Longitudinal Approach to Publicly Held and Privately Owned Family Businesses: A Financial Analysis
ABSTRACT

School of Business and Economics

The main aim of this thesis is to examine the consequences of the 2007 financial crisis for family and non-family businesses and identify and understand what makes businesses sustainable and profitable even during bad macro-economic conditions. This financial crisis was one of the most significant since the Wall Street Crash of 1929. I will analyze selected companies’ financial statements before, during, and after 2007 financial crisis. My goal is to outline the advantages and disadvantages of family and non-family companies, and moreover, to see which ownership structure weathered the financial crisis better.

The analysis in this paper is based on two companies’ financial statements comparison among 2006 and 2010. The selected enterprises are Orion, a private Finnish firm which is listed on OMX Helsinki stock exchange, and Boehringer-Ingelheim, a German family business (not listed on stock markets). Both companies operate in the pharmaceutical industry and have strong footprints in international markets.

Keywords: Financial Crisis, Financial Ratios, Financial Analysis, Business Plan, Family Business.
FOREWORD/ PREFACE/ ACKNOWLEDGMENTS

Coming to the end of my thesis and research, I have gotten a lot of satisfaction from the completion of this paper. It was very hard to do it because of my one-year internship and my permanent work. However, I am very proud to have the opportunity to be a student at the University of Jyväskylä and to finally finish the thesis paper. The Business and Economics School has given me excellent quality teaching. I am currently using what I have learned during these years in my every-day work. I had previously heard that the University of Jyväskylä was known for scientific research and quality of teaching. After my experience, I can confirm it. I would definitely recommend this University to new students.

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1. INTRODUCTION

1.1. Background

The financial crisis which started in 2007 was one of the most unprecedented and most significant for world economy in the Post-WWII period. Even the Wall Street Crash of 1929, also called “the Great Depression” was having fewer consequences to world’s economy compared to the crisis which started in 2007. According to the World Bank, the financial crisis started in 2007 because of a liquidity shortfall in the USA banking system caused by a subprime mortgage crisis. This crisis mostly affected financial institutions and banks, provoking multiple collapses of well-known/world-famous financial institutions (Lehman brothers, etc.), the bailout of certain banks and financial institutions by national governments (AIG, Fortis, TSB Barkays, etc.), and stock market downturns around the world.

The Financial crisis had significant and dramatic consequences for the world economy. It created a lack of demand for services and products. Moreover, banks were less reluctant to give loans, provoking economic downturn. Furthermore, enterprises became more cautious with investment because of bad macro environment forecasts. Most countries were in deep economic recession.

My aim is to investigate and to analyse how the financial environment has changed and has not changed for private and family companies in the last five years, by looking at the financial performances before, during, and after the financial crisis.

1.2. Purpose

The purpose of this paper is to compare the financial environment of a family business and of a private firm’s before, during, and after the financial crisis. My research consisted of examining the companies’ financial situations before the crisis, identifying when the firms started to feel the consequences of the crisis, and when the enterprises started to recover (if they did). My master thesis research will try to answer the following questions:

- What kind of business is more profitable and sustainable, family or private?
- What challenges did companies face during the financial crisis?
- Did the crisis have consequences on these companies financial performances/debt and liquidity levels?
• What strategies did firms apply to cope with this crisis?
• What were the companies’ financial situations before and after the financial crisis?

I believe it is useful to know these answers to understand what kind of company’s structure is more profitable and sustainable. Thereafter, depending on if it is a private or family business, managers will know how to act and which strategies to use to cope with a crisis. Thus, my research will underline financial advantages and disadvantages of family and private firms.

1.3. Contributions

The consequences of the financial crisis for world economy have been widely studied; however, this has been done without giving the “right” answers regarding what kind of strategy firms should use during a crisis.

During my research I have found limited study/ writing on the impacts of the financial crisis for different ownership enterprises. Analysis and comparison of family business firm’s as well as of a private company’s financial statements before, during and after financial crisis, strategy that firms were using during the crisis was not easy to find. The limited research on this topic is understandable. Firstly, the financial crisis is a quite recent event. Secondly, such a case study should have particular interest in the selected enterprises. As I am a student in MDP in Entrepreneurship in Family Business in Jyväskylä Business and Economics School and my passion is finance and entrepreneurship, I am particularly interested in finding what makes firms financially profitable, sustainable, and successful even during financial crises.

The case study of the financial performance evolution of a private company as well as of a family business before, during, and after the financial crisis is a good opportunity to identify the impacts of the crisis, and thus to find solutions to cope with bad macro-environmental conditions.

An understanding of financial performance and sustainable business structures can give ideas for how top managers should act during financial crises to ensure company’s financial stability and sustainable growth.

1.4. Research outline

My master thesis is composed of 12 chapters. First, the introduction will give an overview of my master thesis. Then the literature review chapter will review relevant literature for the selected topic. The methodological choices chapter will explain the structure of the paper. Following this will be analysis and results, and a discussion of financial management and its importance. The financial management section will point out the utility of having financial management in the company. The family business characteristics section will show family firms’ particularities. Two chapters will then briefly analyse the described companies. After that, I will come to the most important part of my thesis, the financial statement comparison between Boehringer-Ingelheim and Orion. In order to do this financial analysis, I will set up a
business plan. Then, in the discussion chapter, I will compare my findings with existing literature and interview results. Finally, I will draw my conclusions.
2. LITERATURE REVIEW

2.1. Family Business

Businesses can be divided into two ownership structures: family and non-family businesses. Many researchers see family businesses as the backbone of the economy. Litz (1995) compared family business to small businesses. According to Chua, Chrisman and Steier (2003), family businesses are different from private firms because of family members’ active participation in business activities. Dunn (1995) argued that family business relations influence a company’s management strategy. Family involvement plays a positive and significant role in a firm’s long-term success (Tokarczyk, Hansen, Green and Down, 2007). Therefore, family business management style differs from private firm’s (Westhead, 2011). Habbershon and Williams (1999) emphasized that family firms are rich in intangible resources. Gallo and Vilaseca (1996) claimed that family businesses have low debts. Therefore, Coleman and Carsky (1999) argued that private and non-private companies use debts with the same strategy. Debts level does not depend on who owns the company. According to Gallo, Cappuyns and Estapé (1995), Tapies, Gallo and Cappuyns (2004), and Poutziouris, Chittenden and Michaelas (1998), family businesses have difficulties growing or having sustainable growth. Furthermore, these firms have difficulties internationalizing while maintaining family members’ controlling rights. Therefore, a succession process is crucial for such businesses. Schulze, Lubatkin, Dino, and Buchholtz (2001) and Chua, Chrisman, and Sharma (1999) claimed that during family business succession planning, decision-makers make irrational decisions. Family should be prepared to plan and to choose the most suitable successor.

2.2. The Financial Crisis

There are lots of empirical studies about the consequences of the financial crisis on the world’s economies. For example, Chudik and Fratzscher (2011), Fontana (2010), and Goodhart (2008) used a variety of methods to understand the consequences of the crisis. Several authors have contended that the 2007 financial crisis was one of the most significant since the 1929 Wall Street crash (Nial, 2009; Allen and Gale, 2009). Kumar, Subramanian, and Yauger (1998) purported that bad macro-environmental conditions make a good opportunity to use strategic plans to respond to dramatic economic changes. However, cultural behaviour characteristics are
a part of strategic orientation (Dobni and Luffman, 2000). Recent research has tried to identify and compare different financial crises, their similarities, and differences (Reinhart and Rogoff, 2008). The subprime crisis affected the world economy, and thus the banking system. Schumpeter (1912) and Spring (1873) in an earlier study mentioned the importance of the banking system for economic growth. Generally speaking, banks respond positively to economic growth (Levine and Zervos, 1988). Furthermore, banks’ difficulties directly affect economic growth. They can provoke economic activities slow down, thus contributing to recession. Moreover, Hendricks (2005) found that firms do not rapidly recover after economic downturns. Economic slowdown has an impact on profitability ratios, return on equity, and return on assets. He argued that it is no importance which industry company is in and who caused the negative impact.

2.3. Financial Analysis Methods

If the financial crisis was so dramatic and had so many negative consequences, then what impacts did the 2007 financial crisis have on family businesses’ and private firms’ financial performances? What differences can be seen among family and private firms? To understand this, I must deeper investigate the consequences of the financial crisis. The usefulness of financial analysis methods was pointed out by Lemack (2003). He demonstrated simplified financial processes to achieve a successful financial analysis. Ramsey (1928) and Weitzman (1998) analysed different approaches to financial analysis. Ratios analysis gives a complete financial analysis of a company’s liquidity, debts, performance level, etc. Many authors, such as Osisioma (1997), Eljelly (2004), Shulman and Cox (1985) accorded high importance to working capital management. Bierman (1960) defined working capital as a fund. Ciprian and Hostiuc (2009) saw a firm’s liquidity measurement as an important value. For them, an enterprise activity’s domain, a company’s size and maturity, and the macro environment influence a company’s liquidity status. Diamond and Rajan (1999) underlined that good liquidity ratios attract funds. Therefore, Clauss (2011) claimed that a company’s liquidity measurement is very complex. Moreover, it does not show consensus between performance ratios and the risk taken. There are many measures which can reveal a company’s performance. McGahan and Porter (1997) studied firms’ performance parameters. Lebas (1995) argued that a firm’s performance measurement is essential for reaching target goals. Return on equity ratio is one of the most used performance measurement. Chen and Lin (2011) claimed that ROE adjustment speed is slower when the ROE ratio is rising. Return on equity and return on assets ratio performances influence dividend payments. There is a correlation among research and development spending and gross margin performances (Scherer, 2011). These performance ratios allow a clear investment strategy. Muradoglu (2005) analysed investment strategies based on gearing ratio. Dufour (2008) studied leverage effect consequences on return and volatility. Some authors, such as Hepburn and Groom (2007) and Sun and Queyranne (2002) stated that net present value measurement shows investment attractiveness and helps make investment decisions. Gilchrist and Himmelberg (1995) added to this that cash flow is an important indicator for investment decision. However, a cash-flow indicator cannot be obtained without net income data. Net income is an indispensable indicator for cash-flow measurement (Takashi, 2002). If a cash-flow statement is insufficient, then a firm can replace it by debts. Mitton (2008) argued that a
company’s debt level depends on the country’s development level. Therefore, for Gallo and Vilaseca (1996, 1998), a firm’s debts are more related to company’s size. Fixed assets ratio defines an enterprise’s capacity to borrow money (Crépon and Rosenwald, 2000). However, a weak repayment capacity level limits access to stock markets (Eaton and Gersovitz, 1981), and thus trade transactions can be reduced (Bulov and Rogoff, 1989). Finally, for Nobuhiro (1990), current management performances and skills have impact on a company’s value.

2.4. Profitability

Companies cannot survive if there is no value and profitability creation. Wernerfelt (1995), Roquebert, Philips, and Westfall, (1996), Mcgahan and Porter (1997) studied and analysed financial performance elements. Lebas (1995) claimed that performance measurement is essential for reaching target goals and successful implementation. Chen (2008) pointed out that differences in countries explain industry performance variations. Employees share cultural values to create competitive advantages (Narver and Slater, 1990). Some Finnish authors, such as Timonen, Karttunen, Bengtström, and Ahonen (2009), studied the Finnish pharmaceutical industry’s turnover and gross margin. Others were more focused on family companies’ performances. Harris, Martinez, and Ward (1994) stated that strong spousal commitment increases family firms’ profitability and success. Moreover, Chrisman, Chuab and Litz (2003) argued that family business performance will be greater if family members are still active and present in the company’s life. Enterprise founder motivation and attitudes towards the business affects family business performance (Poza and Messer, 2001). Finally, Abor (2005) observed in the Ghana stock exchange that there is a performance link between total debts and return on sales ratios.

