FAILING OF MEGA PROJECTS

The ‘Operation Arran’ Case

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ACKNOWLEDGEMENTS

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ABSTRACT
Wherever we go in the world (industrialized and industrializing countries), or whenever we look in our history, we are confronted with mega-projects. In spite of this increasing number, megaprojects have often poor performance records in terms of economy (project costs and revenues), environment and public support.

One of the important reasons for the failure of mega-projects is flawed strategic decision making (including forecasting) with a possible influence of different types of risks (cost risk, demand risk, financial market risk and political risk). Flawed strategic decision making is due to biases (and strategic misrepresentation), and has a significant negative effect as these projects are characterized by (high) uncertainty. A common perspective related to these biases is optimistic overconfidence. Forecasting with mega-projects is an important part of the strategic decision making. Companies use different types of insurance and hedging instruments, and different methods for forecasting. The methods for forecasting with high uncertainty used by companies are only approximate procedures. Therefore, these methods don’t always work with high uncertainty (which characterizes strategic decision making with mega-projects).

A common bias in the area of optimistic overconfidence with strategic decision making of mega-projects and forecasting with uncertainty is illusion of control. Illusion of control is the tendency to perceive that one has the ability to influence outcomes that are obviously chance determined, so its expectancy of a personal success probability is inappropriately higher than the objective probability would warrant. Illusion of control needs to be suppressed when making strategic decision making (including forecasting) as it causes strategic failure, particularly in large, well-run companies. Based on the literature about illusion of control, I have identified several ways how to minimize the illusion of control in forecasting with uncertainty (motivational strategies, cognitive strategies and technological strategies).
On October 8, 2007, a consortium of three European banks, Royal Bank of Scotland Group, Fortis and Banco Santander, announced the acquisition of ABN-Amro (also called ‘Operation Arran’). This takeover is an example of a failed mega-project. A central reason why it failed was insufficient forecasting with uncertainty, and thereby illusion of control. The main problems revealed during the acquisition process were (1) communication with the stakeholders, (2) size and structure of the bid on ABN-Amro, (3) management of Fortis and (4) misappreciation of the impact of the financial crisis. Consequently, Fortis got into severe financial problems, which resulted in the sale of most of Fortis’ parts in 2008, with only the insurance activities remaining. An analysis of the illusion of control on Fortis was done using the different factors.

On the basis of the possible solutions identified earlier with illusion of control, four recommendations were found for Fortis based on two approaches (the cognitive and technological strategies), and were as follows: (1) ‘consider-the-opposite’, (2) reference-class, (3) scenario planning and (4) group decision making. The cognitive strategies should have been used for the forecasting as Fortis failed to understand the impact of the financial crisis. The Technological approach relate to the group decision making, which would have allowed Fortis to manage the power of Mr. Votron and Mr. Lippens better, and therefore increase the controlling power of the members of the Board of Directors and Executive Committee.

Most important, the four recommendations would have helped Fortis to minimize the illusion of control with the forecasting and therefore the decision whether to do the take over of ABN-Amro or not. Consequently, a possible take over of ABN-Amro would have been postponed or cancelled, and helped Fortis to survive the financial crisis. Last but not least, the recommendations found may also be valid for similar mega-project cases.
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1. INTRODUCTION / BACKGROUND

Wherever we go in the world (industrialized and industrializing countries), or whenever we look in our history, we are confronted with mega-projects. Mega-projects are implemented in the public as well in the private sector (for example in the area of mergers and acquisitions). Examples of mega-projects are power plants, dams, water projects, oil and gas extraction projects, information technology systems, aerospace projects and weapons systems (Arditi, et al., 1985; Flyvbjerg, et al., 2003). In spite of this increasing number, megaprojects have often poor performance records in terms of economy (project costs and revenues), environment and public support (Morris & Hough, 1987, cited in Flyvbjerg, et al., 2003). Three spectacular examples of mega-projects with such a poor performance record - and therefore considered as ‘having failed’ - are the Sydney Opera House, the airplane Concorde and the Suez Canal. Failed mega-projects resulted in inefficient use of resources, large losses and even bankruptcy of companies.

From January to June 2008 in Toulouse (France), I did an internship in the financial control department of the project organization for the Airbus A400M (a new military transport airplane). Also the aviation industries experienced and still experience many problems with their mega-projects (for instance with the Airbus A380), I became therefore interested in doing research on the reasons why these problems occur. As not so much (financial) information is given about the development of airplanes (this due to the confidentiality of information), I wanted to do a research about why mega-projects fail in general, and find ways how we can improve the performance of this type of projects.

One of the important reasons for the failure of mega-projects is flawed strategic decision making (including forecasting) with a possible influence of different types of risks (cost risk, demand risk, financial market risk and political risk). Flawed strategic decision making is due to biases (and strategic
misrepresentation), and have a significant negative effect on mega-projects as these projects are characterized by (high) uncertainty. The methods used for strategic decision making, and in particular forecasting, fail to take into account this uncertainty. A common perspective of biases of strategic decision making with mega-projects is optimistic overconfidence. Moreover, one of the common biases influencing forecasting under uncertainty and optimistic overconfidence with mega-projects is a psychological phenomenon called illusion of control. Therefore, the goal of my research is as follows:

To improve the performance of mega-projects by finding ways how to minimize the illusion of control with forecasting under uncertainty

The recommendations found in this thesis may result in minimized illusion of control, better forecasts, better strategic decision making and consequently lower failure of mega-projects. Possible ways to minimize illusion of control were found in the business- and psychology studies, which makes my research belong to the multi-discipline area and behavioral finance.

Next to the research in the literature, a case analysis was done to provide an application of the findings in the literature. I have chosen for the takeover of ABN-Amro by a consortium of Royal Bank of Scotland, Banco Santander and Fortis (also called ‘Operation Arran’), which is an example of a failed mega-project, mainly due to wrong forecasting and the illusion of control. I have chosen this case as it is relatively new and unknown (NRC Handelsblad, 2008; Brouwer, 2008).

The report is structured as follows. The second chapter Research Questions and Methodology will explain the selected methods of research and the main and detailed research questions. The chapter on Understanding Mega-Projects will introduce the reader on their performance, examples and their risks. The chapter Forecasting with Mega-Projects will explain what forecasting is, its importance
and problems. The fifth chapter *Illusion of Control* will inform the reader about definition, causes, and possible solutions. Next, the chapter *Fortis Case: ‘Operation Arran’* will provide the reader with an introduction about Fortis, the ‘Operation Arran’, and how illusion of control influenced this operation. The chapter *Conclusions* will summarize the findings of the thesis. Finally, the chapter *Recommendations* presents possible suggestion how Fortis could have minimized the effect of illusion of control with ‘Operation Arran’. These recommendations may also benefit other mega-projects with their forecasting under uncertainty.
2. RESEARCH QUESTIONS AND METHODOLOGY

2.1 Project description and statement of objective
The prototype of this thesis is an ‘essay study’. The aim of this research is:

*To improve the performance of mega-projects by finding ways how to minimize the illusion of control with forecasting under uncertainty*

The research consists of the following areas: the theory of mega-projects, forecasting under uncertainty, illusion of control and the case analysis.

2.2 Main research questions
The main questions are the following: What are mega-projects? What are the difficulties with mega-projects? What is forecasting under uncertainty? What are the difficulties with forecasting under uncertainty? What is illusion of control? How can the effect of illusion of control be minimized? How was illusion of control illustrated with the Fortis case? And last but not least, how can illusion of control in the case of ‘Operation Arran’ and similar mega-projects be minimized in the future?

2.3 Detailed research questions
The following questions and sub-questions will be answered:

Mega-projects (*Chapter 3*):
- What are mega-projects?
- What is the performance of mega-projects?
- Why do mega-projects fail?
- What are the risks of mega-projects?

Forecasting with Mega-Projects (*Chapter 4*):
- How is forecasting with uncertainty done?
- What are the problems of forecasting under uncertainty?
- How is forecasting with mega-projects done?
- How does forecasting under uncertainty relate to megaprojects?
What are the problems with forecasting with mega-projects?

Illusion of control (Chapter 5)
- What is illusion of control?
- What are the causes of illusion of control?
- How is illusion of control related to project-management?
- How can the effect of illusion of control be minimized?

Fortis case: ‘Operation Arran’ (Chapter 6)
- What is Fortis?
- How did the takeover of ABN-AMRO take place?
- What were the problems of this case?
- How was illusion of control illustrated with the Fortis case?

Recommendations (Chapter 8)
- How can the illusion of control be minimized in a case like Fortis? (or mega-projects)

2.4 Methodology
I have used a deductive approach for the thesis, which means that the theory about mega-projects, forecasting and illusion of control was the main point of departure. Consequently, a case was chosen for an application of the theory.

I have followed the nine phases for the thesis process mentioned in the synopsis: (1) orientation on research, (2) formulation and clarification of the research topic, (3) critical review of the literature, (4) choice of the research approach and strategy, (5) negotiation of access, (6) planning of data collection and the collection of the data using one or more sources, (7) analysis of the data, (8) writing of the project report and (9) submission of the report. Regarding the layout of the report itself, I used the guidelines mentioned in the thesis guidelines of the ASB (ASB, 2007).

With regard to the type of data, secondary data was used: journal articles, books, articles in newspapers and a documentary. Most of the secondary sources were in
English and Dutch, occasionally in French (Fortis is a Belgian-Dutch company). Concerning the references, I used the Harvard Style of Referencing (Anglia Ruskin University, 2008). Moreover, regarding currencies, I used the Euro as the Danish Kroner is fixed to this currency.

I found the journal articles by looking at the references made from other articles. Moreover, the reference option of ‘WebScience’ allowed me to look for future work. As the Aarhus School of Business has recently merged with the University of Aarhus, I was able to make use of the online resources of the University for my research. Databases which were used for the search of secondary data were ‘WebScience’, ‘ELIN’ and ‘PsycArticles’. Occasionally, I used the database ‘ScienceDirect’. Moreover, a selected set of keywords were used to conduct a search (Van De Ven, 1992), among them “mega-projects”, “project management”, “mergers and acquisitions”, “forecasting”, “uncertainty”, “planning”, “bias”, “optimistic overconfidence”, “illusion of control”, “debiasing”, “Fortis”, “ABN-Amro”, “takeover” and “financial crisis”.

Obviously, many articles have been written about the topics mega-projects, forecasting and illusion of control. By using the database ‘WebScience’, I used the citation-based analysis to know the relatively objective measure of the quality of the article (and the researchers). I limited myself to publications with a minimum of 10 references. An alternative would be to appraise each and every article individually on their quality, which would cost me a lot of time. Both types of approaches are however interrelated, and positively correlated (Johnson and Podsakoff, 1994).

Other secondary data, like books, were found by looking for references in the articles found earlier. I was able to borrow these books from the library of the University of Leiden. Moreover, journals in newspapers were found by using ‘LexisNexis’, the financial news website www.rtlz.nl and the online database of
the Dutch newspaper ‘NRC Handelsblad’. This newspaper is known to be a quality newspaper in The Netherlands. The newspapers allowed me to find data about the takeover of ABN-Amro by Fortis and the financial crisis. Moreover, a documentary about the takeover of ABN-Amro by Fortis was used (Reporter - Fortis-drama, 2009). Last but not least, statistical data were found using the database ‘Global Market Information Database’.
3. UNDERSTANDING MEGA-PROJECTS

3.1 Mega-projects
Wherever we go in the world (industrialized and industrializing countries), or whenever we look in our history, we are confronted with mega-projects. It is difficult to define exactly what a mega-project is. There are however different definitions. For example, a mega-project is an extremely large-scale investment project costing more than €1 billion (or dollar) and attracting a lot of public attention because of substantial impacts on communities, environment, and budgets (Flyvbjerg, et al., 2003). Megaprojects can also be defined as initiatives that are physical, very expensive, and public. Mega-projects are however not only implemented in the public sector. Examples of mega-projects in the private sector (Altshuler & Luberoff) include mergers and acquisitions (Weston, et al., 2003; Couzy, 2008; Sands, 2009).

In spite of this increasing number, megaprojects have often poor performance records in terms of economy (project costs and revenues), environment and public support (Morris & Hough, 1987, cited in Flyvbjerg, et al., 2003). Nevertheless, examples of good practice do exist. For the average major project however, there is substantial scope for improvement in cost-estimation procedures and in the institutional arrangements to control costs (Kain, 1990; Flyvbjerg, et al., 2003).

The bad performance of mega-projects usually results in inefficient use of resources. If the decision makers would have disposed of accurate information about the real performance, they might have resolved: (1) not to implement the project, (2) to implement the project in another form; or, (3) implement another project. In other words, non-viable projects, or projects that are less viable than forgone projects, may be implemented because their viability was inaccurately predicted (Flyvbjerg, et al., 2003). Moreover, the physical and economic scale of megaprojects is such that companies and even whole nations may be affected in both the medium and long term by the success or failure of just a single project.
Unsuccessful performance of projects can lead to bankruptcy of companies and serious problems for governments. Even for a large country such as China, analysts warn that the economic ramifications of an individual megaproject such as the Three Gorges dam could hamper the economic viability of the country (Salazar, 2000; Flyvbjerg, et al., 2003).

3.2 Reasons of mega-project failure
According to standard economic theory, the high failure rates of mega-projects are simple to explain. The frequency of poor outcomes is an unavoidable result of companies taking rational risks in uncertain situations. Entrepreneurs and managers know and accept the odds because the rewards of success are sufficiently enticing. In the long run, the gains from a few successes will outweigh the losses from many failures (Lovallo & Kahneman, 2003).

