inextricably linked. According to Hanke and Walters: “All signs point in the same direction: those who would like people to enjoy greater prosperity must work to assure greater economic liberty”.
### Abbreviations used

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEP</td>
<td>Austrian Economic Perspective</td>
</tr>
<tr>
<td>CD</td>
<td>‘Centrum Democraten’; Nationalistic political party</td>
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<tr>
<td>CD</td>
<td>Commission Duivesteijn</td>
</tr>
<tr>
<td>CDA</td>
<td>‘Christen Democratisch Appèl’; Christian Democratic political party</td>
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<tr>
<td>CPB</td>
<td>Central Planning Board</td>
</tr>
<tr>
<td>D66</td>
<td>‘Democraten 66’; Social Liberal political party</td>
</tr>
<tr>
<td>EK</td>
<td>Eerste Kamer; First Chamber of parliament; Institution, which has the final say in passing a law: Less important then the TK since it almost never deviates from decisions reached within the TK.</td>
</tr>
<tr>
<td>GAB</td>
<td>‘Gezamelijke Actiegroepen Betuweroute’; local action groups that organized into a national organization</td>
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<tr>
<td>GBO</td>
<td>‘Gebundeld Bestuurslijk Overleg’ – Institution set up as a bundled deliberation body at the provincial level</td>
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<tr>
<td>GPV</td>
<td>‘Gereformeerde Politiek Verbond’; Protestant – Christian political party which merged, in 2000, with the RPF to form the ‘Christenunie’</td>
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<tr>
<td>HOVR</td>
<td>‘Haven Ondernemers Vereniging Rotterdam’; Merged with SVZ to form Deltalinqs, thereby representing more then 600 companies operating in the harbor of Rotterdam.</td>
</tr>
<tr>
<td>ICES</td>
<td>‘Interdepartementale Commissie Economische Structuurversterking’; a parliamentary commission aimed at stimulating investment projects which enhanced the economic structure of the Netherlands. The ICES is now part of the CWTI (Commission aimed at Science - Technology - and Information policy)</td>
</tr>
<tr>
<td>MAZ</td>
<td>‘Ministerie van Algemene Zaken; Ministry of General Affairs</td>
</tr>
<tr>
<td>MER</td>
<td>‘Milieu Effect Raportage’; study into the environmental effects of a certain project.</td>
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<tr>
<td>MEZ</td>
<td>‘Ministerie van Economische Zaken’; Ministry of Economic Affairs</td>
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<tr>
<td>MFIUT</td>
<td>Market For Inter-Urban Transportation of goods, services and people</td>
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<tr>
<td>MoF</td>
<td>‘Ministerie van Financien’; Ministry of Finance</td>
</tr>
<tr>
<td>MPBO</td>
<td>Mega Project Budget Overruns</td>
</tr>
<tr>
<td>MTPW</td>
<td>Ministry of Transport and Public Works</td>
</tr>
<tr>
<td>NDL</td>
<td>‘Nederland Distributie Land’; Organization which promotes transport and logistics interests in the Netherlands</td>
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<tr>
<td>NEA</td>
<td>‘Nederlands Centrum voor onderzoek, advisering en onderwijs op het gebied van verkeer en vervoer’; Institution aimed at research, advise and education in the area of transport and logistics</td>
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<tr>
<td>NIE</td>
<td>New Institutional Economics</td>
</tr>
<tr>
<td>NS</td>
<td>National Dutch Railway Company</td>
</tr>
<tr>
<td>NYFER</td>
<td>‘Nijenrode, Forum for Economic Research’</td>
</tr>
<tr>
<td>OIE</td>
<td>Old Institutional Economics</td>
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</tbody>
</table>
OVI  ‘Overlegorgaan Vervoersinfrastructuur’; a commission in which policy advice is given to the relevant minister with regards to the public reactions during the public inquiries of for example the PKB.

PCT  Public Choice Theory

PCTPW  Permanent Commission for Transport and Public Works

PKB  ‘Plannelogische Kernbeslissing’; decision making procedure which is applicable whenever the government decides to make changes in the current spatial plans.

PvdA  ‘Partij van de Arbeid’; Social Democratic political party

RHB  ‘Rotterdam Haven Bedrijf’; Port authority of Rotterdam; Mostly owned by the municipality of Rotterdam and partly by the Dutch State

RPC  Commission for National Spatial Planning Issues.

SDM  ‘Stichting Duurzame Mobiliteit’; this organisation focused on the environmental and noise hindrance aspects of the Betuwelijn as well as promoting shipping as an alternative for the Betuwelijn

SNM  ‘Stichting Natuur & Milieu’; a foundation which aims to protect nature & the environment

SVV2  (part a + b) ‘Tweede Structuurschema Verkeer en Vervoer’; Policy plans of the MTPW concerning transport and logistics.

SVZ  ‘Scheepvaart-Vereniging-Zuid’; Merged with HOVR to form Deltalinx thereby representing more than 600 companies operating in the harbor of Rotterdam.

TK  Tweede Kamer; Second Chamber of parliament in the Netherlands: Most important parliamentary institutions with respect to passing laws

TPW  Transport and Public Works

VLOB  ‘Vereniging Landelijk Overleg Betuweroute’; a national organization representing the interest of the local communities likely to be affected by the construction of the Betuwelijn.

VROM  Ministry of Spatial Planning and Environmental Affairs

VVD  ‘Volkspartij voor Vrijheid en Democratie in Amsterdam’; Liberal political party