2.5. Management and Financial Advice

Previous literature has shown that family businesses’ management is different from private firms’. The Financial crisis hit the world economy. Financial analysis and profitability measurement are very important for a company’s sustainability. There are some propositions and advice for how to make a company sustainable and profitable even during “hard times”. Family businesses should use family-based measures to support business during economic recessions (Van Auken, 2006). Gallo (1996) stated that it is better for the firm to have a following position then the leading position. Here, the company can increase its performance. For Kreuger and Filbeck (2005), business success depends on the company’s executive capacity to efficiently manage inventories and payables. For Sartori (2009), there is a positive impact on the company if corporate governance is dynamic. A company’s autonomy is very important for sustainability. Therefore, it is very important to understand how to forecast future performances. Future performances can be seen in the firm’s operating plan. Honig and Karlsson (2004) argued that business plan establishment can predict future performances. This plan underlines investment project profitability and sustainability. Bond and Meghir (2005)
detailed investment strategies. For them, investment is possible only if there are enough internal resources (free cash flow) or external resources (new equity or debts). For Pazner and Razin (1975), Hepburn and Groom (2007), and Buchholz and Schumacher (2008), investment projects can be accepted only if net present value is positive. Net present value cannot be computed without the use of discounted cash flows. Discounted cash flow is a financing technique which evaluates investment project and capital budgeting (Valez-Pareja, 2005). Edward (2009) argued that the discounted-cash-flow method improves understanding of factors which impact accuracy. The enterprise maximizes its value when capital structure is composed of an efficient financing combination (Nantell, 1975). This combination could be between equity and debts. However, this combination is insufficient. It is also important to have low corporate taxes. For Hiraga (2011), corporate tax deduction positively impacts long-term economic growth. Furthermore, the company could reduce agency conflict costs by increasing management supervising (Eisenhard, 1998). Niskanen and Steijvers (2010) underlined that debt rise can add extra costs.
3. METHODOLOGICAL CHOICES

3.1. Research Plan

I started to think about the financial crisis that has stamped out world’s economy so drastically in 2007. People were constantly speaking about it and its consequences on television, the internet, and elsewhere. Economists were saying that this 2007 financial crisis was one of the most significant since the Wall Street crash in 1929. At the beginning of and during the financial crisis, banks started to have a lot of financial difficulties. Moreover, they significantly reduced financial facilities (loans, credits, etc.) to companies. Enterprises started to have difficulties getting funds. Bad macro-environmental conditions pushed firms to cut money spent on innovation. A lot of enterprises went into bankruptcy. People started losing their jobs, etc. All these consequences proved that the world’s economy was going into a deep recession.

Entrepreneurs’ possibilities to create and innovate and firms’ capabilities to grow and to keep up financial stability and performance over time create economic growth. There are many challenges family businesses as well as private firms have to face, especially during an economic slowdown. Most companies have the same goals: maintain profitable and sustainable business, with the company’s ownership structure being unimportant.

During my research, I came to understand that a company’s ownership structure and governance can explain certain things. I wanted to analyse the financial situation of family businesses and private companies before, during and after the financial crisis. I found some information on this topic, but no in-depth discussion of it.

My research could not find in-depth studies on different ownership companies’. Moreover, I was lacking concrete analysis on companies with different business cultures. Studies and articles could not answer my questions, e.g.: What makes businesses sustainable and profitable? Is there a specific financial recipe that family or private businesses must have? How did firms behave during the crisis and resist its effects? What strategies did financial managers use? What are the financial advantages and disadvantages being a family vs. a private firm? I searched and read many journals and books about my subject, but realized that there were no successful answers to these questions.

I chose a case study analysis because of my particular interest in understanding business success. My interest increased after doing a case study analysis of a well-known German pharmaceutical company called Boehringer Ingelheim for master degree class. This company is still majority owned and managed by 4th generation family members. The German firm is having sustainable and profitable business. My second choice was a private firm called Orion, one of the most well-known and successful Finnish pharmaceutical companies. I will try to
compare the companies’ financial statements before, during and after the financial crisis, show their strong and weak points, and point-out the consequences of the crisis.

I think that my research topic could be very useful for business people. While conducting my research, I discovered that family businesses literature considers family businesses to be the backbone of economic stability. Dunn (1995) characterized the relationship in family owned companies as family absorbing management. There is a specific philosophy which dominates in these family business relationships. Family business members’ emotional attachment to the company makes business sensible. Also, on some occasions it pushes family members to make irrational decisions (Schulze, Lubatkin, Dino and Buchholtz, 2001; Sharma, Chrisman, Pablo and Chua, 2003) for succession planning, managerial growth, etc. At the same time, these important decisions should keep family harmony. Several factors, such as macro-environmental conditions and internal management influence the firm’s financial stability.

After looking through the enterprises annual reports, I realized that both companies are following guidance of transparency considering published information about financial performances, strategies, and actions taken. However, an independent and neutral analysis is always better.

There is no way that these earlier questions can be answered without conducting a mixture of quantitative and qualitative research. Thinking about the topic of my thesis let me realize that I was particularly interested in doing financial analysis of differently-owned firms based on a specific timetable: before, during and after the 2007 financial crisis. In spite of the numerous articles and large amount of literature on the topic of the financial crisis, I was not able to find answers I was looking for. After a number of lectures courses in methodological choices in entrepreneurship research, I realized that I wanted to go further, and try to understand the financial advantages and disadvantages of differently-owned companies. In order to do this, I decided to do qualitative research on a couple of successful businesses in the same industry, compare my findings, analyse the results, and see if there were any similarities or dissimilarities among two businesses, while furthermore trying to identify the consequences of the financial crisis for the selected enterprises.

3.2. Qualitative Research Settings

I tried to place myself according to philosophical assumptions of four worldviews for this research and I started questioning my research topic. What exactly was the aim of my research? My investigation on topic showed that there were not many studies on it. In addition to my previous research of comparing family-run and other businesses, I believed it would be interesting to see how enterprises acted during and after the crisis.

The comparison of financial results between a family business and a private company in the same industry (the pharmaceutical industry) let me underline some interesting facts. Balance sheet and profit & loss data can say a lot about a firm’s environment. However, an “insider view” is always better. For this reason, conducting interviews with firm’s workers was very useful. This research gave me a deeper understanding of differently-owned companies. For these reasons, I have chosen a mixture of qualitative and quantitative research models. On the one hand, I used financial statement data (balance sheets, profits and losses, and cash-flow statements) of each company. With this data I set up ratio analysis and also estimated the value
of each firm via their business plans. On the other hand, analysis should take into account insiders’ points of view on the company’s financial situation. I got internal information by conducting interviews. These interviews procured important information about the companies’ strategies, perceptions of the crisis, etc.

I see my research as being between constructivism and a pragmatic worldview. It will hopefully practically encourage comprehensive research techniques and productivity, as well as testing some hypotheses from different angles. I have applied a triangulation model pursuing along with qualitative and quantitative models. Jick (1979) pointed-out that triangulation model improves the grounded theory obtained results.

3.3. Research Objectives

Having successful and sustainable business requires external and internal resources, as well as knowledge and skills to keep up business governance, and abilities to do sustainable and profitable business even during a financial crisis. So, what exactly makes enterprises financially profitable and sustainable? What strategy is most efficient during a financial crisis? What challenges do firms face during the crisis?

As mentioned in my introductory paragraph, my goals were to do qualitative and quantitative research on the financial performances of a family business (Boehringer-Ingheim) and of a private enterprise (Orion) before, during, and after the financial crisis, observe if there were any changes or evolution when crisis started and during the crisis, note if financial crisis is still affecting companies’ financial performances, and identify differently-owned businesses’ strengths and weaknesses.

After collecting financial data and analysing companies’ employees interviews I attempted to see if there were similarities or dissimilarities between those enterprises in terms of strategy, financial performance, financial management, etc.

Where necessary, I tracked quantitative research data about businesses sustainability and profitability, considering many variables such as the type of the company (family/private) and specific financial conditions that I pointed out in my analysis.

3.4. Theoretical Backgrounds

With a broad view of the subject, I wanted to deeply investigate my thesis topic. It seemed impossible to choose just one of the major qualitative categories, and I thus decided to do financial analysis of the firms (financial ratios, discounted cash flow, and equity value) based on my earlier studies in finance and on my experience during a one-year internship in mergers and acquisitions and subsidiaries controlling in an international company (EADS). Furthermore, I collected the firms’ internal information by conducting interviews and open-minded questionnaires.

From the ethnographic point of view I wanted to know if there were any connections between the financial crisis and the companies’ financial performances.
When I will felt satisfied with all data collection, I will start analysing and comparing my obtained results with theories that deal with my subject such as Ricardo’s Comparative Advantages, Modigliani Miller, Competitive Strategy, Resource-Based, Stewardship, Agency, Market Orientation and Grounded theories.

3.5. Methods

As I am a student in entrepreneurship in Family business, I am particularly interested in conducting research in this field. More and more researchers are studying in this field. Research on entrepreneurship is becoming very popular. Bygrave and Hunt (2004) made an interpretive approaches and techniques on entrepreneurship field. They researched investors and entrepreneurs and venture capital. Bygrave and Hunt found that to start a business, an entrepreneur should have sufficient money to create a new business. Most of time, the funding comes from people close to the entrepreneur, and very rarely from venture capitalists.

I hesitated between choosing a qualitative or quantitative research method. Neergaared and Ulhoi (2007) claimed that a qualitative approach is useful when a person needs to generalize and show descriptions by using statistical analysis. The choice between a quantitative and qualitative method depends on the thesis topic and related research questions (Brannen; 1992). Therefore, the entrepreneurship field had small percentage of qualitative research (Chandler and Lyon; 2001). Kyro and Kansikas (2004) conducted a study on methodology used in 337 peer-reviewed articles in entrepreneurship journals between 1999 and 2000. They found that only 11% of studies used a qualitative research method. Analysing financial data such as annual reports required quantitative research methods, whereas interviews needed qualitative analysis. I have found that entrepreneurship can be studied by using a mixture of qualitative and quantitative research methods (Perren and Ram; 2004). As qualitative and quantitative approaches are both accepted, I made a choice to use both methods, because I wanted to have an innovative approach. Schulz and Hatch (1996) studied a pragmatic approach in entrepreneurship field. Kyro and Kansikas (2005) said that the pragmatic way departs from the traditional describing way by using theoretical and empirical approaches, and then seeing how it progresses. This paper will use the pragmatic way of analysis described by Kyro and Kansikas.

I understand that I should have a research method most suitable to my research questions. Therefore, I should choose between different strategies and perhaps even mix them. Davidson (2003) says that case studies make entrepreneurship research more interesting. I followed Davidson’s proposition, and have chosen to do a case study. Saunders (2003) examined case studies. For him, grounded theory can study case studies and versa. I used an empirical research method. I wanted to gain knowledge of differently-owned firms’ particularities and the consequences of the financial crisis for them by observing and analysing financial reports. Campbell and Stanley (1963) suggested the empirical research method.

Authors as Eisenhard (1989) and Glaser and Strauss (1967) showed how to conduct research based on grounded theory research. Grounded theory collects, analyses, and compares data with existing literature and theories (Straus and Corbin, 1998). The grounded theory process is to define research questions and afterwards proceed to sampling. Eisenhard (1989) argued that a grounded-theory-based process should collect data and compare it with earlier
literature and theories. For Eisenhand, the process should underline variation in variables, so that data collection allows one to come up with better theories.

3.6. Empirical Information Collection

I collected my empirical information after I have got enough data about a subject of my interests, with which I narrowed down the topic and form a questionnaire with which I would approach interviewees. From this point of view, I believe that my preferred informants should (would) be representatives of a family firm and of a private company, and, possibly, employees ranked lower on the scale, but who have knowledge of day-to-day business of the company. Most interviews, I believe, would be done over the telephone or email.

3.7. Analysis

My reports are presenting the issue of the investigation, and the final version of it will be narrative and holistic in its description. Financial ratios and data will be analysed and interpreted by my own ideas and thoughts, comparing my data with theories and other authors’ research. In the cross-case studies I will find similarities as well as differences, but all the time in a way that retains the focus of my research. I will try to present the interviewees’ realities, as well as different perspectives and viewpoints.

3.8. Expected Contributions

I have been assured through my previous studies and literature research that there are not enough qualitative research papers on this subject. I am fascinated to see my research results. My research results should be intriguing and interesting. My goal is to find if there can be a sustainable and successful financial structure even during financial crisis. Which type of firm, family or private, better manages its resources? Financial analysis and research will bring me closer to discovering this.

3.9. Research Settings Conditions
3.10. Analysis Documentation

When I finished brainstorming on my thesis subject, which methodology to use, and how to proceed, I started to collect all necessary data.