However, this is too simple to say. Many don't believe that the high number of business failures is best explained as the result of rational choices gone wrong. Rather, many see it as a consequence of flawed strategic decision making (including forecasting) with a possible influence of different types of risks (cost risk, demand risk, financial market risk and political risk). Strategic decision making can be viewed as a special kind of decision-making under (high) uncertainty (Schwenk, 1984). Flawed strategic decision making is due mainly to strategic misrepresentation and biases. Strategic misrepresentation is presenting figures on purpose too positively than they actually are (Flyvbjerg, et al., 2003), while biases is doing the same but not on purpose (however with the same effect) (Lovallo & Kahneman, 2003). Biases are cognitive limitations, and occur as a result of using heuristics for our information processing during high uncertainty (we need these heuristics as we have a limited information processing capacity) (Cooper, et al., 1988; Lovallo & Kahneman, 2003).

Optimistic overconfidence is a common perspective of biases of strategic decision making with mega-projects. Optimistic overconfidence is normal for the human
being, people are notoriously subject to wishful thinking and self-enhancement, and thus provide probability estimates that are distorted by these self-serving motivations (Ayton, McClelland, 1997). Optimistic overconfidence is however a threat to strategic decision making of projects (Odean, 1998; Koellinger, et al., 2007), in particular with mega-projects as these projects are characterized by high uncertainty (Lovallo & Kahneman, 2003). Optimistic overconfidence results in not being able to reflect the probabilistic reality of investment preparation and implementation. The optimistic overconfidence perspective is built on several findings in the psychological area. Known biases related to this perspective are:

♦ The better than average effect (Larwood & Whittaker, 1977; Griffin & Brenner, 2004), the tendency to rate oneself as above the mean in positive skills and traits;
♦ Unrealistic optimism (Weinstein, 1980; Griffin & Brenner, 2004), the tendency to rate oneself as more likely to experience positive events and less susceptible to negative events than others;
♦ Self-serving attributions (Miller & Ross, 1975, cited in Griffin & Brenner, 2004), the tendency to take credit for success and avoid blame for failure;
♦ Illusion of control (Langer, 1975; Griffin & Brenner, 2004), the tendency to rate oneself as having some degree of control over random events;
♦ Planning fallacy (Buehler, Griffin, & Ross, 1994), the tendency to believe that tasks will be completed more quickly and successfully in the future than they have been in the past.

3.3 Examples of mega-projects
Example of mega-projects are power plants, dams, water projects, oil and gas extraction projects, information technology systems, aerospace projects and weapons systems (Arditi, et al., 1985; Flyvbjerg, et al., 2003). Spectacular examples of cost overruns are the Sydney Opera House with actual costs approximately fifteen times higher than those projected and the Concorde
supersonic aero plane with twelve times higher costs (Henderson, 1977). When the Suez Canal was completed in 1869 actual construction costs were twenty times higher than the earliest estimated costs and three times higher than the cost estimate for the year before construction began. The Panama Canal, which was completed in 1914, had cost overruns in the range from 70 per cent to 200 per cent (Flyvbjerg, et al., 2003).

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<th>Project</th>
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<tr>
<td>Suez Canal</td>
<td>1,900</td>
</tr>
<tr>
<td>Sydney Opera House</td>
<td>1,400</td>
</tr>
<tr>
<td>Concorde supersonic aero plane</td>
<td>1,100</td>
</tr>
<tr>
<td>Panama Canal</td>
<td>200</td>
</tr>
<tr>
<td>Brooklyn Bridge</td>
<td>100</td>
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Table I. Mega-Projects with spectacular cost overruns (Source: Flyvbjerg, et al., 2003).

An example of a failed mega-project in the private sector is the Channel tunnel, the tunnel between France and Great Britain. It was opened in 1994 at a construction cost of € 15 billion after faced with several near-bankruptcies caused by construction cost overruns of 80 per cent, financing costs that are 140 per cent higher than those forecast and revenues less than half of those projected (Flyvbjerg, et al., 2003). Furthermore, more than 60 percent of the mergers and acquisitions fail (Weston, et al., 2003; Couzy, 2008; Sands, 2009), more than 70% of new manufacturing plants in North America close within their first decade of operation and more than 80% of the start-up ventures fail to achieve their market-share target (Lovallo & Kahneman, 2003).
Regarding good practices, successful projects are especially with roads, but also with rail. Examples of good practice in rail are for instance the construction of the TGV lines Paris South-East and Paris Atlantique in France which had only small cost overruns (Blanc, et al., 1996, cited in Flyvbjerg, et al., 2003), the Toronto Danforth rail extension and the Cologne Metro (World Bank, 1994, cited in Flyvbjerg, et al., 2003). Also, the technologically high-risk Apollo aerospace programme is considered a classic success story of mega-project planning and implementation (Morris & Hough, 1987, cited in Flyvbjerg, et al., 2003).
4. FORECASTING WITH MEGA-PROJECTS

4.1 Forecasting with uncertainty

Forecasting involves making predictions about an unknown issue with uncertainty and complexity. The challenge is to recognize and react to environmental change by finding the correct probabilities (O’Connor, et al., 1993). Uncertainty concerns the degree of available knowledge about the target variable, whether simple or complex (Schoemaker, 1993). Uncertainty can be defined as a disagreement among forecasters, or doubts within a single decision, as to the correct value of an unknown quantity of interest. There are three forms of uncertainty:

♦ Risks, where there is enough historical precedent, in the form of similar events, to enable us to estimate probabilities (even if only judgmentally) for various possible outcomes;
♦ Structural uncertainties, where we are looking at the possibility of an event which is unique enough not to provide us with an indication of likelihood. The possibility of the event presents itself by means of a cause/effect chain of reasoning, but we have no evidence for judging how likely it could be;
♦ Unknowables, where we cannot even imagine the event. Looking back in history we know that there have been many of these, and we must assume that this will continue in the future. But we have no clue what these events could be (Van Der Heijden, 1996).

For the ease, I refer in the thesis risks as low uncertainty, and structural uncertainties and unknowables as high uncertainty.

Regarding the individual, most of us have learned to live comfortably with day-to-day uncertainties and to make choices and decisions in their presence. We have evolved several methods to deal with uncertainty; cognitive heuristics and developed strategies, technologies, and institutions such as weather reports, pocket-sized raincoats, and insurance to accommodate or compensate for the
effects of uncertainty (Nisbett and Ross, 1980; Nisbett, 1993; Stanovich, 1999; Hogarth, 2001). Heuristics are cognitive simplification processes, needed as we have a limited human information processing capacity (Cooper, et al., 1988; Lovallo & Kahneman, 2003).

The methods are however at best only approximate procedures (Dawes, 1988). For example, as Tversky and Kahneman (1974:1125) stated, 'In general, these heuristics are quite useful, but sometimes they lead to severe and systematic errors'. These severe and systematic errors are also called biases, which are a result of using heuristics with high uncertainty (Tversky, A. & Kahneman, D., 1983; Schwenk, 1984; Kunreuther, et al., 2001; Kahneman, 2003). For forecasting under high uncertainty, the main biases are unrealistic overconfidence, illusion of control, information distortion, risk perception and assessing or weighing probabilities (Schoemaker, 2004). The reason is that humans cannot systematically or comprehensively consider all factors and consequently they often misestimate the degree of uncertainty as well as consistency of their intuitive predictions (Kahneman, et al., 1982; Harvey, 1995; Slovic, 1987; Schoemaker, 2004). Common mistakes when trying to learn in complex and uncertain environments include failing to entertain multiple hypotheses and placing too much weight on confirming rather than disconfirming evidence (Klayman & Ha, 1987, 1989; Schoemaker, 2004). Furthermore, when our cognitive processes for dealing with high uncertainty introduce error or bias into our judgments we are often unable to learn the lesson, or we may be unable to detect that the problem came from faulty processing of uncertain information (Sterman, 1989). It is known that people dislike ambiguity and thus try to avoid such situations (Fox & Tversky, 1995; Kunreuther et al., 1993). So, with heuristics, biases and high uncertainty, we muddle through, often doing quite well, occasionally getting into serious trouble (Hogarth, 2001; Morgan & Henrion, 1990)
4.2 Forecasting tools for mega-projects
Also companies use several methods to accommodate and compensate for the effects of uncertainty. Forecasting is an important part of strategic decision making with mega-projects. Companies use different types of insurance and hedging instruments, and different methods for forecasting.

4.2.1 Tools in relation to low uncertainty
Concerning the tools in relation forecasting methods of mega-projects, these methods are more often than not reasonably accurate (this is what makes them so dangerous) with low uncertainty. Many companies use the traditional approach, which includes making forecasts by focusing tightly on the case at hand - considering its objective, the resources they brought to it, and the obstacles to its completion, constructing in their minds scenarios of their coming progress, and extrapolating current trends into the future. The approach proceeds as if it would understand and predict the world precisely. They assume a predictable Newtonian world of cause and effect where things go according to plan (Bruzelius, et al., 2002). We try to predict the uncertainty, or take into account the uncertainty by methods like the sensitivity and uncertainty analysis. Sensitivity analysis is the computation of the effect of changes in input values or assumptions (including boundaries and model functional form) on the outputs. Uncertainty analysis is the computation of the total uncertainty induced in the output by quantified uncertainty in the inputs and models, and the attributes of the relative importance of the input uncertainties in terms of their contributions. Companies also make use of consultants with forecasting. Consultants can provide comparative data on other companies or projects, which creates useful outside-view thinking.

4.2.2 Tools in relation to high uncertainty
The methods for forecasting with high uncertainty used by companies are only approximate procedures (Lovallo & Kahneman, 2003; Flyvbjerg, et al., 2003). Like with methods we use for our daily life explained earlier, these methods don’t always work with high uncertainty (which characterizes strategic decision making.
Technical, scientific, economic and political quantities of mega-projects complicate attempts to do forecasting (O’Connor, et al., 1993). Uncertainty ranges are too narrow, and sooner or later forecasts will fail when they are needed most, in anticipating major shifts in the business environment that can make whole strategies obsolete (Wack, 1985b). Not surprisingly, the resulting forecasts, even the most conservative ones, were optimistic (O’Conner, et al., 1993). Regarding forecasting with high uncertainty, the main biases are unrealistic overconfidence, illusion of control, information distortion, risk perception and assessing or weighing probabilities (Schoemaker, 2004). Furthermore, several reasons can be given for the failing forecasting:

- Limits in data or understanding due to the high uncertainty preclude the use of conventional statistical techniques to produce probabilistic estimates (Morgan & Hough, 1987; O’Conner, et al., 1993; Morgan, et al., 1990);
- People are overly sure about the accuracy of their predictions (Klayman, et al., 1999);
- Vivid information or easily recalled data may overly influence judgments (Tversky & Kahneman, 1974);
- New information may be too conservatively factored into people’s revised forecasts (conservatism bias);
- Concrete new information may overshadow abstract prior probabilities (base-rate ignorance);
- The use of advisors, despite of the good intentions, companies often remain stuck in the inside view. Consultants tend to concentrate on the project itself, consequently their analysis is likely to be distorted by cognitive biases (Lovalle & Kahneman, 2003);
- Moreover, another problem with advisors is that outside advisors’ interests may not always coincide with the interests of the company (Jemison & Sitkin, 1986).
Here, muddling through the uncertainty and the consequent problems has a (significant) negative impact on the project and company. Not only inefficiency of resources occurs, but also high losses and even bankruptcy. For example, muddling through a crisis, when forecasts are insufficient, results in that mega-project fail and consequently problems occur for the company. The need for change is clear, the problem is that the company usually has little time and few options. The deeper into the crisis the company is, the fewer options remain. Crisis management, by necessity, becomes autocratic management. Decisions are quick, but implementation is rarely good, therefore many companies fail to survive. This can be illustrated by the fact that a full one-third of the Fortune "500" industrials listed in 1970 had vanished by 1983 (De Geus, 1988).

4.3 Failure to take into account high uncertainty
The question remains, despite of the high uncertainty, why do we continue with the feeling that we can predict the future when planning and implementing mega-projects? A number of political, behavioral, and analytical factors exist to promote the continuation of this practice (Morgan & Henrion, 1990). As mentioned previously (Chapter 3. Understanding Mega-Projects), biases which results in optimistic overconfidence play an important role in the failure of strategic decision making of mega-projects (Lovallo & Kahneman, 2003; Flyvbjerg, et al., 2003). Several biases were identified with optimistic overconfidence (Griffin & Brenner, 2004). Moreover, several biases were identified with forecasting under high uncertainty (Schoemaker, 2004).

An important bias in the area of optimistic overconfidence with strategic decision making of mega-projects and forecasting with uncertainty is illusion of control (Griffin & Brenner, 2004; Schoemaker, 2004). Managers are prone to the illusion that they are in control of everything, also the future. Sometimes, in fact, they explicitly deny the role of chance in the outcome of their plans. They see risk as a challenge to be met by the exercise of skill, and they believe results are
determined purely by their own actions and those of their organizations. In their idealized self-image, these executives are not gamblers but prudent and determined agents, who are in control of both people and events. When it comes to making forecasts, therefore, they tend to ignore or downplay the possibility of random or uncontrollable occurrences that may impede their progress toward a goal (Lovallo & Kahneman, 2003).

Biases, like illusion of control, may however not operate in all strategic decisions. Descriptions of top level public and private sector decisions provide examples of situations in which these heuristics did not lead to biases (Schwenk, 1984). The basic assumption is that biases are most likely to impact organizational decisions when there is a great deal of consensus within the decision-making group. A great deal of consensus happen for instance when all members of the decision-making group are in fundamental agreement with each other, or if the highest-ranking member of the group is able to enforce consensus around his or her basic assumptions. Consequently, it is very likely that these assumptions about the problem are formed through these simplification processes (normally heuristics, but biases when there is uncertainty) (Schwenk, 1984). However, if there is a divergence of assumptions among group members, biases are more likely to be corrected as assumptions are challenged and examined critically in the decision-making process (Nisbett and Ross, 1980).
5. ILLUSION OF CONTROL

5.1 Understanding illusion of control
Like heuristics, optimistic overconfidence and biases, illusion of control is very normal for the human being, and happens with everyone. Illusion of control contributes to the human mental health as it allows people to think they control (or perceived control) which results in positive consequences, and less stress (Gigerenzer, et al., 1999; Gigerenzer & Selten, 2001, Gigerenzer, G., 2004, Baron, J., 2002). Moreover, illusion of control results in optimism, which is often needed in companies (Lovallo & Kahneman, 2003).

However, as discussed before (Chapter 4: Forecasting with Mega-Projects), illusion of control is one of the central biases that may cause failure of forecasting under high uncertainty, and therefore of mega-projects (Griffin & Brenner, 2004; Schoemaker, 2004). Illusion of control is the tendency to perceive that one has the ability to influence outcomes that are obviously chance determined, so its expectancy of a personal success probability is inappropriately higher than the objective probability would warrant (Alloy & Abramson, 1979, cited in Abramson, et al., 1981). In general, managers overestimate performance due to illusion of control but show less tendency to do this if they had experienced unsatisfactory results in earlier planning experiences (Schwenk, 1984). Illusion of control needs to be suppressed when making strategic decision making (including forecasting) (Schoemaker, 2004) as it causes strategic failure, particularly in large, well-run companies. It also results in opportunities missed because managers did not recognize them in time (Wack, 1985a). However, as mentioned (Chapter 4: Forecasting with Mega-Projects), illusion of control (like every bias) is most likely only to impact organizational decisions when there is insufficient group decision making (Nisbett and Ross, 1980).
Several factors cause illusion of control, the main ones are as follows: (1) skill factors, (2) emphasis on success, and (3) the desire to have control of the outcome, or to obtain the outcome, or both.

5.2 Factors causing illusion of control

5.2.1 Skill factors

People think that there is much overlap between skill and luck. In real life however, it is clear that there is a distinction. In skill situations there is a causal link between behavior and outcome, so success in skill tasks is controllable. Luck, on the other hand, is a fortuitous happening, success in luck or chance activities is apparently uncontrollable. People however still think they can control as well its success in luck. Therefore, they behave as though chance events are subject to control (Kahneman, et al., 1982). The more similar the chance situation is to a skill situation in outcome-independent ways, the more likely it is that people approach the chance situation with a skill orientation and the greater will be the illusion of control.

Whether or not an event will be perceived as determined by skill or chance depends on the following: competition, foreknowledge, familiarity, active involvement, or passive involvement into a chance situation (Thomson, et al., 1998; Langer, 1975). Competition means that the attractiveness and confidence of a person who is competing against another person varies. Thus, playing a game with an unconfident individual or even observing such a person increases illusion of control, whereas a confident opponent has the opposite effect. Secondly, foreknowledge is important as in most skill areas individuals know what their goals are and which actions lead to which outcomes. The more the action follows the goals previously stated, the more illusion of control. Concerning familiarity, the more familiar a situation is, the more illusion of control. Familiarity can be created in several ways, for instance by providing familiar issues and of course by practice.
Similarly, active involvement leads to stronger beliefs in the success of one's performance (Ayeroff & Abelson, 1976). Participants who are the performers rate themselves better at the task and predict they would have more successes than observers did (Langer & Roth, 1975). Langer (1975) also expected that passive involvement, such as giving more thought to the situation, would lead to greater illusory control. This passive involvement allows subjects to think about the event in order to come upon successful strategies.

5.2.2 Emphasis on success
An emphasis on success also increases illusion of control (Langer & Roth, 1975). For example, in an experiment, although all participants experienced the same number of successful predictions, some had an early streak of consistent success, some had the successes occur later, and some received a random sequence of successes. Those who received feedback that they were consistently successful early in the task were more likely to see themselves as good at the task, to over-remember past successes, forget the critical points and to expect more success in the future.

Another success focus condition involves the frequency of reinforcement in a noncontingency situation. People will be highly successful at a pure chance task if the probability of reinforcement is high. For example, if the desired outcome happens frequently, regardless of the participants' actions, their success level will be high, although there is no contingency between their actions and outcomes.

The flip side of a success focus is an emphasis on failure. Whereas a success emphasis increases illusion of control, a failure emphasis may reduce and, at times, completely eliminate illusion of control. Thus, depending on the presence or absence of failure feedback, the same task can produce illusion of control or learned helplessness (Thomson, et al., 1998).
5.2.3 The desire to have control of the outcome, or to obtain the outcome, or both

The more people desire to have control of the outcome or to obtain the outcome, or both, the more illusion of control occurs. Although several ways of defining control exist, control can be defined as the perceived ability to significantly alter events. One important aspect of this definition is that it is not necessary that the person actually has control over the relevant events but rather that he or she perceive this control (Burger, 1989). Control is a fundamental human motivation. Moreover, according to Burger and Cooper (1979), some individuals have a stronger need than others to feel a sense of control. The sequence of wins also interacted with the desire for control in a second study (Burger, 1986). High desire for control participants rated their past and future performance higher if they had an early pattern of success. Furthermore, Friedland, Keinan, and Regev (1992) proposed that one characteristic of stressful situations is that they undermine a sense of control. So there is motivation to avoid the negative consequences that accompany the perception of having no control. There has been much research showing that a biased perception of control over an impending event reduces the aversiveness of that event (Lefcourt, 1973). A temporary loss of control is anxiety arousing (Langer, 1975).

Having control has several advantages. Many theorists have maintained that a sense of personal control is integral to the self-concept and self-esteem (Taylor & Brown, 1988). The importance of control in this context has been widely discussed by both therapists and social science researchers. Control is driven by a need for competence (White, 1959), an instinct to master (Hendrick, 1943, cited in Langer, 1975), a striving for superiority (Adler, 1930, cited in Langer, 1975), or a striving for personal causation (deCharms, 1968, cited in Langer, 1975) or the desire to be healthy and adaptive (Langer, 1975). Most social scientists agree that there is a motivation to master one's environment, and a complete mastery would include the ability to "beat the odds," that is, to control chance events. The more difficult a problem is, the more competent one feels in being able to solve it.
greatest satisfaction or feeling of competence would therefore result from being able to control the seemingly uncontrollable; successful completion of challenging tasks demonstrates general competence and mastery over the environment (Langer, 1975).

There are of course also disadvantages with control. This is likely to happen when the increase in control leads to a high level of concern for self-presentation, when the person perceives a decreased probability of obtaining desired outcomes, and when the increased controllability leads to an increase in attention to the now-predictable events (Burger, 1989).

5.3 Solutions for illusion of control

5.3.1 In general
Illusion of control can, and should be tempered, with strategic decision making (Lovallo & Kahneman, 2003; Schoemaker, 2004). There are three approaches of minimizing illusion of control: motivational strategies, cognitive strategies and technological strategies. These approaches will however not completely prevent illusion of control happening. Regarding the motivational approach, it focuses on increasing the motivation to perform well. A critical assumption in this approach is that people possess normative strategies and will use them when the benefits exceed the costs, therefore, incentives and accountability has been proposed.

The two other approaches are the cognitive and technological approach. Both do not presume that people possess these normative strategies. Instead, they assume that intuitive strategies are imperfect, but that they can be replaced by strategies that approach normative standards (even if falling short). The identification and dissemination of better strategies is known as prescriptive decision making (Larrick, 2004). The cognitive approach is very useful for forecasting with high uncertainty as the traditional methods fail with these circumstances. This approach accepts (high) uncertainty, tries to understand it, and makes it part of
our reasoning (Wack, 1985b). The following cognitive strategies have been proposed: list and assess the arguments, consider the opposite, reference-class forecasting, scenario planning and training biases (Nisbett, et al., 1983; Larrick, 2004).

The technological approach expands possible strategies to include techniques external to the decision maker. Such techniques include using groups in place of individuals, improving information processing through decision aids and information displays, supplementing intuitive decision making with formal decision analysis, and replacing individual judgment entirely with statistical models. In the following part, these three strategies will be discussed more in detail.

5.3.2 Motivational strategies

A. Incentives
Economists have often responded to claims about decision errors with a call for better incentives. The assumption is that individuals will spend more effort on “reflection and calculation” when the stakes are high enough. Incentives are in particular good in settings such as clerical and memorization tasks (Stone & Ziebart, 1995), where people posses the cognitive capital required to perform well but lack the intrinsic motivation.

There is little empirical evidence, however, that incentives consistently improve mean decision performance (Camerer & Hogarth, 1999). First, it is believed that intrinsic motivation is usually high enough to produce steady effort. Secondly, while more money might induce more effort and (distracting) emotions, the effort and emotions do not always improve performance, especially if good performance requires subjects to induce spontaneously a principle of rational choice or judgment (Camerer & Hogarth, 1999). Performance is not based on effort and emotion, but on “cognitive capital” (Camerer & Hogarth, 1999), which can not be
increased by incentives. Third, very high incentives in complex situations may potentially decrease (not increase) decision quality by increasing negative affect (Tversky & Kahneman, 1986). When decision makers lack the necessary cognitive capital, incentives may lead them to apply inferior strategies with more determination producing a pattern which is called the “lost pilot” effect, which basically means that the person doesn’t know where he or she is going, but he or she is having a good time (Arkes, et al., 1986; Hogarth, et al., 1991; Larrick, 2004). Therefore, incentives do not help performance when decision-making tasks are either quite complex; or they are relatively simple, but require that a decision maker possesses both the right strategy and the ability to recognize when to apply it.

B. Accountability
A second motivational approach to debiasing is holding people accountable for their decisions, that is, giving them the expectation that they will later have to explain and justify their decision to others. The principal mechanism by which accountability improves decision making is pre-emptive self-criticism. In preparation for justifying their decisions to others, decision makers anticipate the biases in their own arguments, thereby improving their decision processes and outcomes (Brown, 1999; Larrick, 2004). Accountability was suggested for mega-projects (in particular in the public sector) (Flyvbjerg, et al., 2003). The theory of accountability is similar to the logic of incentives, except that it depends on the motivational effects of social benefits (such as making a favorable impression and avoiding embarrassment). Just as with monetary incentives, accountability leads to greater effort (e.g., time spent on a task) and use of information (e.g., information searched in an information display) (Huber & Seiser, 2001), which may often lead to improved performance. Therefore, as with monetary incentives, accountability primarily improves performance on tasks for which people already possess the appropriate strategy (Lerner & Tetlock, 1999).
However, just as with monetary incentives, the same problems occur when people do not possess the appropriate strategy. For instance, the use of more information can lead to a “lost pilot” effect, as explained with the incentives (Siegel-Jacobs & Yates, 1996; Tetlock & Boettger, 1989; Larrick, 2004).

5.3.3 Cognitive strategies

A. List and assess the arguments
A possible strategy could be to ask the decision makers to given reasons and to construct careful arguments in support of their judgments. This may improve the quality of assessments in some circumstances, however, such a strategy is not a cure-all (Morgan & Henrion, 1990). Decision makers tend to generate only supportive reasons. Moreover, for some tasks, reason generation can disrupt decision-making accuracy if there is a poor match between the reasons that are easily articulated and the actual factors that determine an outcome (Wilson & Schooler, 1991). Last but not least, asking someone to list too many contrary reasons can fail, the difficulty of generating the tenth “con” can convince a decision maker that her initial judgment must have been right after all (Roese, 2004; Larrick, 2004).

B. Consider the opposite
The general strategy “consider the opposite” is effective at reducing overconfidence, hindsight biases, and anchoring effects (Arkes, 1991; Mussweiler, et al., 2000, cited in Larrick, 2004). The strategy consists of asking oneself, “What are some reasons that my initial judgment might be wrong?” The strategy is effective because it directs attention to contrary evidence that would not otherwise be considered. It directly counteracts the basic problem of associated-based processes, an overly narrow sample of evidence, by expanding the sample and making it more representative. Similarly, prompting decision makers to consider alternative hypotheses has been shown to reduce confirmation biases in seeking and evaluating new information (Larrick, 2004).
C. Reference-class forecasting

Reference-class forecasting completely ignores the details of the project at hand, and it involves no attempt at forecasting the events that would influence the project's future course. Instead, it examines the experiences of a class of similar projects, lies out a rough distribution of outcomes for this reference class, and then positions the current project in that distribution (Lovallo & Kahneman, 2003). It yields a more realistic estimate as it bypasses cognitive and organizational biases. Managers aren't required to weave scenarios, imagine events, or gauge their own levels of ability and control-so they can't get all those things wrong. It doesn't matter if managers aren't good at assessing competitors' abilities and actions; the impact of those abilities and actions is already reflected in the outcomes of the earlier projects within the reference class (Lovallo & Kahneman, 2003). It's however true that by being based on historical precedent, it may fail to predict extreme outcomes-those that lie outside all historical precedents. But for most projects, this approach produces good results (Lovallo & Kahneman, 2003). The approach's advantage is most pronounced for initiatives that companies have never attempted before, for instance building a plant with a new manufacturing technology, entering an entirely new market or doing a project with high uncertainty. It is in the planning of such efforts that the biases toward optimism are likely to be great. Ironically, however, such cases are precisely where the organizational and personal pressures to apply the traditional inside view are most intense. The fact remains, the outside view is more likely to produce accurate forecasts and much less likely to deliver highly unrealistic ones (Lovallo & Kahneman, 2003).

Of course, choosing the right class of analogous cases becomes more difficult when executives are forecasting initiatives for which precedents are not easily found. Imagine that planners have to forecast the results of an investment in a new and unfamiliar technology, it will be difficult to find a reference class. However,
it will be possible to find reference classes which are more or less related to the situation, and which will provide useful insights (Lovallo & Kahneman, 2003).