First of all, I went to the companies' websites. There I found a lot of useful information. I found the companies' history, management teams, strategies, etc. Moreover, both firms had published annual financial reports. I found balance sheets, P and L, and cash-flow statements for the years 2006-2010. I also checked financial information on stock market websites because Orion was listed on Helsinki stock exchange. On the financial side, I got all necessary data to be able to start ratios analysis and business plan. I then created a file do ratio analysis showing financial statement evolution during this 5-year period. I got the financial results and graphs of both companies.

I got results, but financial figures by themselves do not say a lot. My aim was to compare two differently-owned companies' financial statements before, during, and after the financial crisis, and, moreover, to understand family businesses' and private firms' particularities, and thus understand if the financial crisis had a lot of consequences for the selected firms and see how companies reacted and if those successful businesses are sustainable during bad macro-environmental conditions. As I have chosen to do empirical research by using grounded theory
methods, I compared the companies’ results before, during, and after the crisis using the obtained data, and furthermore analysed and compared it with previous literature and theories.

After obtaining and comparing results with previous literature and theories, I understood that something was missing in my study. I had an outsider’s analysis, but I needed to have an internal view of how the companies perceived the financial crisis. I tried to find interviewees in both companies by contacting them by email and by telephone. Ikka Larma, Orion Business Development Director and Michael Millington, Boehringer-Ingelheim International Product Manager accepted to help me. My interviews were based on open-ended questions followed by earlier research and preparation. I tried to find more interviewees without any success. However, in my opinion, both interviewed people gave me enough information.

Based on financial results, comparison of results between companies, and earlier literature and theories, I made a discussion chapter, where I compared those things with the interview results. Finally, in the conclusion chapter I summarized my results and analysis. However, as my research was done in a pragmatic way, using both theoretical and empirical approaches, I jump from one point to another, adding information and comparing with previous literature.
4. ANALYSIS AND RESULTS

My research looks at two pharmaceutical companies. Boehringer-Ilgelheim is a German family business and Orion is a Finnish non-family firm. My results have been surprising me. During my research, I noticed both differences and common points between a family and non-family business enterprises in governance, risk taking, and company’s culture.

My aim was to compare a family business firm with a non-family enterprise. In order to do this, I performed a financial analysis of the companies before, during, and after the financial crisis. I want to understand the consequences of the financial crisis on their businesses. By doing this, I will try to show the enterprises’ cultural differences and common points.

The financial analysis period was between 2006 and 2010. The principal information was taken from financial reports from 2006-2010 and from the companies’ or stock markets’ websites. All figures are in millions of Euros.
5. FINANCIAL MANAGEMENT AND ITS IMPORTANCE

Financial management is an important tool for companies of all sizes. Florance Thibault, from the Belgium Finance Management journal, interviewed Astrid Anciaux, chief financial officer of the Belgian company Steria Benelux, which specialises in computer engineering services. Anciaux claimed that finance management should help to take a good decision. Therefore, she pointed out 3 important things to do to achieve a successful financial management enrolment. Firstly, the firm should have group harmony. For multinational companies listed on stock markets, exchange controlling processes and tools are indispensable. Secondly, the company should have reliable information available to finance and project employees. Communication and transfer of internal information and knowledge should be well organized. Giving responsibilities in their work positions encourage employees to work. Employees’ commitment and goal achievement could be rewarded by distribution of shares or by a salary bonus. Money and recognition are very good stimulants to make workers more efficient and motivated in their work. Efficient financial management help to achieve target goals.

One website had underlined another 3 key objectives for financial management teams:
- Create value-added for the business
- Generate cash
- Achieve a sufficient ROI (return on investment) ratio with minimum risks

Therefore, 3 essential key elements to process financial goals set up financial management are as follow:
- Financial planning
- Planning of expenses; forecasting the firm’s investment needs should respond to company’s needs at the right time
- Controlling

A lot of financial controllers probably say: trust is good, however, controlling is better. It is crucial to see if firm is using its assets efficiently. Thereafter, controlling helps to minimize expenses and to maximize profits. Multinational companies use cost accounting system to identify and analyse each cost centre by department and by sector. Here, each expense can be identified easily. Moreover, the hourly rate shows exactly how much one working hour costs for the company, including indirect costs (sites, accountants, etc.) and direct costs (project expenses, related to the core business).

Financial decisions are connected to a business plan approach which takes into account different scenarios (optimistic, baseline, and pessimistic). If NPV (net present value) is positive, then investment is considered profitable. However, each investment project should measure the level of risk. Opportunity should be balanced with the associated level of risk. Therefore, the
payback year and how an investment project will be financed are very important. If payback year is more than 8 years in the future, then even if investment is predicted to be profitable, an investment deal may appear not so attractive. There should be a middling point between risk and opportunity.

A company finances its functioning needs by internal resources (cash-flow, shareholder participation, etc.) or by external resources (bank loan, issuing new shares, etc.). External and internal financing is defined by the weighted average cost of capital. Knowledge of the weighted average cost of capital is indispensable for a business plan.
6. FAMILY BUSINESS CHARACTERISTICS

This paper aims to describe two companies’ structural particularities and their financial statements before, during and after financial crisis. Family firms were found to be older and to have lower sales, fewer part-time employees, and fewer full-time employees on permanent contracts. My goal was to identify differences and similarities between family business and private firms. Which financial structure was more sustainable and profitable? Were there other factors that can influence enterprise environment? Chua, Chrisman, and Steier (2003) studied family business peculiarities. They have noted that a family business is distinct from a private firm because of family members’ involvement in the business. Westhead (2011) underlined that family businesses are managed differently than non-family businesses. Furthermore, according to Chua, Chrisman, and Sharma (1999) family businesses are different than other businesses because family members participating and influencing business decisions. Further studies suggested that family businesses are having many peculiarities. Family businesses are often compared to small companies (Litz, 1995). Thus, several authors have contended that family businesses have difficulties maintaining sustainable growth and getting business into international markets and certain sectors (Gallo, Cappuyns and Estapé, 1995; Gallo; Josep; Kristin, 2004). They presume that family businesses grow more slowly compared to private firms. Poutziouris, Chittenden, and Michaelas (1998) confirmed this in saying that non-family enterprises are more market-oriented and tend to grow more, whereas family firms have difficulties in reaching higher profits and maintaining family members’ control rights. Gallo and Vilaseca (1996) pointed out that family businesses have low debt levels. However, Coleman and Carsky (1999) took the contrary view; the family firms are as likely to use debts as non-family enterprises. For them, debt is more related to the company’s age and not to its ownership structure. These studies have underlined differences that can exist between family and non-family firms. Moreover, is it only ownership structures that influence financial performance? In a recent international regional science review paper, Chen (2008) noted that differences in countries could explain industry performances variations in the same industry.

This recent research has shown that family businesses have many particularities. It is important to know what advice can be given to firms to increase their profitability and keep up sustainable growth even during a financial crisis. Various authors have given advises on how to improve family business profitability. Harris, Martinez, and Ward (1994) mentioned that strong spousal commitment can increase family business success. Focusing on Van Auken and James (2006) claimed that family business should use family-based resources to support business even during an economic slowdown. Andres and Valledado (2008) pointed out in his study that family business performance is greater where the founding family is still present and active in the executive and supervisory board. Traditionally, autonomy is an important element in a
firm’s structure. The importance of autonomy was underlined by Garnier (1990). Honig and Karlsson (2004) argued that an entrepreneur should plan future performance by using a business plan. Finally, it can be argued that business success depends on financial executives’ capacity to manage efficiently inventory, payables and receivables (Krueger and Filbeck, 2005).
7. ORION IN BRIEF

Orion Company was established in 1917. Orion is identified as a medium-sized company in Europe and about the 70th largest pharmaceutical company in the world. The enterprise develops and produces proprietary drugs for humans and animals. These pharmaceutical products are mainly sold in Germany and countries that had recently joined EU and Nordic countries (Finland, Sweden, etc.). Finland is the most significant market, representing about 25% of total Orion's net sales. However, the enterprise develops and markets its products in an over a hundred countries.

General speaking, Orion is a private Finnish firm which develops pharmaceutical and diagnostic tests, and has been listed on NASDAQ OMX Helsinki in the large cap since 3rd July 2006. The main activity of the business is to develop, manufacture and sell human and veterinary pharmaceuticals, thus diagnostic tests and active pharmaceutical ingredients. The company has a profitable and sustainable business. However, like all pharmaceutical companies, Orion faces some challenges in R&D (research and development). Patents and products licenses protections are for a certain limited time. That is why innovation and R&D are in the centre of firm’s preoccupation.

7.1. Business Divisions and Products

Orion’s business has two divisions: pharmaceutical and diagnostic. Pharmaceutical business is the most important and active division, which represents 95% of Orion’s total net sales. Proprietary patented pharmaceutical innovations such as the following are an important part of the enterprise:

- Proprietary products and patented prescription products
- Specialty products, i.e. off-patent prescription drugs and self-care products
- Animal health, i.e. veterinary products for pets and production animals
- Fermion with active pharmaceutical ingredients

Besides this, Orion’s research and strategy is focused on:

- Products related to the central nervous system
- Oncology and critical care
- Respiratory medicines

The enterprise has an important portfolio of generic patent prescription drugs, as well as hospital treatments and self-care products which complete the pharmaceutical portfolio.
Moreover, Orion is developing animal health care and has the leading market domination in the Nordic countries.

Orion’s diagnostic business, known as Orion Diagnostica, is not as important when compared to the pharmaceutical side; however, their diagnostic tests are used worldwide to help to identify follow-up treatments. The firm offers a large choice of products and services, such as:

- Human prescription medicine
- Veterinary products
- Active pharmaceutical ingredients
- Diagnostic tests
- Hygiene tests
- Contract manufacturing

<table>
<thead>
<tr>
<th>EUR million</th>
<th>Used for</th>
<th>2011</th>
<th>2010</th>
<th>Change %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stalevo®, Comtess® / Comtan®</td>
<td>Parkinson's disease</td>
<td>266.7</td>
<td>252.7</td>
<td>+5.5%</td>
</tr>
<tr>
<td>Simdax®</td>
<td>acute decompensated heart failure</td>
<td>44.0</td>
<td>39.9</td>
<td>+10.4%</td>
</tr>
<tr>
<td>Precedex®</td>
<td>intensive care sedative</td>
<td>33.0</td>
<td>27.2</td>
<td>+21.3%</td>
</tr>
<tr>
<td>Easyhaler® product family</td>
<td>asthma, COPD</td>
<td>30.5</td>
<td>28.1</td>
<td>+8.6%</td>
</tr>
<tr>
<td>Burana®</td>
<td>inflammatory pain</td>
<td>23.5</td>
<td>21.5</td>
<td>+9.2%</td>
</tr>
<tr>
<td>Domitor®, Dexdomitor®, Domosedan® and Antisedan®</td>
<td>animal sedatives</td>
<td>23.2</td>
<td>24.2</td>
<td>-3.9%</td>
</tr>
<tr>
<td>Marevan®</td>
<td>anticoagulant</td>
<td>15.6</td>
<td>13.1</td>
<td>+19.5%</td>
</tr>
<tr>
<td>Divina® product range</td>
<td>menopausal symptoms</td>
<td>13.2</td>
<td>13.3</td>
<td>-0.7%</td>
</tr>
<tr>
<td>Enantan®</td>
<td>prostate cancer</td>
<td>12.0</td>
<td>13.0</td>
<td>-7.7%</td>
</tr>
<tr>
<td>Solomet®</td>
<td>inflammatory diseases</td>
<td>10.7</td>
<td>8.6</td>
<td>+24.8%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>472.4</strong></td>
<td><strong>441.5</strong></td>
<td><strong>+7.0%</strong></td>
</tr>
<tr>
<td>Share of pharmaceutical net sales, %</td>
<td></td>
<td>54%</td>
<td>55%</td>
<td></td>
</tr>
</tbody>
</table>

TABLE 1 Best sellers products (www.orion.fi)

7.2. Business Values and Strategy

Orion’s business values are based on:
- Mutual trust and respect
Workers motivations in work
Employees contributions in the daily work
Quality, reliability, and safety of all Orion’s processes and actions
Customer focus
The company’s anticipation of and response to customer’s needs and expectations.
Innovation
Creating solutions and innovative ways of working, bringing professional expertise into joint projects.
Achievement
Developing products, solution, and services to maximise well-being and promote health.

Orion’s strategy and mission is to build well-being by providing pharmaceuticals and diagnostic tests for human and animal diseases. High-quality and effective drugs are value-added for customers, which can improve humans’ quality of life. Innovation is at the centre of company’s vision. Therefore, firm is wants to have a sustainable and profitable business.

Orion has three main strategic goals as:
1. Growth of business operations through a competitive product portfolio
2. Strengthening the market position in Europe
3. Improving the flexibility and efficiency of operations

7.3. Corporate Governance

The company’s corporate governance follows Finnish Corporate Governance Code 2010 for firms which are listed on NASDAQ OMX Helsinki stock exchange. The members of the Board of Directors are highly educated and experienced, as the following table shows:

<table>
<thead>
<tr>
<th>Board of Directors</th>
<th>Position</th>
<th>Born</th>
<th>Education</th>
<th>Detailed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hannu Syrjänen</td>
<td>Chairman</td>
<td>1951</td>
<td>B.Sc. (Econ.), Master of Laws</td>
<td>Chairman of the Board of Directors</td>
</tr>
<tr>
<td>Jukka Ylppö</td>
<td>Vice Chairman</td>
<td>1955</td>
<td>M.Sc. (Eng.), M.Sc. (Econ.)</td>
<td>Senior Advisor on development of control systems for industrial electric drives, ABB Corporation</td>
</tr>
<tr>
<td>Sirpa Jalkanen</td>
<td>Member</td>
<td>1954</td>
<td>M.D.</td>
<td>University of Turku Vice Dean, Professor of Immunology</td>
</tr>
<tr>
<td>Eero Karvonen</td>
<td>Member</td>
<td>1948</td>
<td>M.Sc. (Eng.)</td>
<td>Owner and Managing Director of EVK-Capital Oy</td>
</tr>
<tr>
<td>Timo Maasilta</td>
<td>Member</td>
<td>1954</td>
<td>M.Sc. (Eng.)</td>
<td>Managing Director of Maa- ja vesitekniikan tuki ry and Tukinvest Oy</td>
</tr>
<tr>
<td>Heikki Westerlund</td>
<td>Member</td>
<td>1966</td>
<td>M.Sc. (Econ.)</td>
<td>Senior partner of Capman Plc</td>
</tr>
</tbody>
</table>

TABLE 2 Orion’s corporate governance structure
8. BOEHRINGER-INGELHEIM IN BRIEF

Boehringer Ingelheim is the largest research-driven pharmaceutical company in Germany and one of the world’s 20 leading pharmaceutical companies. Boehringer Ingelheim has remained family owned to this day. The company’s headquarters are in Ingelheim, Germany. The company employs 41,534 employees in 142 affiliated companies in 50 countries. Manufacturing facilities were built in 15 countries and research is being conducted in 9 nations.

The essence of the company’s business is to research, develop, manufacture, and merchandise products in human and veterinary medicine. The human pharmaceutical business area consists of the following segments: consumer health care, biopharmaceuticals and preparations (Chemical and Pharma Production), and prescription medicines. In 2009, the company spent 21% of net sales on research and development in prescription medicines, and its main research areas were oncology, cardio-metabolic diseases, respiratory diseases, neurological diseases, immunology, and infectious diseases. Furthermore, Boehringer Ingelheim is one of the fastest-growing of the biggest 15 pharmaceutical companies, and, regarding animal health, is also one of the most important companies in the industry. In 2010, the company celebrated its 125th anniversary and their declared goal is to stay an independent, “family owned” company that grows on its own.

The subsidiaries in the different countries have a large degree of autonomy and are responsible for their own sales and earnings, and therefore there are cross-border standards and guidelines that need a globally-coordinated procedure in pharmaceutical drug safety, quality management, and environmental protection, as well as safety and qualifications of the staff. This creates a corporate identity in all the countries and makes clear that my case study company takes responsibility for its employees and the environment as well as for society.

The operational working units in Germany are Boehringer Ingelheim Pharma (GmbH) & Co. KG, Ingelheim and Biberach, Boehringer Ingelheim microParts (GmbH), Dortmund and Boehringer Ingelheim Vetmedica (GmbH).

8.1. Business Divisions and Products

As mentioned above, the two main areas of businesses are human pharmaceuticals and animal health. The field of the prescription medicine accounts for 79% of total net sales and includes products for the following:

- Acute Coronary Disease
Benign Prostatic Hyperplasia
Cardiovascular Disease
Chronic Obstructive Pulmonary Disease
HIV/AIDS
Hypertension
Parkinson’s Disease
Restless Legs Syndrome
Stroke
Thromboembolic Diseases

The consumer health care business contributes 10% to Boehringer Ingelheim's total net sales. For over 50 years, the self-medication products have been marketed successfully under the family brand Thomae, and include products such as Thomapyrin®, Buscopan®, Dulcolax®, Mucosolvan®, Mucoangin®, and Silomat®. These products treat abdominal discomfort, cold, aches, cardialgia, costiveness, etc.

Boehringer Ingelheim also opened its European Veterinary Research Center in Hanover in 2010, with a mission to develop innovative vaccines and, by establishing its research and development activities in animal vaccines for food-producing animals in Europe, boost its international profile. Finally, Boehringer Ingelheim develops drugs for animal health in the USA, Germany, Mexico, and Japan, and invests more than 11% of its the net sales in research and development.

8.2. Business Values and Strategies

The present phase of Boehringer Ingelheim’s vision is named “Lead & Learn” and describes how Boehringer Ingelheim realizes “Value through Innovation”. The most important part of “Lead & Learn” is the concept of “Me/We”, because it underlines how important each person is, as well as how important the collective performance of the team is for the success of the company. The factors and the identity that forms this family-owned company are the orientation towards values, like reliability and predictability, and the close alignment with the needs of patients and physicians. Moreover, the company is aware of the importance of the employees working conditions. The strengths of the company are their 125 years of stability and the ability to transform the parameters mentioned into a well-balanced strategic approach.

Another issue that supports the identity and the vision of the company is its logo, because it has been stable, apart from some changes in the design, for several decades. The logo used by Boehringer Ingelheim today is a depiction of the central section of the imperial palace of Charlemagne. The King of the Franks, later crowned emperor, stayed in Ingelheim in the late 8th century, probably around the year 774. Thus, this logo also integrates historic aspects and underlines in this way the company’s traditions and its long successful existence.

8.3. Corporate Governance
After analysing the Boehringer Ingelheim annual reports, it could be seen that the company is following guidance of transparency quite well. Between published information about passed projects and plans for the future, annual reports clarify the company governance system as being three separate corporate bodies: the Shareholders' Committee, the Advisory Board and the Board of Managing Directors.

<table>
<thead>
<tr>
<th>Shareholders’ Committee</th>
<th>Board of Managing Directors</th>
<th>Board of Managing Directors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christoph Boehringer</td>
<td>Prof. Dr. Dr. Andreas Barner</td>
<td>Prof. Michael Hoffinan-Becking</td>
</tr>
<tr>
<td><strong>Chairman</strong></td>
<td><strong>Chairman</strong></td>
<td><strong>Chairman</strong></td>
</tr>
<tr>
<td></td>
<td>Corporate Board Division</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pharma Research, Development</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and Medicine</td>
<td></td>
</tr>
<tr>
<td>Albert Boehringer</td>
<td>Englebert Tjeenk Willink</td>
<td>Egbert Appel</td>
</tr>
<tr>
<td></td>
<td>Corporate Board Division</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marketing and Sales Human</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pharma</td>
<td></td>
</tr>
<tr>
<td>Erich von Baumbach Jr.</td>
<td>Prof. H.C. Dr. Wolfram Carius</td>
<td>Dr. Andreas Kreimeyer</td>
</tr>
<tr>
<td></td>
<td>Human Resources and operations</td>
<td>Member of Executive Directors and Research Executive Director, BASF SE</td>
</tr>
<tr>
<td>Ferdinand von Baumbach</td>
<td>Hubertus von Baumbach</td>
<td>Prof. Dr. Fredmund Malik</td>
</tr>
<tr>
<td></td>
<td>Corporate Board Division</td>
<td>Chairman of the Board Malik Management Zentrum St. Gallen AG</td>
</tr>
<tr>
<td></td>
<td>Finance Human Resources and Operations</td>
<td></td>
</tr>
<tr>
<td>Dr. Mathias Boehringer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE 3** Boehringer-Ingelheim’s corporate governance structure
9. FINANCIAL COMPARISON BETWEEN BOEHRINGER-INGELHEIM AND ORION

<table>
<thead>
<tr>
<th>Boehringer-Ingelheim</th>
<th>Orion</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Operating ratios were average, sales were rising but working capital in days was too high. ROS ratio was satisfactory.</td>
<td>a) Operating ratios were good in Finnish company. Sales were rising rapidly. ROS ratio was very satisfactory and it was improving every year. Working capital in days was good; it did not exceed 90 days.</td>
</tr>
<tr>
<td>b) Liquidity ratios were good. Company was able to face its short-term debts.</td>
<td>b) Liquidity ratios were very good. Orion had a huge capacity to reimburse its short-term obligations.</td>
</tr>
<tr>
<td>c) The German company’s debt ratios were not good. The firm had too many debts. The gearing ratio was too high and repayment capacity was unsatisfactory. These two ratios were deteriorating over years. The financial autonomy ratio remained stable and satisfactory.</td>
<td>c) Debt ratios were very good. Repayment capacity and financial autonomy were satisfactory. Gearing ratio was lower than 1. The company had an acceptable amount of debts.</td>
</tr>
<tr>
<td>d) Performance ratios were positive. There was a value creation for shareholders. ROE and ROS were having very good performances, company was very profitable. However, 2008 and 2010 were bad years, almost all profitability ratios slumped.</td>
<td>d) Performance ratios were very satisfactory. The company was very profitable. The firm was increasing its profitability every year. The company was creating an amazing value creation for shareholders.</td>
</tr>
<tr>
<td>e) Investment and asset ratios were average. ROS ratio was showing that Boehringer’s efficiency was decreasing. A fixed assets ratio was good and remained unchanged.</td>
<td>e) Investment and assets ratios were very good. The company’s efficiency was increasing every year. Fixed assets ratio was good.</td>
</tr>
<tr>
<td>f) Cash-flow ratios were very good. The company’s cash-flow situation was very satisfactory.</td>
<td>f) The cash-flow ratio situation was satisfactory, as in the German’s firm.</td>
</tr>
</tbody>
</table>

TABLE 4 Ratios analysis summary

9.1. Financial Analysis Methods
It is important to have the analysis methods and techniques to be able to set-up a financial analysis step-by-step. Traditionally, financial analysis compares enterprises which market in the same industry.

The financial report can offer a comprehensive perspective of the company. The financial analyst's role is to analyse and compare the firm’s cash flow, balance sheets, and profit-and-loss statements. The Modigliani-Miller theorem of the irrelevancy of the financial structure indirectly claimed that markets can give complete financial information about company’s financial situation. The 2007 financial crisis, followed by the debt crisis in the European Union, the note degradation of American sovereign debt by rating agency Standard and Poor’s, banks difficulties obtaining liquidity, and the world economy’s slowdown have made investors nervous and sometimes irrational. Certain stock prices dropped by half even when the companies were performing better than in previous years. During the subprime crisis, the Modigliani-Miller theory was not relevant. Stock markets were acting “irrationally” and the information given was not always correct. Stock markets instability and investors nervousness make comprehension of the company’s accounting statements, such as balance sheet and P&L (profit and loss) indispensable. Understanding financial and accounting figures require a good knowledge and skills in accounting, finance, governance and management.

To figure out a firm’s financial environment and set up the stock price value, most stock markets workers only focus on numerical information. Only very rarely do they take into account other parameters. Companies have many internal and external resources. Wernerfelt (1995) and Barney (1991) stated that a company’s resources could be human, physical, organisational, technological, financial, etc. In my opinion, it is important to take them into account.