D. Scenario planning
Scenario planning is good at deepening our understanding of the forces at work and in generating multiple viewpoints that capture the full range of uncertainty (and complexity) (Schoemaker, 1993). Some organizations have applied scenario planning to a broad range of issues, from relatively simple, tactical decisions to the complex process of strategic planning and vision building (Van Der Heijden, 1996; Ringland, 1998). One particular company famous with scenario planning is the Royal Dutch/Shell, which has used scenarios since the early 1970s as part of a process for generating and evaluating its strategic options (Wack, 1985a, 1985b; Schoemaker & Van Der Heijden, 1992). Shell has been consistently better in its oil forecasts than other major oil companies, and saw the overcapacity in the tanker business and Europe’s petrochemicals earlier than its competitors. Other firms have likewise benefited from scenario planning (Schoemaker, 1993).

Unlike earlier tools discussed, scenario planning typically occurs within a rich organizational context, involving big picture issues and, perhaps, deep differences of view about the future. Scenarios focus on the joint effect of many factors. When people list possible causes, as for instance in fault tree analysis, people may tend to discount any one factor in isolation. But when people explore the factors together, you realize that certain combinations could magnify each others’ impact or likelihood. For instance, an increased trade deficit may trigger an economic recession, which in turn creates unemployment and reduces domestic production (Tversky & Kahneman, 1983; Schoemaker, 1993).

Based on the different scenarios, stress tests can be done. Since the turbulence in financial markets in the Far East (1997), banks test their risk systems for exceptional situations (Wester, 2001a). These tests now seem to be an integral part of risk management in banks (Wester, 2001a). They test for collapsing...
markets, various creditors and erratic currency movements (Wester, 2001b). Not only banks have been using stress tests, also central banks in Europe and USA have started using stress tests recently (Kalse, Van Lent, 2009). They demand that banks test themselves better for these risks (with the European Union, this is stated in the Basel II agreement) (Wester, 2001b; Kalse, Van Lent, 2008a). It remains however a question what scenarios stress tests will have to be used (very positive, positive, current situation, negative or very negative).

Unfortunately, scenario planning is not as well understood nor as widely practiced as it should be within the business area. Most managers have only a moderate level of familiarity with this important tool according to our surveys (Schoemaker, Randall, 2002, cited in Schoemaker, 1993). Moreover, it is not always easy to find the right scenarios. It is normal to stay optimistic, moreover, nobody is interested in taking into account the worse case scenario. For example, the Dutch Central Bank did a stress test before the break out of the financial crisis with the scenario that banks stopped lending each other money for one week. International bankers considered this as unrealistic, which however later (with the impacts of the financial crisis) proved to be right. A recent example is the stress tests banks in the USA had to take in order to know how much more money they would need from the US Central Bank. Critics of the stress tests said that the scenarios used for these tests were too positive (Van Lent, 2009).

E. Training in biases
An option with the cognitive strategies is to actually train the decision makers with respect to the prevention of biases. Research on behavioral decision theory (BDT) is increasingly taught in psychology, law, and management curricula. The theory is often taught in these classes to demonstrate inconsistencies in human reasoning.

It was however found that explicit warnings about the direction of bias did little to reduce overconfidence. Therefore, without accompanying recognition skills and
decision tools, it is unlikely that “awareness” alone would be sufficient (Larrick, 2004).

5.3.4 Technological approach

A. Group decision making

As mentioned (Chapter 4: Forecasting with Mega-Projects), good group decision making leads to a minimization of biases (and the thereby illusion of control) with strategic decision making. There are many reasons why groups might be beneficial. First, groups serve as an error-checking system during interaction. Second, “synergies” can emerge when people with complementary expertise interact. The third and arguably most important reason why groups improve decision making is statistical. Groups increase the effective sample size of experience used to make a decision. The result is that on tasks that require novel solutions (such as creativity or hypothesis generation tasks), groups hold more diverse perspectives than any one individual. Moreover, on tasks that require estimation (such as forecasting or evaluation tasks), the larger sample and diversity of cue-usage in groups makes the combination of individual judgments a powerful way to reduce individual error. The result is that simply averaging individual forecasts has proven a robust method of reducing errors in prediction and estimation (Clemen, 1989; Larrick, 2004). Last but not least, group decision making creates brainstorming and supports the other suggestions given before (‘consider-the-opposite’ and scenario planning).

Group decision-making resources are often criticized because social influence processes may undermine their effectiveness. People in groups often intentionally withhold or misrepresent their private judgments to avoid the social costs of rejection or to “free ride” on the efforts of others. But perhaps the biggest threat in groups is that people are unknowingly influenced by the public judgments of others (Hogarth, 1978). Especially under conditions of uncertainty, people are susceptible to anchoring on the judgments of others in forming their own
judgments (Larrick, 2004). Moreover, shared training, shared experiences, and shared discussions all lead group members to hold a similar view of the world and similar blind spots. Although holding a similar view can foster group cohesion, it reduces the informational benefits of group decision making (Larrick, 2004). Therefore, like every approach suggested before, it has to be done in a proper way in order to prevent these problems.

Regarding certain solutions for the group decision making of management with companies (Executive Committee and Board of Directors), not so much is known about effective group decision making. Studies about this type of group decision making are rare and their findings do not always support each other. For example the optimal size of the board, in theory, a number of factors favor large boards (extra resource-gathering, more specialists and etc.). On the other hand, a number of considerations suggest that small boards may be preferable (large boards are fragmented and contentious or the number of nonparticipants increases). Other examples of how to improve group decision making concern the voting system, ways of communication (electronic or in person), liability, dependency or independency of the teams, the members’ responsibilities next to the company (positions with other companies or institutions), and of course the diversity of the members (gender, age, nationality, number of years with the company) (Bainbridge, 2002; McDonald, et al., 2008).

B. Linear models, multi attribute utility analysis, decision analysis and Decision Support Systems (DSS)

An alternative of the group decision making is to improve forecasting based on statistics. This can be done by improving the use of the statistical tools, and the tools themselves (Sedlmeier, 1999).

The estimation of forecasts by data from the past is to a certain limit valuable. However, for circumstances of high uncertainty, it is very difficult to estimate the
correct probabilities. The higher the uncertainty in the market, the higher the difficulty to estimate the chance factor.
6. FORTIS CASE: ‘OPERATION ARRAN’

6.1 Company description
Fortis is the parent company for Fortis SA/NV and Fortis N.V. Fortis SA/NV is the Belgium part, and is registered in Brussels while Fortis N.V. is incorporated in the Netherlands and is registered in Utrecht (Fortis, 2008). Fortis is an average-sized insurance company with its main concentration of activities in the Benelux (The Netherlands, Belgium and Luxembourg). Before the year 2008, Fortis was active in banking, insurance, and investment management. The bank was the biggest company of Belgium and belonged to the 20th largest businesses in the world by revenue (CNN Money, 2007). Fortis was founded in 1990, as the result of a merger of AMEV (a large Dutch insurer), VSB (a Dutch Banking Group) and AG (a Belgian insurer). The basic principles of Fortis were: “the willing to perform”, “do always one step more”, “show unity” and “be optimistic” (Fortis, 2008).

Fortis was organized according to the Anglo-Saxon model with the Executive Committee and Board of Directors intertwined. The Executive Committee consisted of a Chief Executive Officer, Mr. Jean-Paul Votron, and eight other people. The Fortis’ Executive Committee runs Fortis in keeping with the values, strategies, policies, plans and budgets endorsed by the Board of Directors (Fortis, 2008). All of the members of the Executive Committee were male, most of them Belgians and between the years 50-64. Moreover, most of them had next to the membership of the Executive Committee around two other positions (with companies and institutions). Appendix I provides more detailed information about the members of the Executive Committee in 2006 (Fortis, 2007).

The Board of Directors consisted of a Chairman, in 2007 Mr. Lippens, and thirteen other people. The board of directors is a body of elected or appointed persons who jointly oversee the activities of a company or organization (Fortis, 2008). This is achieved by holding regular strategic sessions to evaluate Fortis’s
market positions and business strategies, discuss strategic proposals and decide the strategies to be implemented under the leadership of the CEO (Fortis, 2008). Like the Executive Committee, the Board as a whole is collectively accountable to the company for adequately exercising such authority, powers and duties (Fortis, 2008). Most of the members of the Board of Directors were male, Belgians and Dutch, between the years 45-59 and had been employed with Fortis for less than 10 years. Moreover, most of them had next to the membership of the Board of Directors around 3-8 other positions (with companies and institutions). Appendix II provides more detailed information about the members of the Board of Directors in 2006 (Fortis, 2007).

The Fortis leadership had two remarkable persons, who were also the main drivers of Fortis’ growth: Mr. Lippens and Mr. Votron. Mr. Lippens joined the AG Group in 1981, in 1983 becoming CEO, and then Chairman of the Board of Directors from 1988 until 2008 of AG Group and consequently Fortis. Mr. Lippens was also called ‘Mr. Fortis’, due to his long career with Fortis and AG Group. Mr. Votron worked 16 years with Unilever, nine year with Citibank and four with ABN-Amro. September 2004, he became the CEO of Fortis and immediately outlined two ambitious goals: (1) by 2009, one third of the profits from outside the Benelux and (2) profits’ increase annually with 15 percent. Mr. Votron changed the corporate culture to a more American oriented ambitious and entrepreneurial spirit. This however also resulted in more risk taking. Mr. Votron often talked about "going the extra mile," one of the 14 indicators against which all Fortis employees’ performance was measured (Cordes, 2007a).

6.2 The banking sector and Fortis
Regarding the economy and the banking industry, several crises occurred during the last century. Although many crises like the last global financial crisis occurred many years ago (1928-1933) (Kalse, Van Lent, 2008a), also Fortis faced several crises. The most significant ones the Asian Crisis (1997), the bursting of the
The Asian crisis did however not affect Fortis so much, however the dotcom crisis and the attacks of September 11 did affect Fortis (Figure II; Makinen, 2002). After the crises, from 2003, economic growth continued (Figure I). The share price of Fortis increased from 2004 to 2007 with over 70 percent to € 32.3 (Depuydt, 2008a). Banks continued their good performance, and competed heavily among each other, which resulted in more risk taking (Kalse, Van Lent, 2008b). In the meanwhile however, ‘a bubble’ had been created in the housing market. This bubble was perceived the first years of the century 2000, and the first signs of problems were noticed at the end of 2006.

Regarding the banking sector itself, it had been characterized by waves of mergers and takeovers. The banking sector in the Benelux experienced in the 1980s and 1990s a wave of mergers and acquisitions. This left the Benelux banking sector fairly concentrated around a handful of key players (Blanden, 2000). Also banks outside the Benelux continued to merge or acquire in order to achieve synergy and a broader portfolio of products and services (De Tijd, 2008c). Therefore, in order to stay competitive and independent, banks in the Benelux, including Fortis, had to focus (abroad) for mergers and acquisitions.
Fortis also participated in the mergers and acquisitions trend (Table II). Fortis’ history was characterized by many takeovers (and joint ventures) (Tamminga, 1997, De Tijd, 1998). In the first years after the creation of Fortis, the main takeovers were done in the home market, the Belgium banks ‘ASLK’ (Berril, 1993) and ‘NMKN’ (Het Financieele Dagblad, 1995). From 1997, Fortis took over the Belgium bank ‘Generale Bank’ (The New York Times, 1998) and Dutch banks ‘MeesPierson’ (Currie, 1997) and ‘ASR’ (Fortis, 2000). After Mr. Votron became CEO of Fortis in 2004, the focus shifted outside the Benelux. Fortis acquired the fifth largest bank in Turkey ‘Disbank’, the Polish bank ‘Dominet’ (De Tijd, 2006) and took a controlling stake in the Asian insurer ‘Pacific Century Insurance Holdings’ (Cordes, 2007b).

<table>
<thead>
<tr>
<th>Year</th>
<th>Company</th>
<th>Transaction value (€)</th>
<th>Fortis value (net equity) (€)</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>ASLK (Belgium bank)*</td>
<td>2.5 billion</td>
<td>4 billion (Fortis, 1996)</td>
<td>5/8</td>
</tr>
<tr>
<td>1995</td>
<td>NMKN (Belgium bank)</td>
<td>0.02 billion</td>
<td>5 billion (Fortis, 1996)</td>
<td>1/250</td>
</tr>
<tr>
<td>1997</td>
<td>MeesPierson (Dutch bank)</td>
<td>1.1 billion</td>
<td>7 billion (Fortis, 1997)</td>
<td>1/7</td>
</tr>
<tr>
<td>Year</td>
<td>Company</td>
<td>Initial Capital</td>
<td>Final Capital (Fortis)</td>
<td>Percentage</td>
</tr>
<tr>
<td>------</td>
<td>------------------------------</td>
<td>-----------------</td>
<td>------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>1998</td>
<td>Generale Bank (Belgium bank)</td>
<td>11 billion</td>
<td>10 billion (Fortis, 1998)</td>
<td>11/10</td>
</tr>
<tr>
<td>2000</td>
<td>ASR (Dutch insurance company)</td>
<td>1.2 billion</td>
<td>15 billion (Fortis, 2000)</td>
<td>2/25</td>
</tr>
<tr>
<td>2005</td>
<td>Disbank (Turkish bank)</td>
<td>0.987 billion</td>
<td>19 billion (Fortis, 2005)</td>
<td>1/19</td>
</tr>
<tr>
<td>2006</td>
<td>Dominet (Polish bank)</td>
<td>0.01 billion</td>
<td>21 billion (Fortis, 2006)</td>
<td>1/21000</td>
</tr>
<tr>
<td>2007</td>
<td>Pacific Century Insurance Holdings</td>
<td>0.4 billion</td>
<td>33 billion (Fortis, 2007)</td>
<td>4/330</td>
</tr>
</tbody>
</table>

* ASKL was bought by phases, 25% in 1993, and other parts in later years (De Tijd, 2008a)

Due to the many acquisitions, the highly fragmented shareholding of Fortis became a risk for an independent Fortis in the future. The Belgian-Dutch banking and insurance company could become a target of a (hostile) takeover bid from groups like Citigroup or HSBC. In order to stay independent, and due to increased competition, the Fortis leadership decided to become more aggressive with mergers and acquisitions. On October 8, 2007, a consortium of three European banks, Royal Bank of Scotland Group, Fortis and Banco Santander, announced the desire to acquire ABN-AMRO with a € 72 billion bid, also called ‘Operation Arran’. The name ‘Arran’ was chosen as it was the favorite Whiskey brand of the management of Royal Bank of Scotland. This acquisition was in the banking world the largest ever bank takeover in history. After the acquisition, ABN Amro would be split; Fortis would get the retail and business activities in the Benelux and the international investment company (Reporter – Fortis-drama, 2009).

6.3 The takeover of ABN-Amro: ‘Operation Arran’

6.3.1 Competition between Barclays and the consortium

In 2007, ABN-Amro still had not come close to its own target of having a return on equity that would put it among the top 5 of its peer group (a target that the CEO, Rijkman Groenink had set upon his appointment in 2000). Therefore, there
had been some calls, over the prior couple of years, for ABN-Amro to break up, to merge, or to be acquired (Depuydt & De Witt Wijnen, 2008b). Calls for action came from shareholders, but also from the Dutch Central Bank, which suggested Fortis to do a merger with ABN-Amro (RTLZ, 2009c).

ABN-Amro started talking with Barclays for a cross-border merger in March 2007. But as have seen, Barclays was not the only party interested (BBC, 2007b). A consortium of Royal Bank of Scotland, Banco Santander and Fortis wanted to take over the bank and divide the target among the partners (Depuydt & De Witt Wijnen, 2008b). On April 23, ABN-Amro and Barclays announced the proposed acquisition of ABN-Amro by Barclays at € 67 billion (BBC, 2007a). Two days later the RBS-led consortium brought out their indicative offer of € 72 billion (BBC, 2007c). The consortium’s bid consisted of more than 79% in cash, from whom the part paid by Fortis was € 24 billion (100% cash). In a reaction, on July 23, Barclays raised its offer for ABN-Amro to €67.5bn, but it was still short of the RBS consortium's offer. Consequently, on July 30 ABN-Amro withdrew its support for Barclays’ offer (Depuydt & De Witt Wijnen, 2008b).

6.3.2 Approval of the regulators
As ABN-Amro was most likely to be taken over by the consortium, the Dutch Central Bank was assigned by the Dutch government to do an analysis of the risks of a possible takeover for the Dutch financial market. The analysis showed that the financial world was not in a stable condition. Banks had become very careful with trading debts and supplying each other with money. There was a risk for Fortis of not being able to finance the bid. Moreover, as the integration of ABN-Amro by the consortium partners was expected to take a long time, this, in combination with the developments in the financial market was a high risk. There was also an increase vulnerability of the Dutch financial market as the combination of Fortis and ABN-Amro would be concentrated in the Benelux instead of ABN-Amro’s worldspread activities where the risk would be better.
managed. Bankruptcy of Fortis (and its part in ABN-Amro) would have a significant affect on the financial market in the Netherlands as the Dutch Central Bank would have to refund the clients through the deposit guarantee scheme; the Dutch Central Bank guarantees for the first € 38,000 of all individual deposits (Tamminga, 2007b). The analysis did not show however what impact the financial crisis would have (Kalse & Schinkel, 2008).

Regarding the economy, ‘a bubble’ had been created in the housing market the recent years. This bubble and the signs were perceived at the end of 2006. Beginning 2007, the financial sector noticed the first problems with the risky loan portfolios from low-value mortgages in the USA (cdo’s, collateralized debt obligation). Several companies faced difficulties. For instance, Europe's biggest bank, HSBC Holdings, had to give a first-ever profit warning due to the soured U.S. subprime loans (The Toronto Star, 2007). In April, as the first victim of the mortgage problems, US subprime lender New Century Financial Corp went bankrupt (The Toronto Star, 2007). In June, Bear Stearns faced difficulties with two of its funds which invested in collateralized debt obligations (The Toronto Star, 2007). The problems continued and resulted in a real financial crisis (Kalse, Van Lent, 2008a). In a reaction to the problems, central banks pumped billions of dollars into banking systems in a concerted effort to beat back a financial crisis (the U.S. Central Bank introduced the FHA Secure). Moreover, the U.S. Central Bank lowered by a half point the primary discount rate (the interest rate at which the Fed lends to banks) in a move to keep credit flowing (The Toronto Star, 2007). Despite of the efforts, bankruptcy worries were strengthened by the problems the UK bank Northern Rock experienced in September. The Bank of England had to place in total € 32 billion (in different phases) in the ailing mortgage bank Northern Rock to ensure that the bank would not fall (Kalse, 2008b). Moreover, the IMF published a report on the 24th of September stating
that the financial crisis had not come to its end, but would most likely take more time.

Despite of the risks that the analysis showed, and the inability to foresee the possible impact of the coming crisis (Kalse & Schinkel, 2008), the Dutch government provided permission for the takeover on September 17\textsuperscript{th}. They made however high demands and heavy conditions in the integration process as there were several significant risks included in this transaction. The most important requirements were the following: (1) ABN-Amro would be transferred to a RFS holding (RFS: RBS Fortis Santander holding) which would operate independently until the end of the integration process (which was planned by the end of 2009), and (2) all members should have a strong financial balance. In case one of these requirements where not fulfilled, the Dutch government was allowed to annul at any time the takeover (Tamminga, 2007b). The European Union also provided permission but under condition that 10 percent of the Dutch activities of ABN-Amro in the Netherlands were sold by the summer of 2008 (this due to competition laws).

6.3.3 The final decision and successful public offer
A crucial board meeting was organized with Fortis where the final decision of the takeover had to be taken. One or two members of the Board of Directors had concerns about how much impact the developments of the financial markets would have on the takeover but also on the company itself. They were supported by several bankers who warned Fortis for the risks of the operation ABN-Amro (Bailly, 2009). Moreover, the shareholders of the three banks, especially the RBS shareholders, argued that the bid should be reduced as they felt that the take-over price was too high comparing to Barclays’s bid. This was also pointed out by the consortium’s competitor, Barclays (Sunderland, 2007). However, most lawyers and business bankers considered that the circumstances had not deteriorated enough and not sufficiently acute to legitimize an annulment of the € 24 billion
deal. This would damage the reputation of Fortis as a reliable party, moreover, claims could come as well. The Board ultimately agreed unanimously with the costly adventure, and declared the bid on ABN-Amro as unconditional on the 10th of October.

On October 10th, the Dutch Central Bank declared the public offer by the consortium of Royal Bank of Scotland, Santander and Fortis as successful (Depuydt & De Witt Wijnen, 2008b). Fortis would get ABN-Amro's Dutch and Belgian operations, Banco Santander would get Banco Real in Brazil, and Banca Antonveneta in Italy and RBS would get ABN-Amro's wholesale division and all other operations, including those in Asia.

6.3.4 Integration starts and the first problems
The consortium immediately started after the acquisition to implement the integration plan. As was required by the Dutch government, ABN-Amro was transformed into RFS Holding, with the new CEO Mark Fisher (from Royal Bank of Scotland). His task was to dismantle the bank as fast and accurate as possible. The integration into Fortis would be completed at the end of 2009. Fortis calculated that the activities of ABN-Amro from 2010 would contribute € 1.3 billion per year to the net profit (Depuydt & De Witt Wijnen, 2008b).

The months after the start of the integration were characterized by an even stronger financial crisis. Despite of the optimism that the crisis might had reached its deepest point, problems continued and even gained strength as even more companies faced losses or collapsed. For example, on January 11, Bank of America acquired Countrywide Financial after the mortgage lender went almost bankrupt (Irish Times, 2009). Moreover, on March 17, US investment bank Bear Stearns also narrowly escaped bankruptcy and was sold to JP Morgan (Irish Times, 2009).
By March 2008, the problems of the financial crisis also started to impact Fortis. Both internal and external confidence in the takeover’s integration percolated away in the good intentions of Fortis, and in the capacity of management and the feasibility of funding for the billion acquisition. The main worries were about Fortis’ financial health, due to the strengthening financial crisis, while the extensive portfolio of cdo’s had become a threat. Where the bank in the prospectus for the extra shares in October 2007 claimed that there was limited exposure to subprime-infected mortgages, it seemed however more realistic that the credit crisis threatened the balance sheet (Reporter - Fortis-drama, 2009). Fortis presented the annual performance of 2007, the netto profit fell with € 1.3 billion due to revaluations of the US investment portfolio (cdo’s). In a reaction to the rumors about Fortis’s financial situation, the company reaffirmed to have a solid capital and solvency position. However, to stay in a solid capital and solvency position, an additional, unplanned capital was needed. Fortis announced on the 19th of March the sale of half of the asset management business to Chinese insurer Ping An (Reporter - Fortis-drama, 2009). The annual report also mentioned that a bonus of € 2.5 million in 2007 was given to Mr. Votron. This was double than what was allowed by the Fortis guidelines (Depuydt & De Witt Wijnen, 2008c).

6.3.5 Problems continued and the new solvability plan
After the extra cash Fortis received from the sale to Ping An, Fortis was still in need for more cash. On the 26th of June, Fortis announced a solvability plan in order to receive additionally € 8.5 billion, which included a new share issue, an annulment of the interim dividend (except that dividend over 2008 is paid in shares) and the sale of non primary activities. The announcement of this new share issue and the removal of the dividend shocked the investors (Kalse, 2008a). Mr. Votron previously had explicitly and repeatedly promised that the dividend would be paid out untouched (The New York Times, 2008). This dividend had for decades been one of the main selling-points of the Fortis share, which was
considered to be as safe and reliable as a bank deposit. Moreover, only the large investors were informed about the extra issue of shares, not the (in particular Belgian) small shareholders (Depuydt & De Witt Wijnen, 2008c).

Several reasons explain the sudden solvability plan (De Graaf, 2008c; Reuters UK, 2008a). First, the company had to find the final funding of the bid on ABN-Amro. In contrast to public statements, Fortis did not secure the funding needed for the bid when taking the takeover decision. The full purchase price for ABN-Amro was spread among a time period, and the full sum was required by the end of 2009 (the end of the integration process). Fortis managed to collect the necessary money for the bid on ABN-Amro after the second issue of shares (Reporter – Fortis-drama, 2009). Fortis also needed the cash as its’ balance sheet was impacted by the financial crisis and threatened by a possible disappointing (forced) sale of certain Dutch activities of ABN-Amro to Deutsche Bank (a strong balance sheet was required by the Dutch Central Bank). The European Union provided approval for the takeover of ABN-Amro under condition that 10% of ABN-Amro’s activities in the Netherlands were sold (Depuydt & De Witt Wijnen, 2008c). Moreover, a possible claim of €1 billion from Delta Lloyd threatened Fortis as well. ABN-Amro had agreed before the takeover to buy 51 percent shares of a joint venture with Delta Lloyd. As Fortis sold its own insurance through its own distribution, it had to cancel this deal. Last but not least, Fortis mentioned also that a possible revaluation of the RFS Holding (the €24 billion that Fortis paid for its share of the acquisition) was needed. This revaluation would be based on the expected profit of ABN-Amro parts and cost savings. The achievement of these projections was closely linked to economic developments and the situation on financial markets, and that means that most likely the outcome of this revaluation would be negative news for the balance sheet as well (Depuydt & De Graaf, 2008).
The situation of Fortis did not only interest the shareholders, but also the Dutch Central Bank. The Dutch Central Bank had to decide soon whether to accept the sale of 10 percent of the Dutch activities of ABN-Amro to Deutsche Bank. This sale was very important as it would finally open the way for the integration process of the rest of ABN-Amro. The Dutch authorities had however no longer confidence in the capacity of the top management of Fortis to be able to integrate ABN-Amro well and safely, and therefore postponed the decision (Depuydt & De Witt Wijnen, 2008c).

6.3.6 The deal with Deutsche Bank and Mr. Votron leaves Fortis

Despite of the doubts, it was unlikely that Dutch Central Bank would block the sale of the certain ABN-Amro activity to Deutsche Bank. If this would happen, the integration process would come to a hold as it was required by the European Union, consequently, shareholders would become more worried and Fortis would find itself in a worse situation compared to a disappointing sale to Deutsche Bank (Depuydt & De Witt Wijnen, 2008c). Therefore, the Dutch Central Bank finally approved the sale. On July 2nd, Fortis agreed with Deutsche Bank about the sale of certain divisions with a large discount. As Deutsche Bank was the only bank interested, the Germans knew how to make best use of the conditions (lack of time and high distress) in the negotiations (De Graaf, 2008b).

In the meantime, the financial crisis further accelerated, and affected more companies. Continuous news about losses and requests for governmental help were released and share prices in the market fell. For instance, on July 11, 2008, the largest mortgage lender in the US IndyMac Bank collapsed. Also the share price of Fortis continued to fall (Figure II).

On July 11, 2008, the CEO of Fortis, Mr. Votron, stepped down. The total value of Fortis, as reflected by share value, was at that time a third of what it had been before the acquisition, and just under the value it had paid for ABN-Amro's Benelux activities alone (The New York Times, 2008). Shareholders were furious.
about the ‘optimism’ of Mr. Votron and the ‘surprising actions’. As a result, shareholders lost their confidence in Mr. Votron. Mr. Votron was succeeded as CEO by Mr. Verwilst (Depuydt & De Witt Wijnen, 2008c).