Therefore, a company’s financial statements analysis cannot forget to take into account operating, financial, and investment activity. Moreover, ratio analysis can be included. Ratio study points out difficulties and potential opportunities. Lemack (2003) showed simplified financial processes. These processes allow making an efficient analysis of a company’s financial statements. He defined 4 essential steps as follows:

Step 1: Acquire company’s financial statements from several years (3 to 5 years), including:
- balance sheet
- income statements
- cash flow statements
- shareholders statements

Step 2: Review financial statements for periods when there were large changes or big variations from one particular year to another year (year to date, budget vs. facts analysis). If something looks suspicious or incorrect, the analyst should search for complementary information. Read financial statements’ notes and comments.

Step 3: Examine P&L (profit and loss), cash flow data, and annual financial statements.

Step 4: Compute financial ratios for each year (debt, performance, and liquidity ratios, etc). Curves and graphs help to see the evolution over multiple years. Comment and analyse all ratio variations, and try to understand the reasons for the changes.

To complete Lemack analysis, it could be efficient to add to these steps:
- financial analysis worksheet establishment
- financial situation context summary
- salients
- controlling processes
According to Chua, Chrisman and Steier (2003), family’s involvement makes a family business different from a private firm. The understanding of the nature of this distinction and its impacts on firms and on firm’s performance is incomplete. I observed that financial analysis is essentially based on firm’s performance. It is thus useful to see financial statements of private and family business companies before, during, and after the financial crisis. I want to gain a better understanding of what makes a business successful and sustainable.

Chen (2008), in “International Regional Science Review”, mentioned that a difference in countries could explain industry’s performance differences. During my research, I will try to verify this affirmation between Finnish and German firms.

Mickael Porter studied the impact of national environment on international competitive performance. He stated that competitive strategy theory follows the context competition level. Furthermore, he found that the theory of competitive strategy could rescue the international economy from economic slowdown if the theory is used correctly. Some authors, such as Wenerfelt and Montgomery (1988), Roquebert, Philips, and Westfall (1996), and McGahan and Porter (1997) have tried to show financial performance determinants. National and industrial culture has an important influence on a company’s performance.

Ricardo theory of comparative advantage says that each country should use the opportunity to produce products at lower production costs using the opportunity to save costs over another. My previous research had shown that some industries perform better in some countries because of comparative advantages. A country’s resources and geographical position are variables that influence an industry’s performance.

The following analysis gives a good opportunity to find comparative advantages that Germany and Finland have.

9.2. Ratios Analysis

Efficient financial analysis of the firm cannot be achieved within the use of financial ratios. Financial ratios analysis was lately developed by Schmidgall’s (1988) study. Ratios show potential opportunities that a company has; at the same time they underline the firm’s difficulties that should be resolved as fast as possible. These indicators allow the user to have the information summarized and analysed. Furthermore, it provides useful information for decision-making; and moreover, financial ratios play an important role in determining enterprise’s financial situation. It also helps to compare companies in the same industry. Ratios and curve analysis over multiple years point out business evolution.

9.2.1. Operating Ratios

Operating ratios show the firm’s ability to run operational business (use of assets and control of expenses). Westhead (2011) claimed that family businesses are usually managed
 differently from non-family business. These management differences greatly influence the firm’s operating ratio performances.

### 9.2.1.1. Sales

All business website defined sales as an income received in exchange for goods or services. Thanks to financial statement analysis, I noticed the strange fact that the two firms’ sales rose even during the financial crisis. The German company’s sales rose constantly during this 5-year period. In 2006, sales represented 10,988 M€ and in 2010 it had become 14,080 M€. In five years, sales increased by more than 28%. Orion’s situation was even better. In 2006, the Finnish company’s sales were 641 M€, whereas in 2010 sales already represented 850 M€. In five years, Orion’s sales increased by more than 32%. These figures are very good. The enterprises’ business growth was not affected by the financial crisis. This means that both companies’ businesses are sustainable. However, I noticed that Boehringer Ingelheim’s sales growth started to slow down after 2009. In 2009, sales increased by 10.6% and in 2010 only by 3.1%. Orion’s sales growth was equal around 10, 2% in 2010.

Constant sales growth shows the company’s capacity to have sustainable business growth even during the crisis. One fact which can explain why the companies’ sales were increasing even during bad macro-economic conditions could be a constant increase in demand for drugs around the world. Developed countries’ populations are becoming older and older, and the pharmaceutical industry is benefiting from the consequences. IMS is the leading provider of information services for the healthcare industry. IMS markets in pharmaceutical industry in more than 100 countries around the world. According to them, the global pharmaceutical market is expected to rise from 4% to 7% per year after 2013. The industry’s fast growth and the products and services demand increase can explain why economists are interested in the pharmaceutical industry as a large, competitive industry (Elism, Cockburn, Hausman and Griliche, 1997).

Moreover, the volume of sales in the P&L (profit and loss) sheet underlined that Boehringer-Ingelheim (family business company) was much bigger company than Orion (private firm). Traditionally, family firms are small or middle-sized. Some authors, such as Gallo, Cappuyns, and Estapé (1995), have stated that family business have difficulties growing and to internationalizing. Figures and facts show that these assumptions do not apply in my case study. The family firm (in this case) has sustainable growth and is actively present in international markets.

### 9.2.1.2. EBIT (Earnings Before Interest and Taxes)

EBIT (earnings before interests and taxes) is an indispensable measurement in finance. EBIT has an advantage when comparison between companies is needed, especially if enterprises are located in different countries where tax measures differ. This measurement is generally used to see if firm is able to earn a profit. The bigger the EBIT value is, the more profitable the enterprise is.
Accounting figures showed that both firms had the capacity to make a profit. Their EBITs over 5 years were both positive. The subprime crisis had a negative impact on Boehringer-Ingelheim’s EBIT. The family business was more profitable before the crisis. In 2006 and in 2007 the firm’s EBIT was growing, and in 2007 it represented 2,362 M€. During the crisis, the company’s ability to earn a profit decreased significantly. In 2008, it decreased to 1,933 M€. Moreover, in 2010, after the crisis, the German firm reached the weakest EBIT performance in a 5-year period (1,708 M€). EBIT compared to sales showed that the company’s EBIT before the crisis represented 20% of its sales, during the crisis 16%, and after the crisis only 12%.

The non-family business situation was close to Boehringer-Ingelheim. Orion was also affected by the crisis. In 2007, the firm’s EBIT was 196 M€ and in 2008 it dropped to 184 M€. The ratio of EBIT to sales showed that before the crisis, Orion’s EBIT represented 30% of its sales, during the crisis it was close to 26%, and after the crisis it recovered to the same level as it was before the crisis (30%). The private firm realised EBIT equal to 253 M€ in 2010.

The financial crisis strongly affected the companies’ EBIT performances. The firms’ capabilities to earn benefits decreased. The enterprises were not able to benefit from sales growth, and sales growth was not followed by EBIT growth. Therefore, the Boehringer-Ingelheim was not able to recover after the crisis, and EBIT performance become even worse than during the crisis. Orion, however, managed to come back to the same situation as it was in before the crisis. Furthermore, I can underline that the private firm better managed its costs, because in 2010, EBIT compared to sales was 30% in the Finnish company and only 12% in the German firm.

9.2.1.3. Working Capital

Harold Bierman, associate professor at Cornell University defined working capital as a “fund” in his accounting review (1960). Working capital ratio is an important ratio in finance. According to Van Home (1977), working capital is managing current assets, receivables, inventories, and marketable securities. Working capital management controls and regulates a firm’s current assets and liabilities balance (Osisioma, 1997). Multiple authors have underlined that good working capital management should guarantee capital adequacy. In corporate finance, working capital affects liquidity and profitability. Therefore, several authors (e.g., Filbeck and Krueger, 2005) have said that business success heavily depends on financial executives’ abilities to effectively manage receivables, inventory, and payables. Companies should ensure that they have enough working capital components available for management teams. Investopedia argues that the working capital ratio could show a firm’s financial environment. Efficient current assets and short-term liabilities management improves a company’s financial position. Therefore, Bierman prefers working capital’s measurement to cash analysis. For Bierman, working capital’s measurement has fewer manipulations compared to other measurements. Efficient working capital management introduces good planning and controlling of current assets and liabilities (Eljelly, 2004). It reduces the incapacity to reimburse short-term obligations and excessive investment in certain assets.

Traditionally, a working capital ratio is satisfactory when working capital in days does not exceed 90 days. My data table showed me that WC is not a strong point for Boehringer Ingelheim. The family firm’s working capital was growing over years, faster during the
financial crisis where it passed from 139 days in 2006 to 162 days in 2009. Therefore, the percentage of WC compared to sales increased from 39% in 2006 to 48% in 2010. A big jump of working capital could be seen in 2008, where it grew from 37% of sales in 2007 to 43% in 2008. The financial crisis degraded the family business’s capacity to meet current assets with current liabilities. This working capital degradation could be explained by the following factors:

- Because of the financial crisis, the company had difficulties selling its products. The firm increased its inventories.
- Clients had financial difficulties. Boehringer-Ilgemheim accepted giving more credit to its customers.
- Bad macro-environmental conditions increased delays in payments.

Working capital evolution can be explained by the size of the company. The larger the company is the more offset payments are important. An enterprise’s working capital management deals with profitability and risks. Inefficient working capital management results in over-investment in working capital and reduces profitability. However, working capital management can still be improved in a family business company. A firm can cut its financing costs by decreasing inventories and credit facilities or by trying to shorten payment delays.

Orion’s working capital situation was good; working capital did not exceed 90 days in this five-year period. In 2006, working capital was equal to 132 days. An important effort in working capital management can be seen in 2007. Working capital was reduced to 68 days. Working capital decreased during the crisis and it increased after the crisis, from 52 days in 2009 to 86 in 2010. Orion’s working capital figures show that the financial crisis had a positive impact on working capital management.

To summary, the financial crisis improved working capital management in a private firm and degraded the situation in a family company.
9.2.1.4. Financial Table and Curves

### Operating ratios

<table>
<thead>
<tr>
<th>Boehringer-Ingelheim</th>
<th>Orion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sales (in M€)</strong></td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>2007</td>
</tr>
<tr>
<td>10 988</td>
<td>11 584</td>
</tr>
<tr>
<td><strong>EBIT (in M€)</strong></td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>2007</td>
</tr>
<tr>
<td>2 243</td>
<td>2 362</td>
</tr>
<tr>
<td><strong>EBIT/Sales</strong></td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>2007</td>
</tr>
<tr>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td><strong>WC (in M€)</strong></td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>2007</td>
</tr>
<tr>
<td>4 247</td>
<td>4 247</td>
</tr>
<tr>
<td><strong>WC in days</strong></td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>2007</td>
</tr>
<tr>
<td>139</td>
<td>132</td>
</tr>
<tr>
<td><strong>WC/ Sales</strong></td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>2007</td>
</tr>
<tr>
<td>39%</td>
<td>37%</td>
</tr>
</tbody>
</table>

**TABLE 5 Operating ratios**
Operating Ratios

FIGURE 2 Operating ratios curves
These tables represent the evolution of operating ratio curves.

- **Gross margin ratio**

  Gross margin ratio shows a firm’s profitability after subtracting its cost of sales. Factors such as sales performances and internal project expenditures (cost of sales) influence this ratio. Keen, founder of Keen Innovations and author of several books on IT, argued that companies should concentrate on improving operating gross margins than growing revenues.

  The following curves demonstrate that Boehringer-Ingelheim felt the consequences of the crisis during and after the crisis. The gross margin ratio was constantly degrading, from 64% in 2006 to 54% in 2010. The financial crisis accentuated the degradation of the firm’s gross margin. The family business had difficulties in maintaining the same gross margin level over the years.

  The private firm (Orion) had a gross margin before the crisis of 68%. If we compare with Boehringer-Ingelheim’s gross margin results, the crisis had a limited impact for Orion. During the crisis, the ratio dropped to 66%. However, Orion recovered fast, and in 2010, gross margin reached almost the same level as before 2008 (67%). Many authors have studied the impact on the turnover and gross margin of generic substitution in Finnish pharmaceutical companies (e.g., Timonen, Karttunen, Ahonen, and Bengström, 2009). This study underlined that generic substitution promoted the sales of pharmaceutical products in Finland. International competition reduced selling prices; profit and gross margin proportions were reduced. There was not enough profit to cover the company’s fixed costs.

  In comparison with other industries, the pharmaceutical industry has some particularities. The pharmaceutical industry’s gross margin is very high compared to other industries. Scherer (2011) claimed that there is a correlation between R&D spending and gross margin. The pharmaceutical industry needs a lot of investments in R&D, as R&D spending positively influence the profitability of new drugs. Investment today creates benefits for tomorrow. Enormous investments in R&D are costly, but it can generate a comfortable gross margin for the firm. Consequently, firms can make remarkable profits.

  To end discussion of gross margin ratio, Orion overall performed better than Boehringer-Ingelheim.

- **EBIT and Net Income margin ratios**

  Other ratios, such as EBIT margin and net income margin ratios are useful for comparison of enterprises which are in the same industry, and help to see how a company has grown over time.

  The financial crisis affected Boehringer-Ingelheim’s EBIT and net income margin ratio growth. During the crisis, EBIT and net income ratios decreased. In 2010 these ratios decreased even more. The EBIT margin ratio was 20% in 2007; it decreased to 16% during the crisis (2008-2009), and then in 2010 it dropped to 12%. Net income margin followed the same evolution, from 16% to 12% and then to 6%. In 2008 and in 2010, two big drops were identified. The family business had felt the consequences of the crisis.

  Orion’s situation was different. Margin ratios decreased during the crisis, with EBIT going from 29% to 26% and net income from 21% to 19% in 2007-2008. However, both of Orion’s margin ratios recovered to the same level as before the crisis, 30% for EBIT and 22% for net income margin.

  These 2 ratios analysis lead me to the same conclusion as for gross margin. The private firm, Orion, made much better marginal profits than the family company, Boehringer-Ingelheim.
9.2.1.5. Operating Ratios Summary

Boehringer-Ingelheim

FIGURE 3 Boehringer-Ingelheim’s operating situation

These graphs show the company’s financial performance over 5 years. Sales were constantly growing. However, sales growth was not followed by EBIT growth, because the return on sales (ROS) ratio decreased from 21.2% in 2006 to 12.1% in 2010. This drop had two phases: big drop which started during the crisis (2008-2009), from 20.4% in 2007 to 15.7% in 2008, and a further decrease in 2010, from 15.7% in 2009 to 12.1% in 2010. Sales grew, but enterprise performances did not grow as fast as sales (and even decreased). In general, EBIT proportion compared to sales should follow the same trend, but this did not happen here. Therefore, it is clear that the financial crisis affected the company; the consequences of the crisis can be seen during and after the crisis, where ROS ratio declined significantly. Moreover, Boehringer-Ingelheim had no capacity to recover to the same level as before the crisis.
Orion’s sales were growing very fast during these five years (from 641 M € in 2006 to 850 M € in 2010), which is a very encouraging fact. However, EBIT did not grow proportionally compared to sales, and sales growth was not followed by EBIT growth. The ROS ratio decreased during financial crisis, from 30.8% in 2006 to 25.9% in 2009. The company recovered in 2010, when its performance reached almost the same ROS percentage as before the crisis (around 30%).

The financial crisis had an impact on the private firm’s operating performance, but the firm recovered in 2010.

9.2.1.6. Operating Ratios Conclusions

Operating ratios and figures were good in both firms. Instead of the family business having some special difficulties during the crisis, both companies had the capacity to run operational business successfully.

Sales growth was not affected by the financial crisis. However, performance ratios were hit by the crisis. Both companies struggled with the consequences of the crisis. The private firm recovered after the crisis, while the family company had difficulties doing so.
The working capital situation was worrying in the German firm and the financial crisis accentuated its degradation, whereas although Orion’s working capital fluctuated during the crisis, its management was satisfactory.

The family business was more sensitive to international markets changes than the private firm. Operating ratios revealed that Orion was working more efficiently than Boehringer-Ingenheim in terms of operating activities.

9.2.2. Liquidity Ratios

Liquidity ratios show a company’s ability to pay short-term obligations. According to Philadelphia University (2003), liquid assets are those goods that can be converted into money rapidly. Short-term liquidity ratios show a firm’s capacity to pay its short-term debts. Elevated liquidity ratios underline the company’s capacity to meet its short-term obligations. In this case, there is a lower risk of non-payment. A firm’s liquidity is a sort of guarantee that there will not be payment default in the future. A firm’s sphere of activity, the company’s maturity and size, the season of the business, the macro-environment, and financial asset structure are factors that influence company’s liquidity (Hostiuc, 2009). According to Diamond and Rajan (1999), borrowers have an interest in having good liquidity ratios in order to continue to attract funds. There are 3 most commonly used liquidity ratios measurements: liquidity, reduced liquidity and solvency ratios.

9.2.2.1 General Liquidity Ratio

General liquidity is the measure which allows one to see if a firm has the capacity to respond to its short-term obligations.

Financial figures underlined that Boehringer-Ingelheim had a very good general liquidity ratio. The family business’s liquidity ratio was at the lowest point equal to 21.5 points in 2006, 14 times higher than recommended minimum. If general liquidity is higher than 1.5 points (1.5 times more current assets then current debts), then the situation is considered satisfactory. Figures lead me to believe that Boehringer-Ingelheim was taking some precautions to ensure firm’s general liquidity. In 2009 and 2010, the German firm reached a liquidity level of close to 41 points, while before the financial crisis it was close to 24 points. In 2010, current assets covered more than 41 times short-term debts. The enterprise had a very good ability to pay its functional charges.

Orion’s general liquidity ratio was satisfactory, but not as good as the German family firm’s. General liquidity ratio started to decrease during and after the crisis, from 3.43 points in 2007 to 3.02 in 2010. The financial crisis had a negative impact on general liquidity.

Boehringer-Ingelheim’s liquidity ratio was 13 times bigger than Orion’s. Moreover, during and after the crisis, the former company took greater and greater care to ensure its general liquidity, while the private firm was more relaxed. Risk perception differs between a family firm and a private company. The firms’ behaviour during the crisis took different directions.
The German family firm became more cautious while the private Finnish firm did not change its liquidity strategy.

Boehringer-Ingelheim had the general liquidity ratio 20 times bigger than minimum recommended, compared to Orion, which had a ratio 2 times higher than recommended. It’s possible that the German firm was too cautio ns. A high amount of current assets has its advantages and disadvantages. It ensures short-term debt-reimbursement capacity, but it greatly increases working capital needs. Managers usually know that working capital costs are very costly.

9.2.2.2 Solvency Ratio

The Free Farlex Dictionary defined solvency ratio as a measure which identifies a company’s capacity to repay it long-term debts. Lenders are very interested to know what solvency ratio a firm has. A high solvency ratio indicates a healthy company, while a low ratio indicates that there can be risks in lending.

Boehringer-Ingelheim’s solvency was very good during this 5 years period. The ratio was equal to 34% before the crisis. In contrast to the Finnish firm, the German enterprise’s solvency ratio improved during and after the crisis, reaching 41%. During the years 2008-2010, their solvency ratio remained stable, near 40%. In 2010, equity represented 40% of the firm’s total assets.

Orion’s solvency ratio was very good during this 5-year period. This indicator was always higher than 25% of the required minimum level. Before the financial crisis, the ratio was equal to 76% (2007). The crisis provoked a decline to 60% in 2008/2009. After the crisis, the solvency ratio stayed almost the same as it was during the crisis. In 2010, equity comprised more than 60% of total assets structure. The private company had a good capacity to reimburse its long term-debts in case of financial difficulties.

Solvency ratios were very good for both enterprises. However, while Orion’s ratio was better overall through the years, this ratio took different directions during the crisis. The family business (Boehringer-Ingelheim) increased its capacity to pay its long term obligation while the private enterprise saw its solvency ratio degrade.

9.2.2.3 Reduced Liquidity Ratio

A reduced liquidity ratio can be obtained by subtracting current assets from inventories and then dividing by total debts. According to the «Accounting for Management” website, a reduced liquidity ratio gives a feeling of safety for investors. Therefore, this ratio is also an index which points out a firm’s financial stability. This index shows the level of working capital needed, and thus underlines enterprise’s solvency.

Boehringer-Ingelheim’s reduced liquidity ratio was satisfactory. Current assets subtracted by inventories represented more than 60% of long-term debts. Before the crisis, the ratio was equal to around 60% in 2006. During the crisis, ratio improved, reaching 84% in 2009. After the
crisis, in 2010, the reduced liquidity ratio was at 73%. Overall, the reduced liquidity ratio was average but satisfactory in Boehringer-Ingelheim.

Orion’s ratio was more than satisfactory. In 2006, it was equal to 138%, an incredible performance. The crisis had its impacts on the reduced liquidity ratio. During the crisis, the ratio declined to 102%. In 2010, it improved to 110%. Even after the ratio decreased, however, it was still very good.

The private firm’s reduced liquidity ratio performed better when compared to the family company’s. The evolution of the reduced liquidity ratio during the financial crisis followed the same trend as other liquidity ratios. Orion had a large capacity to pay short terms debts.

Boehringer-Ingelheim had a high ability to repay its short-term debts, however, big differences between general-liquidity and reduced-liquidity performances can be seen. The family business has an important amount of inventories. Orion’s inventories were lower, which explains why the liquidity ratio was lower in the Finnish firm.
### 9.2.2.4 Financial Table and Curves

#### Liquidity Ratios

**TABLE 6 Liquidity ratios**

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Boehringer-Ingelheim</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General liquidity (Current Assets/Short-term debts)</td>
<td>21.53</td>
<td>24.03</td>
<td>23.22</td>
<td>40.61</td>
<td>40.79</td>
</tr>
<tr>
<td>Reduced liquidity ratio (Current Assets- Inventories)/Total debts</td>
<td>0.53</td>
<td>0.57</td>
<td>0.69</td>
<td>0.64</td>
<td>0.73</td>
</tr>
<tr>
<td>Solvency (Equity/Total Assets)</td>
<td>0.45</td>
<td>0.34</td>
<td>0.41</td>
<td>0.41</td>
<td>0.40</td>
</tr>
<tr>
<td><strong>Orion</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General liquidity (Current Assets/Short-term debts)</td>
<td>3.73</td>
<td>3.43</td>
<td>3.36</td>
<td>3.09</td>
<td>3.02</td>
</tr>
<tr>
<td>Reduced liquidity ratio (Current Assets- Inventories)/Total debts</td>
<td>1.38</td>
<td>1.32</td>
<td>1.02</td>
<td>1.02</td>
<td>1.10</td>
</tr>
<tr>
<td>Solvency (Equity/Total Assets)</td>
<td>0.75</td>
<td>0.76</td>
<td>0.60</td>
<td>0.60</td>
<td>0.63</td>
</tr>
</tbody>
</table>

"target > 1.5" and "target > 25%" are indicated by green smiley faces.
Liquidity Ratios

**General Liquidity Ratio**
\[\text{General Liquidity Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}\]

**Reduced Liquidity Ratio**
\[\text{Reduced Liquidity Ratio} = \frac{\text{Current Assets} - \text{Inventories}}{\text{Current}}\]

**Solvency ratio**
\[\text{Solvency ratio} = \frac{\text{Equity}}{\text{Total assets}}\]

**FIGURE 5 Liquidity ratios curves**
These tables and curves show a simplified version of liquidity ratio evolution during the five-year period.

### 9.2.2.5 Liquidity Ratios Conclusions

Liquidity ratios were very satisfactory for both companies. Both enterprises had a sufficient capacity to repay short and long term obligations. These kinds of figures secure borrowers’ positions. Both companies could easily attract lenders or find funds.

Except for general liquidity ratio, where the family company was performing better, all other ratios were better in the Finnish private company. Liquidity ratio analysis leads me to notice some interesting facts. The crisis had a positive impact for Boehringer-Ingelheim’s liquidity ratios while it had a negative impact for Orion’s. Generally speaking, family companies are less risk-averse than private firms. When the crisis started, the German company directly improved its liquidity, while the Finnish firm’s liquidity ratios decreased. This is because of different perceptions of risk and of long-term visions. The family business secured its liquidity positions to reduce its risks.

Therefore, figures speak by themselves. I can point-out that Boehringer-Ingelheim had multiple inventories. Inventories increase working capital, which is not necessarily good.