6.3.7 Fortis replaces again its CEO, Mr. Lippens leaves and liquidity problems
After the leaving of Mr. Fortis, the market and companies continued to face problems. A report of the IMF stated that the financial crisis would not finish soon. For instance, mortgage lenders Fannie Mae and Freddie Mac experienced significant problems, and were consequently placed into federal supervision on September 7, 2008. Furthermore, on September 15, 2008, Lehman Brothers went bankrupt, which was the largest bankruptcy in U.S. history. Moreover, Merrill Lynch was taken over by Bank of America in a Federal Reserve orchestrated sale (Irish Times, 2009). Last but not least, on September 16, the large insurer American International Group (AIG), suffered a liquidity crisis following the downgrade of its credit rating, and had to receive help from the US Central Bank.

Like the market share prices, the share price of Fortis continued to decline (Figure III). The market continued to be in stress due to the financial crisis, but also rumors carried on about Fortis’ financial position. In a reaction, Fortis released press news that since the beginning of 2008, only about 3% of the deposits at the bank had been withdrawn and the CEO (Mr. Verwilst) held a press conference to reassure analysts and stockholders (Reuters UK, 2008a). He stated that Fortis was solid and that there was no reason at all to believe a bankruptcy was at hand. Unfortunately, he did not provide actual and official figures on paper (Stevenson & Blenkinsop, 2008). Contrary to its goal, this action even supported more rumor. As Mr. Verwilst did not manage to regain shareholders’ confidence, he was forced to step down and Mr. Dierckx was named as ‘acting CEO’ (De Graaf & De Witt Wijnen, 2008). In one week the shares of Fortis dropped 35% (20% in the final two days). Moreover, shortly after, Mr. Lippens (Chairman of Board of Directors) had to leave the company (Euronext, 2008).
It was on Friday, September 26, that serious liquidity problems with Fortis began, with large withdrawals by business customers. On that Friday, € 20 billion was withdrawn, with an additional withdrawal of € 30 billion expected for the following Monday (Reporter - Fortis-drama, 2009).

6.3.8 Fortis as takeover target and the involvement of the Benelux countries
As Fortis continued with its financial problems, the company became a takeover target. Especially BNP Paribas and ING Group were interested in taking over (part) the company. These talks were however annulled due to insufficient financial information and financial figures of Fortis which were worse than expected (Van De Pol & Louis, 2008, Stevenson & Blenkinsop, 2008). As an acquisition by another bank was not successful, Fortis was consequently partially nationalized on September 28, 2008, with the three Benelux countries investing a total of € 11.2 billion in the bank: Belgium, the Netherlands and Luxembourg would invest respectively € 4.7 billion, € 4 billion and € 2.5 billion (Van Der Starre & Louis, 2008). At the same time, it was announced that plans to integrate the retail activities of ABN-AMRO into Fortis were stopped, and that these
activities would be sold later. The Central Banks from Belgium, The Netherlands and Luxembourg, but also the management of Fortis under the leadership of CEO Mr. Dierckx, saw much more of a risk in the continuation of the annexation of ABN-Amro than in the perspective future profits (Reporter - Fortis-drama, 2009).

However, a conflict about the deal occurred between the Belgium and the Dutch government (RTLZ, 2009d), which resulted in the Dutch government cancelling the deal. In the meanwhile, the financial crisis continued, the Central Bank of England stated that the situation was the "biggest episode of instability since the start of World War I" (Bank of England, 2008). Moreover, stakeholders (also shareholders) became more worried about the future of Fortis. Large withdrawals by business customers continued, causing further liquidity problems (RTLZ, 2009a). As the problem stayed, it was sure something had to be done. On October 3, 2008, the Belgium, Dutch and Luxembourg government agreed to buy most of Fortis and to annul the agreement of September 28. The part bought would be separated into three parts, one part which would be owned by Belgium government (Fortis Belgium), one by the Dutch government (Fortis Netherlands and the part of the RFS holding) and of course the government of Luxembourg which would own Fortis Luxembourg. The part which remained independent was Fortis Insurance International, an average-sized company (Dirks, 2008).

6.4 Analysis of the problems

6.4.1 Introduction

After the takeover of the Benelux governments, Fortis held a special shareholder meeting. In this meeting, “CEO acting” Mr. Hessels, defended that the takeover of ABN-Amro, for many the source of all misery, as "an opportunity we could not leave." But he acknowledged that the price of € 24 billion retrospectively viewed was "too high" (Depuydt & De Witt Wijnen, 2008a).
Although that the takeover did not fit with the goal of Mr. Votron to achieve by 2009 one third of the profits from outside the Benelux (Cordes, 2007a), I agree that, from a strategic point of view, the participation of Fortis in the offer for ABN-Amro had a significant number of benefits. It allowed Fortis to gain synergies (1.3 billion) and to stay independent (Fortis had become too big to be object of a takeover). But the risk that Fortis took appeared to be disproportionately high and cannot be justified from the perspective of risk management as it affected the financial viability of Fortis (in terms of solvency, profitability and sustainable growth) (Kennedy, 2008). Therefore, Mr. Hessels should know better than the argument of a too high bid.

As we discussed before (Chapter 3: Understanding Mega-Projects), mega-projects have a high failure rate (Morris & Hough, 1987, cited in Flyvbjerg, et al., 2003), also mergers and takeovers are known to fail (Weston, et al., 2003; Couzy, 2008; Sands, 2009). Like every hostile (cross-border) takeover, it is extremely difficult to do a cross-border merger among two ancient competitors (Weston, et al., 2003). First, there are national cultural differences. Moreover, there are also corporate differences. It was in 1998 that ABN-Amro tried to take over the Belgium company ‘De General Bank’ (The New York Times, 1998). This was however not supported as ‘De Generale Bank’ was typically a Belgium company, therefore ABN-Amro lost the battle against Fortis (under the leadership of Maurice Lippens). With the takeover of ABN-Amro by Fortis, it was now the other way around, which caused emotions and anger on the Dutch side of the border. Moreover, ABN-Amro had always seen itself as one of the best banks in the world, and looked more or less down on Fortis. A takeover by Fortis was seen as a defeat (Reporter – Fortis-drama, 2009). The employees of ABN-Amro also feared a possible transfer of corporate power from The Netherlands to Belgium. This fear was based on the fact that Fortis’ management consisted of many Belgians (especially the Executive Committee) despite that Fortis had been a
merger between two Dutch companies and one Belgium company (De Graaf & De Witt Wijnen, 2007; Fortis, 2006) Fortis was however very aware about this aspect, and tried to do everything to show respect for the people of ABN-Amro. For example, Fortis referred the takeover as a ‘merger’ instead of an hostile takeover and promised to keep corporate power in the Netherlands. Furthermore, Mr. Votron and other people from Fortis were regularly in The Netherlands, visiting the headquarters and the (regional) management. This attitude was valued at ABN-Amro (De Graaf & De Witt Wijnen, 2007; Reporter – Fortis-drama, 2009).

Another very common problem with takeovers is how to integrate the two organizations (Weston, et al., 2003). Succeeding in the takeover is the first important step, integration is the second important step. It was a takeover of three players, so activities (middle office, back office, IT and etc.) had to be distributed between Fortis, RBS and Banco Santander. Due to the complexity and uncertainty, and therefore the risks for the financial market in The Netherlands, the consortium members had to obey the strict requirements of the Dutch Central Bank for the integration process. The consortium (including Fortis) knew that this would be a difficult process, and therefore nobody under-estimated it. Moreover, the consortium could make use of its experiences of merging companies in the history. Under the supervision of ABN-Amro CEO Fisher, who had a good reputation with successful integrations, an ambitious schedule was pursued for the integration of ABN-Amro. This schedule experienced some delays, but its process was satisfactory (De Graaf, 2008a; De Graaf & De Witt Wijnen, 2007; Reporter – Fortis-drama, 2009).

6.4.2 The problems
I have found however four reasons why Fortis failed to takeover ABN-Amro, which are as follows: (1) communication with the stakeholder, (2) size and
A. Communication with the stakeholders

An important factor of the failure was the insufficient communication with the stakeholders (a.o. shareholders). False promises and declarations were given about the financial position, which finally resulted in lost confidence. Especially for banks, confidence is very important as clients have savings standing. Once confidence is lost, share price falls, the banks lose these savings, and threaten to fall below the buffer requirement which every bank needs (De Tijd, 2008b).

Examples of insufficient communication were with the first share issue, the prospectus claimed that there was limited exposure to subprime-infected mortgages, in reality, the credit crisis indeed threatened the capital position (Reporter – Fortis-drama, 2009). In a press conference later, Fortis reaffirmed its solid capital and solvency position. However, shortly after, Fortis announced a necessary solvability plan, which included a second round of issue of shares (Depuydt & De Witt Wijnen, 2008c).

B. Size and structure of the bid on ABN-Amro

One concern was the size of the bid on ABN-Amro. Shareholders of the three banks argued that the bid should have been reduced as they felt that the takeover price was to be on the high side (Sunderland, 2007). Secondly, securing of the financing of the bid by Fortis was not done. Therefore, Fortis had to collect the money throughout the period after the acquisition. Fortis finally managed to collect all the money by the second round, after causing many problems with the shareholders (Reporter – Fortis-drama, 2009). Thirdly, the bid consisted of 100% cash, unlike the other bids of the fellow consortium partners and Barclays who offered a combination of cash and shares. This means that Fortis had no protection against a possible downturn in markets that would weaken the value of ABN-Amro (Depuydt & De Witt Wijnen, 2008b).
C. Management of Fortis
Like many companies, Fortis experienced problems with the management as there was insufficient control by the members of the Board of Directors and the Executive Committee. This resulted in Mr. Votron and Mr. Lippens having too much power (Bailly, 2009) which they used for the mega-project ‘Operation Arran’. (Depuydt & De Witt Wijnen, 2008a). The power of Mr. Votron and Mr. Lippens can be illustrated by several events. Mr. Votron succeeded Mr. Van Rossum as CEO on 21 September 2004; the Board of Directors was however informed by Mr. Lippens only one day before the public. Moreover, Mr. Votron and Mr. Lippens rewarded themselves excessive bonuses (Depuydt & De Witt Wijnen, 2008a) for the takeover of ABN-Amro, despite that Fortis was experiencing difficult times with the integration process and financial crisis. Last but not least, Mr. Votron and Mr. Lippens were the main drivers behind the takeover of ABN-Amro. The other members of the Board of Directors and Executive Committee were less involved and also less committed to this multi-billion deal (Depuydt & De Witt Wijnen, 2008b). Several reasons can be given for the improper management, one thing we should know however is that effective management is difficult to define (Bainbridge, 2002; McDonald, et al., 2008)

Regarding the Board of Directors, it was mentioned in the corporate governance that the Board of Directors regularly reviews and assesses its own performance. Moreover, it reviews and assesses the effectiveness of the Fortis governance structure and the performance of the individual Board members (Fortis, 2008). Unfortunately, the performance and therefore the controlling were insufficient. Several reasons were mentioned. For example, the Board of Directors only met eight times a year, which resulted in that members could not discuss issues as much as they should have been done (Depuydt, 2008b). Moreover, despite of the rule in the corporate governance that members should be present for meetings, the members were actually not always present (Fortis, 2008). Exceptions were Mr.
Votron and Mr. Lippens, both were always present (Depuydt, 2008b). Thirdly, some suggested that insufficient number of members were active with the Board of Directors. The Board of Directors consisted of 14 people, in the past this was 25, which could have caused extra pressure. Moreover, most of the members of the Board of Directors had many other functions next to the membership of the Board of Directors (Appendix II), which resulted in not being able to spend sufficient time (NU, 2009). Last but not least, for a president of the Board of Directors, Mr. Lippens operated as an executive director with Mr. Votron (certainly at the strategic level) (Reporter – Fortis-drama, 2009).

Next to the Board of Directors, the performance of the members of the Executive Committee was regularly assessed according to the corporate governance statement (Fortis, 2008). However, like the Board of Directors, the members of the Executive Committee were not sufficiently critical to each other. This was illustrated as both CEO and CFO (Mr. Mittler) were very optimistic (Depuydt & De Witt Wijnen, 2008a, Battes & De Horde, 2008), in a normal case however, a company has a strong CEO and a critical next CFO.

D. Misappreciation of the impact of the financial crisis
At the end of the summer 2008, Fortis was one of the banks in Europe which had the most difficulties with the financial crisis (next to Royal Bank of Scotland) (Reporter – Fortis-drama, 2009). A strong balance sheet, and thereby the required capital, is very important for a bank. The balance sheet of Fortis showed signs of falling from March 2008 (Depuydt & De Witt Wijnen, 2008c). Consequently, investors, customers and financiers had less faith in the financial health of Fortis. This means that attracting money, from savers, investors and other banks was costly and difficult. Moreover, a strong balance sheet was required by the Dutch Central Bank by the end of 2009 for the final integration of ABN-Amro (Tamminga, 2007b). Nobody in the banking world, or in general, expected a financial crisis, and in particular not with such an impact. (Van Lent, 2008).
The under-estimation of the financial crisis affected the balance in several ways. First of all, there was a general decline of share prices in the market. Moreover, it was affected by the risky loan portfolios from low-value mortgages, cdo’s. These products were difficult to trade with, and therefore were threatened to be valued as zero (reporting standard require to value products as zero once the bank can not sell this product anymore on the market) (Reporter – Fortis-drama, 2009). Moreover, the disappointing sale with Deutsche Bank of 10% of ABN-Amro’s activities in The Netherlands affected Fortis’ balance sheet. Less buyers showed interest in acquiring these divisions as banks were careful with their money with the crisis. Only Deutsche Bank had interest, and as they knew they were the only one interested, and Fortis had to sell these activities in order to continue the acquisition process, they bought the activities with a considerable discount (De Graaf, 2008b). An option was to postpone the sale, however this would mean that the integration of ABN-Amro in Fortis would be postponed as well. Moreover, a delay would threaten even more the selling price as the financial crisis continued. Last but not least, as the bid of Fortis consisted of 100% cash, no hedge was created against the economic crisis, which impacted the balance sheet significantly (Depuydt & De Witt Wijnen, 2008b).