### 9.2.3. Debt Ratios

Debt ratios show an enterprise’s ability to repay long-term debts. If a company is unable to repay its debts, the enterprise will go to bankrupt. However, there are almost no companies without any debts because of offset payments, economic difficulties etc. Moreover, debts improve profitability by reducing income tax level. Debts help to respond to current financial difficulties or to investment projects. Investment requires a sufficient cash flow; if cash flow is insufficient then only debts can help to continue investment projects. According to Finance journal, investments are very sensitive to a firm’s cash flow. This sensitivity is influenced by dividends and the enterprise’s growth level. If a firm’s cash flow is not high enough to support investment projects, then cash flow can be replaced by financial loans (debts) taken from banks or from private investors, or obtained on stock markets. Obtaining funds from private or institutional investors requires a company to be listed on stock markets. Furthermore, the firm should respect share markets’ policies on transparency on accounting statements, respect annual report publication dates, etc. The “Investopedia” webpage defines the stock market as the equity market. The stock market is one of the most vital financial areas. It provides an easy access to capital. In exchange for money, investors are willing to share a company’s gains and to have a slice of the firm’s ownership. Stock markets, banks, and investment institutions form the global financial system. Financial institutions participate in investment projects. Nowadays, a considerable number of debates exist on the relationship between economic growth and the financial system. Schumpeter (1912) and Spring (1873) pointed out the importance of the
banking system in economic growth. In general, banks contribute positively to economic growth.

### 9.2.3.1 Gearing Ratio

In finance, gearing ratio is a basic ratio for financial analysis. Financial analysts argue that a firm’s financial structure is healthy when total debts represent less than 100% of enterprise equity.

Boehringer-Ingelheim had too much debt compared to its equity between 2006 and 2010. In 2007, the firm reached a dangerous level (196%). At that time, the company’s total debts represented more than 196% of the firm’s equity. During the financial crisis, the ratio of total debts to equity reached 142% (in 2008). Then, after the crisis, it rose to 157%.

In contrast, Orion had a very well-balanced total debt and equity proportion level. Their gearing ratio was never more than 100%. Before the crisis, the ratio was 32%. The financial crisis had an impact on the company’s funding structure. During the crisis, the ratio was multiplied by 2, reaching 66% in 2008. Therefore, the enterprise did not recover to the same proportion of debts as before financial crisis.

I have noticed that the companies had different proportions of debts to equity. The private company used more equity-based financing, while the family business employed more debts. Instead of an effort to reduce total debt level during the crisis, the family company still had a very high gearing ratio, whereas the private firm had a reasonable amount of debts. Debts increase risks of failure, but can also increase a firm’s profitability. The higher a company’s debts level is, the less the firm will pay in taxes on its earnings.

Muradoglu (2005) analysed investment tactics based on gearing ratio. This investment strategy showed an increase of revenues by 9.9% and it was close to 21% when financial structure was constructed on gearing and price earnings ratios. The company can have debts because of its strategy to improve ROE (return on equity) ratio. Everything depends on the board of directors’ strategy and on macro–environmental conditions. Investors and shareholders expect to have a satisfactory ROE ratio. A ROE ratio close to 12% is the minimum required by stock markets. Institutional investors penalise enterprises with weak ROE ratios. If economic return is higher than debt costs, then debts increase the ROE ratio, but, they can also have a negative effect on ROE ratio if economic return is smaller than debt costs. This financial mechanism is called the leverage effect. Leverage effect is a financial tool which allows for an increase or decrease in a firm’s profitability. Dufour, Rene and Abderrahim (2008) proved two leverage effects between return and volatility. In some countries, the research on debt influence on enterprise’s performance has shown that an enterprise’s debts have a positive effect on return on equity ratio. Abor (2005) investigated the link between capital structure and the profitability of listed firms on the Ghana Stock Exchange (GSE). A study of five years showed that there was a link between total debt level and return on sales performances. He underlined that total debts have a positive impact on return on equity and total assets ratios.

**Return on Equity Formula**

\[
ROE = \text{Re}(1-T) + (\text{Re-Kd})L(1-T)
\]

- **Operating profitability**
- **Leverage effect**
For institutional investors and banks, riskier products or assets should be compensated by higher return on investment. If return on capital employed is performing better than the cost of debt, then the leverage effect will have a positive influence on the ROE ratio. However, more debts mean more risks. Enterprises take higher risks to increase their financial performance. Instead of stability, a lot of investors emphasize the maximization of profits. The short-term strategy is: more risks equal greater profitability. The pressure on financial performance pushes the board of directors to make riskier decisions. If return on capital employed is higher than the cost of debts, then managers are choosing to have an important amount of debts. Here, more debts mean more profitability. But, an enterprise can increase its level of debts to an uncontrollable level. Moreover, some stock holders are not against a company having a lot of debts and even encourage the firm to increase its long-term debts. They expect that debts will create a positive leverage effect on the enterprise’s performance, and reduce conflicts between the principal and agent. Agency theory studies the consequences of these conflicts. When a principal (shareholder) hires agent (external employee) using incomplete information, then the principal-agent problem can arise. Conflicts can appear because of different individual goals. The principal is seeking to have an efficient worker to maximise enterprise profits, whereas the agent is working for its own personal interests. Agent supervision is very costly and hardly applicable. The problem appears because the principal cannot appropriately verify the agent’s motivation. Therefore, principal and agent can have different attitudes toward risks. According to Oxford University Press, such a situation can arise between shareholders and managers. The firm’s managers have confidential internal information. They can be called “insiders”. In a family company, shareholders are most of time managers, and they know this internal information very well. It is known that family businesses have a complicated functioning equation, which combines love and money. Family members’ self-controlling is complicated. It is hard to admit or to say to a family member that she or he is not competent enough for a work position. These remarks can create big tensions in the firm. Family business success builds on family members’ relationships with each other and on common commitment to the enterprise’s success. The agency theory is not very suitable for family business companies. Steijves (2008) argued that a family business company’s debts can create an extra agency costs. She claimed that agency costs in family firms are higher than in private companies. However, agency theory works well in private firms. Unfortunately, most shareholders cannot get enough information about the company’s management. Furthermore, their expertise on the company’s financial situation is limited. Shareholders can see annual profits, but they cannot see managers’ efforts to achieve the company’s goals as defined by the shareholders. Eisenhardt (1998) pointed out that some actions can resolve agency relationship problem. Some companies were trying to resolve the principal-agent problem by increasing the firm’s debt level. Debts push managers work efficiently. The more the company is indebted, the more complicated the company’s management becomes. Moreover, the company must respect payment priorities. The firm’s employees and suppliers have payment priority. Following this, debt holders will be paid. Furthermore, debt holders’ payments are regulated. There are senior and junior debt payment priorities. Senior debt holders have priority payment followed by junior debt holders. Finally, in the last place shareholders will be recompensed. Payment priority, debt level, and increase of risk/volatility push top managers maximise their work efforts. If return on equity is not
satisfying shareholders, stakeholders can make a decision to fire managers. Even worse, if the company is not performing well enough to pay its debts, the risk of bankruptcy can arise.

9.2.3.2 Repayment Capacity Ratio

Repayment capacity ratio can be defined as a measure which shows a company’s capacity to repay debts. This ratio estimates the cash needed to meet living expenditures, debt, and investment payments. An elevated ratio shows that the company has too many debts compared to its profits (EBIT). A high ratio can be sanctioned by externals. These sanctions/penalties can be seen as intertemporal, where the company may have limited access to stock markets (Eaton and Gersovitz, 1981), or intratemporal, where the offer of trade credits can be reduced (Bulov and Rogoff, 1989).

Boehringer-Ingelheim’s repayment capacity ratio was constantly rising during the period under consideration. In 2006, the repayment capacity ratio was 1.58 and in 2010 it was 5.71 (a jump of 4.13 points). The German company’s repayment capacity ratio was divided by 4 in 5 years. The financial crisis accelerated the degradation. After the crisis, the ratio reached its highest point (5.71) during the 5-year period.

A curve shows that Orion saw its repayment capacity level degrade during the crisis. Before the crisis, the ratio was 0.73, in 2008 it reached 1.5 and after the crisis it decreased a little, to 1.1 points.

The repayment capacity level was better in the Finnish company. It can be explained by the fact that Orion had fewer debts compared to Boehringer-Ingelheim.

9.2.3.3 Autonomy Ratio

Autonomy is a part of a company’s structure. Autonomy gives the possibility to make a proper decision without any external pressure. The more the company is independent from short-term debt holders, the more the enterprise is free to act independently. A financial autonomy curve is shows the level of short-term liabilities compared to its equity.

Boehringer-Ingelheim’s situation was very good; almost all current liabilities were covered by the firm’s equity. This ratio was not affected by the financial crisis; it stayed almost stable around 0.03-0.06 points. The autonomy ratio was improving during 2006-2010 and was equal to 0.03 points in 2010. Orion’s situation was different. During the crisis, their autonomy ratio jumped to 0.29 points from previous results. In 2010, ratio reached 0.31 points. The firm’s situation degraded during the crisis and the ratio did not recover after the crisis.

Orion’s financial autonomy was satisfactory but not as good as Boehringer-Ingelheim’s. Before the crisis, the autonomy ratio was 0.2 points. The crisis affected this ratio in a negative way, bringing it to 0.31 points in 2009, which did not change even after the crisis.

The German enterprise’s financial autonomy situation was 10 times better than Orion’s. The financial crisis had a positive effect in terms of financial autonomy for German firm and a negative one for private company.
### 9.2.3.4 Financial Table and Curves

**Debt ratios**

<table>
<thead>
<tr>
<th></th>
<th>Bohringer-Ingelheim</th>
<th>Orion</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2006</td>
<td>2007</td>
<td>2008</td>
</tr>
<tr>
<td>Gearing</td>
<td>1.21</td>
<td>1.96</td>
<td>1.42</td>
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<tr>
<td>(Total debt/Equity)</td>
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<tr>
<td>Repayment capacity</td>
<td>2.89</td>
<td>2.93</td>
<td>3.89</td>
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<tr>
<td>(Total debt/EBIT)</td>
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<tr>
<td>Financial autonomy</td>
<td>0.05</td>
<td>0.06</td>
<td>0.04</td>
</tr>
<tr>
<td>(Current liabilities/Equity)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE 7 Debt ratios**
Repayment Capacity

Financial autonomy

Debt Ratios

FIGURE 6 Debt ratios curves
9.2.3.5 Debt Ratios Conclusions

Debt ratios showed that the German family business was more indebted compared to the Finnish private firm. However, Mitton (2008) has underlined that debt levels depend on a country’s development. Lower debt ratio in a country is associated with higher financial development. High debt ratios show a country’s financial openness. Gallo and Vilaseca (1996, 1998) analysed 104 Spanish family businesses. They claimed that the size of the enterprise influences the firm’s debt level. The smaller a family business is, the fewer debts the company will have. The company’s size limits the use of complex financial tools.

Boehringer-Ingelheim is a multinational enterprise. Theories can partially explain its elevated debt level. In all points of view, except financial autonomy, Orion had a better situation. Debt level management was much better in the private firm. In contrast, the family business had very bad gearing and repayment capacity performances. This observation goes against Gallo’s and Vilaseca’s family business review article (1996). The article said that family businesses have low debts level, especially those businesses that are listed on stock markets. This claim does not apply in my research. After studying small businesses in the United States, Coleman, and Carsky (1999) argued that family firms can use debts as well as private firms. In their opinion, debt level does not depend on a firm’s ownership (family or non-family business) but on the company’s age. Normally, family owned firms are less risk-taking. This case study showed that such generalisation can be very dangerous. All companies are unique. The situation could be explained by management style, top managers’ decisions, etc. Furthermore, resource-based theory explained the differences that can exist between entrepreneurship in a family business and in a non-family company.

The financial crisis had a positive influence on the family business’s ratios, except for repayment capacity ratio. This crisis degraded the repayment capacity ratio for Boehringer-Ingelheim, but improved their gearing ratio in a positive way. In contrast, the private firm saw its debts ratios degraded, and its recovery process was very slow.

Above all, Boehringer-Ingelheim seems to have taken risks. A family business should rapidly reduce its debts level. The private firm was less risk-taking and the response to the situation was correct, even if these ratios degraded during the financial crisis.