One can wonder whether the management knew about the negative developments in the market during the bidding phase. The takeover plan started early 2007, and was declared unconditional on the 10\textsuperscript{th} of October. However, banks knew there were problems already at the end of 2006 (or the beginning of 2007). The first signs of problems were noticed as several companies experienced problems. Gradually, these signs resulted in large problems and a financial crisis was declared in July 2007. Companies faced large losses (e.g. HSBC), almost went bankrupt (e.g. Northern Rock) or even bankrupt (e.g. New Century Financial Corp). Fortis knew therefore about the negative developments in the market during the bidding process.
Fortis was however unaware about the impact of the coming financial crisis due to the unpredictability of the banking sector (De Graaf, Kalse, 2008). Also other companies (a.o. banks), governments (if the Dutch government would have known about the impact, they would not have allowed the takeover of ABN-Amro) and institutions like the International Monetary Fund (IMF) were not able to understand the depth of the upcoming financial crisis (Sorkin, 2008). Concerning the unpredictability of the banking sector several reasons exist. First, the developments in the banking sector are difficult to forecast as there is always a combination of risk factors (credit risk, market risk, liquidity risk or operational risk where disasters belong to). This has also been shown by Nick Leeson who let Barings collapse, September 11 and now the financial crisis (Wester, 2001b). For example, the current financial crisis originated from the crisis with the subprime-mortgages in the United States, which was relatively manageable. However, a poor performance with the subprime mortgages led to a poor reinsurance and other related activities, which created a liquidity crisis (Kalse, Van Lent, 2008b). Companies froze the fund in order to prevent a forced sale of investments at dumping prices. From that moment, mortgage investments were sold, which resulted in panic and lower prices, losses and consequently lower stock prices (Kalse, Van Lent, 2008a; NRC Handelsblad, 2007). Next, banks minimized and finally stopped (most of) their credit lines with other banks and financial institutions. Confidence among the banks became finally virtually zero which resulted in a real financial crisis (Kalse, Van Lent, 2008a). Secondly, the unpredictability was furthermore encouraged by the missing transparency. Knowledge about the markets where banks invested was missing, this due to the failed supervision by the banks themselves but also the complicated financial products and failed credit assessors (ANP, 2008). Banks did not know about the excesses in the USA, for example that almost no documentation was required for receiving mortgages, the ‘ninja-mortgages’ (no income, no job or assets, for people without income, job or property) (Kalse, Van Lent, 2008b) or that house
owners could cancel their mortgage contract at any time they wanted (Kalse, Van Lent, 2008a). Moreover, independent credit assessors, who checked the balances of companies for the banks, were allowed to use any valuation method they wanted. This allowed them to present figures more positive than they should have been (RTLZ, 2009b). The lack of transparency is also related to the inability of banks to check each others portfolio. Banks were unable to judge what other banks had in their books, so whether it had pieces of subprime-mortgages in the USA or other activities which were at risk. All these factors resulted in lost confidence among banks, and the market for interbank loans stopped (Kalse, Van Lent, 2008b; NRC Handelsblad, 2007).

The impact of the financial crisis was strengthened as banks did not do sufficient risk management. Banks were too dependent on the interbank market for short-term refinancing. Moreover, banks invested heavily in very risky products. For instance Fortis took a high concentration on a product which were linked to subprime mortgages, and therefore made their total liable capital of the bank exceeded (Van Den Brink, 2008). Moreover, too optimistic scenario planning and stress tests were done (Van Den Brink, 2008).

6.4.3 Illusion of control and the case
As we discussed before (Chapter 3: Understanding Mega-Projects), flawed strategic decision making is an important reason why mega-projects fail. One of the causes of flawed strategic decision making is biases. A known perspective of biases of strategic decision making with mega-projects is optimistic overconfidence (Lovallo & Kahneman, 2003). Optimistic overconfidence was also a common character of the banking sector and the mergers and acquisitions area. The recent years were characterized by a global boom in the banking world, nobody believed that the mortgages market would collapse, and certainly not that banks would stop their interbank loans which would led to a serious financial
crisis (Kalse, Van Lent, 2008a). Therefore, banks in general assumed that the market would continue in its current progress (Kalse, Van Lent, 2008b).

Like the other banks, Fortis was also characterized by optimistic overconfidence. This was encouraged as being optimistic belonged to the basic principles of the company mentioned earlier in this chapter (‘be optimistic’) (Fortis, 2008). As we mentioned before (Chapter 3: Understand Mega-Projects), several types of biases belong to the optimistic overconfidence (Griffin & Brenner, 2004). Moreover, several biases were identified with forecasting under uncertainty (Chapter 4: Forecasting with Mega-Projects) (Schoemaker, 2004). Illusion of control plays in both areas an important role and therefore can be considered as one of the central causes of mega-project failure. Regarding Fortis, the problems identified earlier can be related to illusion of control with forecasting and mega-projects as the company thought to be able to control the problems related to the financial crisis despite of the critics and warnings. The consequences of illusion of control were:

- False promises and declarations were given about the financial situation;
- The company (together with the other members of the consortium) offered a relatively higher bid than Barclays as Fortis saw higher returns for the future;
- The bid consisted of 100% cash, no need was seen to hedge against possible downturns in the economy;
- The confidence of Mr. Votron and Mr. Lippens in the capabilities of Fortis;
- The confidence in Mr. Votron and Mr. Lippens by the other members of the Executive Committee and Board of Directors;
- The underestimation of the impact of the financial crisis, although the company knew about the first signs (and problems) and the unpredictability of the banking sector.

The consequences of the illusion of control were severe as Fortis invested € 24 billion, 57 percent of the value of company, not hedged, and a coming crisis. The
result was an inefficient use of resources, and an almost bankruptcy of the company. Therefore, according to the theory of illusion of control, why was their expectancy of success probability inappropriately higher than the objective probability would warrant? The following explains why.

A. Skill-factors
The more similar the chance situation is to a skill situation in outcome-independent ways, the more likely it is that people approach the chance situation with a skill orientation and the greater will be the illusion of control. Whether or not an event will be perceived as determined by skill or chance may depend on factors (Thomson, et al., 1998). I consider the skills-factors foreknowledge and familiarity relevant for this case.

Regarding foreknowledge, due to the globalization of the market, the higher level of competition, and the threat of becoming a take over target, Fortis continuously searched for takeovers outside the Benelux in order to improve performance. An acquisition would mean an improved performance due to synergies and a broader portfolio of products and services (De Tijd, 2008c). Despite that the takeover of ABN-Amro didn’t fit with the goals of Mr. Votron (Cordes, 2007a), the takeover of ABN-Amro was considered to be an excellent opportunity.

Concerning familiarity, as you can see in Table II, Fortis’ history was characterized by many (successful) takeovers. These takeovers were small and large, the size of the takeover of General Bank was even bigger in proportion than the takeover of ABN-Amro. Also the key players, Mr. Votron and Mr. Lippens, had a long experience with mergers and acquisitions in their previous jobs. Therefore, we can say that Fortis was familiar with takeovers and knew the risks and opportunities of doing a (big) takeover.
B. Emphasis on success
An emphasis on success increases illusion of control (Langer & Roth, 1975) as it leads to over remembering past successes, forgetting the critical points and expecting more success in the future. This is also the case for managers, who overestimated performance, but showed less tendency to do this if they had experienced unsatisfactory results in earlier planning experiences (Schwenk, 1984).

Fortis experienced successes with the company’s performance and growth due to its takeovers. The share price of Fortis increased from 2004 to 2007 with over 70 percent to € 32.3 (Depuydt, 2008a, Figure II). Moreover, the acquisitions enabled Fortis to become an important player in the Benelux. Both the company’s performance and successful takeovers were supported by economic stability and growth. The banking sector experienced a global boom in bank funds the recent years. Moreover, since the creation of Fortis, economic growth in the Benelux was relatively stable from 1990 (Figure I) except of the years 2000 and 2001 due to the bursting of the dotcom bubble (1995-2001) and September 11 (Figure I and Figure II) (Kalse, Van Lent, 2008a). Although, the members of Fortis’s management had a long experience with crises, these crises had occurred a long time ago, for example the oil crisis (1973) and a financial crisis (1928-1933) (Kalse, Van Lent, 2008a).

The success of the banks was based among others on the guarantee system of the central banks from the USA and Europe exist in case it goes wrong. Customer deposits are guaranteed by the central banks from USA and Europe, which means that if a bank collapses, the account holders get their money back. There is also an implicit guarantee in the system that central banks, in order to prevent a possible system crisis, will do everything possible to ensure that a commercial bank will survive (Kalse, 2008b). For instance, the Bank of England had to put € 32 billion (in different phases) in the ailing mortgage bank Northern Rock to ensure that the
bank would not fall (Kalse, 2008b). This implicitly guarantees banks an incentive for riskier loans and less equity to hold. This has an effect known as ‘moral hazard’, where banks take more risk than good for them because the state still helps if it goes wrong (Kalse, Van Lent, 2008a; Kalse, 2008b) Moreover, institutional and professional investors who for example acquire the subordinated bonds or shares of banks do not have to think about risks. Should it go wrong, then the publisher of the bonds and equity (the bank) is still rescued by the central bank. This encourages to keep the risk premium low (Kalse, 2008b). Furthermore, regulations regarding the buffer level required for banks do not take into account high uncertainty. For instance, ING reported that its capital due to Basel II (= the EU regulation) could be reduced by 20 percent. This rule benefits the bank as holding of equity is relatively expensive, but if something would go wrong, the bank would have had no reserves anymore (Kalse, 2008b).

C. Desire to control and obtain an outcome
The more people desire to have control of the outcome or to obtain the outcome, or both, the more illusion of control occurs. A takeover of ABN-Amro offered Fortis an excellent opportunity to become the main player in the Benelux and control this area. Moreover, it also enabled Fortis to control one of its main competitors in the Benelux, especially a company with whom they competed with the takeover of the Belgium company ‘De Generale Bank’ (The New York Times, 1998), which can be related to the rivalry between Belgium and The Netherlands. Thirdly, it allowed CEO Votron to control his previous employer, where he did not receive promotion.

Furthermore, as Friedland, Keinan, and Regev (1992) explained, people also have a motivation to avoid the negative consequences that accompany the perception of having no control. The takeover of ABN-Amro allowed Fortis to maintain control of itself, which means to stay independent. This goal was at risk as Fortis was relatively an easy target due to the fragmented shareholders (after the many
previous takeovers) and the average size of the company. This threat increased the stress on the top of Fortis, as they would loose the work of more than 15 years. The potential loss of control was also contributed by the fact that in case the takeover of ABN-Amro would have been annulled at the very last moment before stating the bid as unconditional, Fortis itself could become a potential takeover target as this showed incapacity of the management. Moreover, Fortis tried to be aversive about the consequences of losing control. After a possible takeover of Fortis by another group, where could the management of Fortis find the same opportunities as with Fortis? (Fortis was the biggest company in Belgium). Therefore, both the motivation for control and the stress of possibly loosing the control, resulted in high motivation for doing the takeover.

Secondly, there was also a desire to obtain the outcome. Fortis was like every bank under pressure by its shareholders to continue its good performance (which resulted in taking more risks) (Kalse, Van Lent, 2008b). The takeover would enable Fortis to achieve synergies and a better portfolio, which would result in a better performance. Moreover, it would allow Fortis to achieve then the fifth position in Europe in banking, the third position in private banking and produce a top-tier asset manager. In terms of market capitalization, at just under 50bn, Fortis would become larger than Deutsche Bank and close to Credit Suisse. Measured by revenues, it would emerge as the number three banking group in the world, behind Citigroup and Credit Agricole, according to the Fortune Global 500 (The Banker, 2008).
7. CONCLUSION
This research was been done to find ways how to improve mega-projects performance by minimizing illusion of control with forecasting under uncertainty (part of strategic decision making). Possible ways how to minimize illusion of control were found in the business- and psychology area, which makes my research belong to the multi-discipline area and behavioral finance.

The previous chapters provided an overview of mega-projects, the forecasting under uncertainty, the illusion of control, followed by a case analysis of the takeover of ABN-Amro by Fortis. The analyses of the findings lead to the following main conclusions:

♦ Mega-projects happen everywhere (industrialized and industrializing countries, public and private sector) and at any time. Megaprojects have often poor performance records in terms of economy (project costs and revenues), environment and public support, which results in inefficient use of resources, large losses and even bankruptcy of companies. One of the main reasons of high failure of mega-projects is flawed strategic decision making (including forecasting), this partly due to strategic misrepresentation and biases. A known perspective of strategic decision making with mega-projects is optimistic overconfidence.

♦ Forecasting involves making predictions about an unknown question or issue with uncertainty and complexity. With low level of uncertainty, the methods used for mega-projects are more often than not reasonably accurate. However, with high level of uncertainty (which characterizes mega-projects), the methods used by companies are only approximate procedures. Several biases were identified for forecasting with uncertainty.

♦ A common bias in the area of optimistic overconfidence with strategic decision making of mega-projects and forecasting with uncertainty is illusion of control. Illusion of control is the tendency to perceive that one has the
ability to influence outcomes that are obviously chance determined, so its expectancy of a personal success probability is inappropriately higher than the objective probability would warrant. Illusion of control is one of the central biases why forecasting under high uncertainty fail (and thereby flawed strategic decision occurs), and therefore one of the main reasons why mega-projects fail. There are three approaches of minimizing the effect of illusion of control: motivational strategies, cognitive strategies and technological strategies. These approaches will however not completely prevent illusion of control happening.

♦ On October 8, 2007, a consortium of three European banks, Royal Bank of Scotland Group, Fortis and Banco Santander, announced the acquisition of ABN-AMRO, also called ‘Operation Arran’. This takeover is an example of a failed mega-project. Due to the problems occurred after the takeover with Fortis, the company had to be nationalized by the Benelux governments. One of the main reasons of failure was illusion of control, this has been shown by the problems found with the takeover and analyzing the factors.

♦ In the final chapter, my recommendations include cognitive and technological strategies, both would have minimized the effect of illusion of control with the ‘Operation Arran’. The other approaches mentioned previously (Chapter 5: Illusion of Control) are not appropriate for this case or have significant disadvantages. The recommendations found may also be valid for similar mega-project cases.
8. RECOMMENDATIONS

The main objective of the thesis was to improve the performance of mega-projects by finding ways how to minimize the illusion of control with forecasting under uncertainty. Based upon the analysis of the takeover of ABN-Amro by Fortis, the research on the topic mega-projects, forecasting with uncertainty and illusion of control, I will present four recommendations. We should know that these approaches aim at minimizing the effect of illusion of control with strategic decision making as much as possible. They will however not completely prevent illusion of control happening. Next to the four recommendations, I recommend to replace one of the basic principles of Fortis, ‘be optimistic’, with ‘be realistically optimistic’.

The recommendations which will be provided would have helped Fortis to minimize the illusion of control with the forecasting, and strategic decision regarding ‘Operation Arran’. Consequently, the ‘Operation Arran’ could have been postponed or cancelled. This would have enabled Fortis to be stronger against the problems identified, to make better use of resources, and very important, to survive and stay independent.

Last but not least, the recommendations found may also be valid for similar mega-project cases.

Cognitive strategies

Forecasting methods should have been enriched by the cognitive strategies. These strategies for forecasting accept high uncertainty, try to understand it, and make it part of our reasoning. This realistic appreciation of its control would have allowed Fortis to understand better the impact of the financial crisis, to be able to communicate better with the stakeholders about the (financial) circumstances and to offer a better bid on ABN-Amro (size and structure). The cognitive strategies are as follows:
1) ‘Consider-the-opposite’
- Effective at reducing not only illusion of control, but also overconfidence, hindsight biases and anchoring effects;
- Very simple and useful tool with mega-projects.

2) Reference-class
- Effective at reducing also other cognitive and organizational biases;
- Very useful with initiatives that companies have never attempted before.

3) Scenario planning
- Very useful with sudden and large changes during high uncertainty;
- Applied together with stress tests.

Technological strategies
Proper group decision making should be applied for the management of Fortis. However, as mentioned in the chapter of illusion of control, not so much is known about how to do effective group decision making. Possible areas of optimization can be the frequency of meetings, the rules regarding presence for meetings, size of the two teams, the members’ responsibilities next to the company (positions with other companies or institutions), the independency of the Board of Directors from the Executive Committee and of course the diversity of the members (gender, age, nationality, number of years with the company) (Bainbridge, 2002; McDonald, et al., 2008). The group decision making would have allowed Fortis to curtail the power of Mr. Votron and Mr. Lippens better, and therefore increase the controlling power of the members of the Board of Directors and Executive Committee.

(4) Group decision making.
- Effective with many cognitive and organizational biases;
- Creates ‘synergies’ and diverse perspectives;
- Supports the recommendations ‘consider-the-opposite’, reference-class and scenario planning.
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APPENDICES

APPENDIX I  FORTIS EXECUTIVE COMMITTEE

APPENDIX II  FORTIS BOARD OF DIRECTORS
APPENDIX I  

FORTIS EXECUTIVE COMMITTEE

Description of the members of the Executive Committee (Fortis, 2007)

- Jean-Paul Votron, 1950, Belgian.
  - Chief Executive Officer, member of the Board of Directors;
  - Degree in Economics and Finance, ICHEC (Belgium), degree in International Business Strategies, ICHEC (Belgium);
  - Positions held with other listed companies: None;
  - Other positions held: Member of the Management, Committee of the Federation of Enterprises in Belgium, Board Member of ICHEC (Institut Catholique des Hautes Études Commerciales).

- Herman Verwilst, 1947, Belgian.
  - Deputy CEO;
  - Chief Operating Officer;
  - Other positions held: Doctor’s degree at the University of Ghent, Member of the Executive Committee and Board of Directors of the King Baudouin Foundation, Member of Instituto de Empresa International Advisory Board (Madrid).

- Jos Clijsters, 1950, Belgian.
  - CEO Retail Banking;
  - Other positions held: National Chairman of Young Enterprises, Board Member of Stichting Marketing, Director of EHSAL Management School, Director of Vlerick Management School.

- Karel De Boeck, 1949, Belgian.
  - Chief Risk Officer;
  - Other positions held: Chairman of the European Financial Management and Marketing Association (EFMA).

- Jozef de Mey, 1943, Belgian.
  - Chief Investment Officer;
Other positions held: Member of the Royal Association of Belgian Actuaries, Chairman of Compagnie Belge d’Assurances Aviation (Aviabel).

Filip Dierckx, 1955, Belgian.
- CEO Merchant & Private Banking;
- Degree in Law, University of Antwerpen (Belgium), Degree in Economics, UCL (Belgium), Master of Law, Harvard Law School (USA);
- Other positions held: Board Member of various companies of the Group SD Worx, Member of the General Assembly Employers Association (Voka), Board Member of the Flemish Economic Association.

Lex Kloosterman, 1956, Dutch.
- Chief Strategy Officer;
- Degree in Law, University of Leiden (The Netherlands);
- Other positions held: None.

Gilbert Mittler, 1949, Belgian.
- Chief Financial Officer.
- Other positions held: None.

Peer van Harten, 1962, Dutch.
- CEO Insurance;
- Bachelor degree in Business Administration (The Netherlands), Doctor’s degree in Philosophy, University of Utrecht (The Netherlands);
- Other positions held: None.
Distribution of gender (Fortis, 2007)

Distribution of nationality (Fortis, 2007)
**Distribution of age** (Fortis, 2007)

Average: 56 years

**Number of other positions** (companies and institutions) (Fortis, 2007)

Average: 2 positions
APPENDIX II  FORTIS BOARD OF DIRECTORS

Description of the members of the Board of Directors (Fortis, 2007)

- Count Maurice Lippens, 1943, Belgian.
  - Chairman of the Board of Directors, chairman of the Nomination and Remuneration Committee;
  - First appointed 1981, term runs until 2008;
  - Degree in Law, Brussel (Belgium), MBA, Harvard Business School (USA);
  - Positions held with other listed companies: Director of Total, Director of GBL (Groupe Bruxelles Lambert), Director of Belgacom;
  - Other positions held: Chairman of Compagnie Het Zoute, Director of Iscal Sugar, Director of Finasucre, Director of Groupe Sucrerie, Member of the Trilateral Commission, Member of Insead Belgium Council, Chairman of Belgian Governance Institute, Chairman of Corporate Governance Committee (Belgium).

- Jan Slechte, 1937, Dutch.
  - Vice-chairman of the Board of Directors; member of the Nomination and Remuneration Committee;
  - First appointed 1996, term runs until 2007;
  - Positions held with other listed companies: None;
  - Other positions held: Director of Stichting, Continuïteit Fortis.

- Jean-Paul Votron, 1950, Belgian.
  - CEO;
  - First appointed 2004, term runs until 2008;
  - Member of the Board of Directors.

- Baron Philippe Bodson, 1944, Belgian.
  - Member of the Board of Directors and of the Audit Committee;
  - First appointed 2004, term runs until 2007;
- Positions held with other listed companies: Chairman of the Board of Directors of Exmar;
- Other positions held: Director of Ashmore Energy (USA), Director of CIB, Chairman of Floridienne, Member of CSFB Advisory Board Europe, Director of Hermes Asset Management and Europe Ltd., Director of Cobepa/Cobehold.

- Richard Delbridge, 1942, British.
  - Member of the Board of Directors and of the Audit Committee;
  - First appointed 2004, term runs until 2009;
  - Degree at the London School of Economics (UK), MBA, University of Berkeley (USA);
  - Positions held with other listed companies: Non-executive Director of Tate & Lyle PLC, Non-executive Director of Gallaher Group PLC;
  - Other positions held: Non-executive Director of JP Morgan Cazenove Holdings, Council Member and Treasurer of The Open University, Trustee of The Wordsworth Trust.

- Clara Furse, 1957, British and Canadian.
  - Member of the Board of Directors and of the Risk and Capital Committee;
  - First appointed 2006, term runs until 2009;
  - Bachelor degree, London School of Economics (UK).
  - Positions held with other listed companies: Chief Executive and Director of the London Stock Exchange PLC;
  - Other positions held: Director of Euro clear PLC, Director of LCH. Clearnet Group Ltd., Member of the Advisory Council of the Prince’s Trust, Member of the CBI President’s Committee and Member of the Court of the Guild of International Bankers.

- Reinier Hagemann, 1947, German.
  - Member of the Board of Directors and of the Audit Committee;
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First appointed 2006, term runs until 2009;
Degree in Economy, Kiel (Germany), Doctor’s degree in Public Finance, University of Freiburg (Germany);
Positions held with other listed companies: Member of the Supervisory Board of Bayer, Schering Pharmaceutical AG, Member of the Supervisory Board of Wüstenrot & Württembergische AG;
Other positions held: Member of the Supervisory Board of E.ON Energie AG, Member of the Supervisory Board of Hochtief Facility Management GmbH, Chairman of the Advisory Board of Cerberus Germany, Member of the Advisory Board of AON Jauch & Hübener, Member of the Advisory Board of Steag GmbH.

Jan-Michiel Hessels, 1942, Dutch.
Member of the Board of Directors and of the Risk and Capital Committee;
First appointed 2001, term runs until 2007;
Master in Law, University of Leiden (The Netherlands), Labor Economics, London School of Economics (UK), Masters in Finance and Business Administration, the Wharton School of Finance van de Universiteit van Pennsylvania (USA);.
Positions held with other listed companies: Chairman of the Supervisory Board of Euronext N.V., Member of the Supervisory Board of Royal Philips Electronics N.V., Member of the Supervisory Board of Heineken N.V.;
Other positions held: Member of the Supervisory Board of Schiphol Group N.V. (until June 2006), Member of the International Advisory Board of Morgan Stanley (until March 2006), Member of the International Advisory Board of Blackstone Group, Chairman of the Supervisory Board of SC Johnson Europlant N.V.

Jacques Manardo, 1946, French.

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o Member of the Board of Directors, of the Nomination and Remuneration Committee and of the Risk and Capital Committee;

o First appointed 2004, term runs until 2008;

o Masters in Private Law, Recognized Accountant;

o Positions held with other listed companies: None;

o Other positions held: Director of MCG PLC parent of Ineum Consulting (ex-Deloitte consulting), Director of BLB, Director of French Institute Alliance Française – New York (Member of Finance Committee), Member of Le Siècle (Paris).

- Alois Michielsen, 1942, Belgian.
  o Member of the Board of Directors and of the Risk and Capital Committee;
  o First appointed 2006, term runs until 2009;
  o Engineer in civil technique, UCL, (Belgium), Degrees in applied Economics;
  o Positions held with other listed companies: Chairman of the Board of Directors of Solvay, Board Member of family business Miko N.V.;
  o Other positions held: None

- Ronald Sandler, 1952, German.
  o Member of the Board of Directors and of the Audit Committee;
  o First appointed 2004, term runs until 2007;
  o Master of Arts in engineering, University of Cambridge (UK), MBA, Stanford University (USA);
  o Positions held with other listed companies: Executive Chairman of Computacenter PLC;
  o Other positions held: Chairman of Kyte Group, Chairman of Oxygen Group PLC, Advisor Palamon Capital Partners, Chairman of Paternoster Ltd.

- Rana Talwar, 1948, Indian.
o Member of the Board of Directors, of the Nomination and Remuneration Committee and of the Risk and Capital Committee;

o First appointed 2004, term runs until 2008;

o Degrees in Economy, History and Psychology, University of Delhi (India);

o Positions held with other listed companies: Non-executive Director of Schlumberger Ltd., Non-executive Director of Pearson PLC;

o Other positions held: Chairman of Sabre Capital Worldwide, Chairman of Centurion Bank Ltd., Director of the Indian School of Business.

- Baron Piet van Waeyenberge, 1938, Belgian.
  o Member of the Board of Directors, Member of the Risk and Capital Committee;
  o First appointed 1988, term runs until 2007;
  o Positions held with other listed companies: Board Member of Electrabel NV;
  o Other positions held: Chairman of De Eik N.V., Chairman of Omroepgebouw Flagey N.V., Vice-chairman of Indufin N.V., Board Member of Suez Energy Services S.A., Director of Stichting Continuïteit Fortis.

- Klaas Westdijk, 1941, Dutch.
  o Member of the Board of Directors and Chairman of the Audit Committee;
  o First appointed 1996, term runs until 2009;
  o Master in Law, University of Utrecht (The Netherlands), Master of Law en Master of Business Administration, Chicago (USA);
  o Positions held with other listed companies: Vice-chairman of the Supervisory Board of VastNed Retail N.V.
- Other positions held: Chairman of the Supervisory Board of ENECO Energie N.V., Chairman of the Supervisory Board of Connexxion Holding N.V., Member of the Supervisory Board of FD Media Groep B.V.

**Distribution of gender** (Fortis, 2007)

**Distribution of nationality** (Fortis, 2007)
Distribution of age (Fortis, 2007)

Average: 62 years

Number of other positions (companies and institutions) (Fortis, 2007)

Average: 5 positions
Number of years employed with Fortis (period of contract) (Fortis, 2007)

Average: 7 years