9.2.4. Performance Ratios

Financial performance ratios help to evaluate and rank companies’ performances. The modified TOPSIS approach lets one easily find performance differences between different companies. Lebas (1995) argued that performance measurement is essential for reaching and successfully implementing target goals. Therefore, performance ratios are essential for enterprise evaluation. Investors and banks focus on return on equity employed, return on sales, and net income ratio performances. These show an enterprise’s capacity to create benefits. Clauss (2011) underlined that market liquidity is a complex measure. He argued that there is no correlation between performance ratios and risks taken. The following performance ratios are very popular in financial analysis.
9.2.4.1 Return on Sales Ratio

According to *Financial Dictionary*, ROS (return on sales) ratio is a measure which shows how much a company is benefiting from its revenues. A high return on sales ratio indicates that the company is selling its products efficiently and that its profits are likely to be sustainable; a low return on sales indicates the contrary. Investors often use ROS ratios to find out about a company’s efficiency.

Boehringer-Ingelheim had a positive return on sales ratio. However, the financial crisis had hit it deeply. Before the crisis, ROS was equal to 20.4%. During the crisis it decreased to 15.7%. The decline continued even after the crisis, and in 2010 the ratio dropped to 12.1%. The company was not able to recover. In 2006, the family company’s ROS ratio was 20% and in 2010 it was 12%, a drop of 8 points in five years.

Orion’s ROS ratio was very good. In 2007, it was 28.6%. During the crisis, ratio dropped to 25.9%. However, this ratio recovered very quickly. In 2010, it returned to the same level as before the crisis (29.7%). In 2010, the non-family firm’s EBIT represented 29.7% of its sales.

The financial crisis affected both enterprises’ performance ratio ROS. However, the private firm recovered to the same level as it was before the crisis, whereas the family business’s ROS ratio continued to degrade. Hendricks (2005) underlined that the economic crisis had an impact on return on sales and on return on assets ratios. The financial crisis had its negative impacts, and companies could not recover to the same performance level as before the crisis, regardless of which industry the firm is in and who was responsible for the crisis.

To conclude, the private firm’s ROS ratio was performing better than the family company’s.

9.2.4.2 Return on Equity Ratio

Return on equity ratio (ROE) evaluates a company’s performance process. This ratio is used everywhere (stock market data, auditor’s analysis, financial analyst analysis, etc). The ROE ratio allows investors to observe return/profit of their invested money. It shows how much 1 € invested in the company can provide in benefits after one year. Financial markets reward a ROE ratio which is equal to or higher than 12%. However, there are not many companies that can achieve these kinds of results, especially during bad macro-environmental conditions.

Boehringer-Ingelheim had an extremely high ROE ratio. In 2007, their ROE ratio reached 51%, an amazing performance. However, the financial crisis had its consequences. A big drop was seen in 2008, when the ratio dropped to 29.1%, a decline of over 20 percentage points in one year. The return on equity ratio continued to decline, and in 2010 it was only 13.7%, as opposed to 51% in 2007. Moreover, an important difference can be seen between company’s ROCE and ROE ratios. It suggested that Boehringer-Ingelheim may have been using the leverage effect method to increase firm’s ROE ratio. In my earlier research I observed that the German company’s gearing ratio was very high. Financial analysis can underline an enterprise’s strategy even if only accounting results are available. I can define one equation: more debt = more return on equity, and if return on capital employed is higher than interest rates, = more risks. I presume that Boehringer-Ingelheim may have had an important debt level because of the
enterprise’s strategy of improving ROE ratio performance by using the leverage effect. The speed of ROE adjustment is slower when ROE is rising and the opposite in the opposite situation (Chen and Lin, 2011).

Orion’s ROE ratio was growing; in 2006 ROE was 15% and in 2010 it was 39.5%, an increase of 25 percentage points in five years. The crisis had a positive influence on return on equity ratio, except in 2008, when the ratio decreased slightly. After the crisis, the ROE ratio reached the highest performances level of the 5 years, 39.5%.

Boehringer-Ingelheim performed better before the crisis. The financial crisis had a very negative impact on the company’s ROE ratio performances. The ratio dropped dramatically during the crisis and continued to decline even after the crisis. In contrast, Orion’s ratio was improving during the crisis, except 2008. Moreover, in 2010, the private company had reached the highest ROE ratio performance of the five-year period. In 2010 the ratio was 39.5%, whereas the family business’s was 13, 7%. Poutziouris’s (1998) research pointed-out that average return on equity ratio is better in a private firm. I can agree with this research, because in my case study, the private firm performed almost 3 times better than a family business firm in 2010. Orion’s shareholders must have been very satisfied.

The financial crisis had a negative impact on the family business’s ROE ratio performance, whereas it has a positive influence on the private company’s. Before the crisis, Boehringer-Ingelheim was performing better. However, the German enterprise did not resist the effects of the crisis, while the private firm surpassed them on ROE ratio performances.

### 9.2.4.3 Return on Capital Employed Ratio

The “Accounting for Management” website defines the return on capital employed (ROCE) ratio as a major tool to process investment projects. This ratio looks at the efficiency of capital employed to generate revenues. Thus, it measures the success of a business in realizing target goals. The return on capital employed ratio is considered to be one of the best profitability measures. Moreover, it evaluates the overall performance of the firm. Therefore, this ratio measures management’s efficiency in using its financial resources. The higher the return on capital employed ratio is, the more efficiently the firm is using its capital employed.

Boehringer-Ingelheim had a positive ratio. From 2006 to 2007, the ROCE ratio improved from 20.9% to 25.1%. The financial crisis reduced the ratio to 17.9% in 2008. The decline continued in 2010, when the ratio became 12.2%.

Orion had a more-than-satisfactory return on capital employed ratio. Before the financial crisis, in 2006, this ratio was 49.8%. The crisis reduced it to 46.5% in 2008. However, the company recovered almost to the same level as it was before the crisis, reaching about 49% in 2010.

As in the earlier performance ratio analysis, the private firm performed better. In 2010, Orion had a ROCE ratio 4 times higher than Boehringer-Ingelheim. The Finnish firm demonstrated very good performance. At the same time, Boehringer-Ingelheim’s situation was satisfactory, even if the financial crisis had a major impact on the return on capital employed ratio.

Nevertheless, both companies had good ROCE performances. Both firms could have used the leverage effect to increase ROE performance. The family business chose to have more debts.
Orion was more prudent with the use of debts. It all depends on the firm’s strategy and on the balance between risk and opportunities. However, I noticed that the Finnish company achieved better performances by using fewer debts.

9.2.4.4 Net Income

Net income is revenue that a company will have after deducting all costs and taxes. In accounting, it is the last line in a/the profit and loss balance sheet. Net income can be expressed in a specific time table. However, some authors have said that net income measurement is incomplete, because it doesn’t show the real cash flow generated by the company. In stock markets, net income is expressed as net income per share or EPS (earnings per share). A positive net income lets a company to have the possibility of distributing its profits to shareholders by attributing dividends. An earning per share ratio is perhaps the most-used measurement in stock markets. It underlines a company’s performance success.

Boehringer-Ingelheim net income fluctuated. In 2007, the German firm had the highest net income level of the 5-year period, 1,809 M€. This revenue dropped in 2007 to 1,424 M€ because of the crisis. The strange thing is that during the crisis, the company had recovered to 1,759 M€ in 2009. However, after the crisis, the net income dropped drastically, to 888 M€. In 2010, company’s net income was half of that in 2009.

Orion’s net incomes were constantly growing during this period, except in 2008, when net income decreased by 6.3%. In 5 years, net income tripled in this firm, from 67 M€ in 2006 to 185 M€ in 2010. Moreover, even during the financial crisis, net income was growing. The company’s net income in 2009 was 151M€.

Net income in volume was much higher in the family business company because of the size of the enterprise. However, net income was declining in German firm whereas the Finnish firm’s was improving. The financial crisis had a minimal impact in this regard for both companies, but after the crisis, the German firm’s performance dropped drastically, for reasons poorly understood. Orion’s net incomes improved.
### 9.2.4.5 Financial Table and Curves

#### Performance ratios

<table>
<thead>
<tr>
<th></th>
<th>Boehringer-Ingelheim</th>
<th>Orion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>ROE (NET INCOME/EQUITY)</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2006: 38.1% 2007: 51.1% 2008: 26.1% 2009: 26.8% 2010: 13.7%</td>
<td>2006: 32.7% 2007: 32.5% 2008: 32.6% 2009: 34.5% 2010: 39.5%</td>
</tr>
<tr>
<td></td>
<td><strong>ROCE (EBIT/Capital employed)</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2006: 20.9% 2007: 25.1% 2008: 17.9% 2009: 16.2% 2010: 12.2%</td>
<td>2006: 49.8% 2007: 47.8% 2008: 46.5% 2009: 48.3% 2010: 49.4%</td>
</tr>
<tr>
<td><strong>Evolution in %</strong></td>
<td>5.1% -21.3% 23.5% -49.5%</td>
<td>0.3% -6.3% 11.0% 22.0%</td>
</tr>
</tbody>
</table>

**TABLE 8 Performance ratios**
FIGURE 7 Performance ratios curves
9.2.4.6 Performance Ratios Conclusions

Performance ratios were constantly improving in the private firm, and in contrast deteriorated in the family company. Performance ratios were very good in the family business until the financial crisis. After 2008, the situation started deteriorating. Moreover, the German firm could not recover after the crisis, and performance situation got worse. Gallo and Vilaseca (1996) looked at family business performances based on market-share position. They claimed that in the market it is better to have a follower’s position and not the leading position in order to increase a company’s performances. Boehringer-Ingelheim had a leading position; this may be the reason for its decline in performance. An entrepreneur’s family relations, attitudes, and motivation regarding the business, affect family business financial performances (Messer and Poza, 2001).

In contrast, the private firm performed better and better every year except 2008. Net income tripled in 5 years. Furthermore, the private firm recovered very quickly and had better performance after the crisis then before the crisis.

9.2.5 Assets Ratios

Assets composition shows a company’s structure. It is important to know the percentage of fixed assets (secured assets) that an enterprise has. Fixed assets guarantee ownership and stability. Therefore, assets compared to performance underlie how efficiency a company’s assets are used.

9.2.5.1 Return on Assets Ratio

ROA (return on assets) ratio shows how efficiency a company can use its assets to generate revenues. Return on equity and return on assets ratio performances influence dividends distribution (Abor, 2009). This ratio points out a firm’s management efficiency in using its available resources.

Boehringer-Ingelheim improved its ratio from 19% in 2006 to 23% in 2007. During and after the crisis, ROA get worse. This decline in management efficiency continued even after the crisis, reaching 11% in 2010.

Orion had an ROA ratio of 34% before the crisis (2006). The financial crisis decreased the ratio to 26% in 2008. After 2008, the ROA ratio started to recover and reached the same level as it was before the crisis, 34%, in 2010.

Curves show that Orion used its assets more efficiently than Boehringer-Ingelheim. Once again, the private company showed its ability to have better performance than the family firm.

9.2.5.2 Fixed Assets Ratio
Fixed asset ratios measure fixed assets as a proportion of total assets. Crepon and Rosenwald (2000) underlined the influence of fixed assets ratios on a firm’s capacity to borrow money. The more fixed assets a company has, the safer lenders feel. These assets are a sort of measurement of a firm’s stability.

Boehringer-Ingelheim’s fixed asset structure was very satisfactory. Fixed assets represented more than 40% of total assets during 2006-2010. In 2006, the ratio was 55%. During the financial crisis, the fixed assets ratio decreased to 38% in 2009. After this, the company’s fixed assets ratio started to recover in 2010, reaching 44%.

Orion’s situation was also good. Before the financial crisis, fixed assets represented 48% of total assets. During the crisis, it decreased to 41% in 2008. The ratio recovered to 43% in 2009, and then decreased to 41% in 2010.

Fixed asset ratios were almost the same for both companies. The financial crisis degraded the ratios, but they recovered quickly after the crisis.
9.2.5.3 Financial Curves

**Investment and Asset Ratios**

- **ROA (Return On Assets)**
  \[ \text{ROA} = \frac{\text{EBIT}}{\text{Total Assets}} \]

- **Fixed Assets Ratio**
  \[ \text{Fixed Assets Ratio} = \frac{\text{Fixed Assets}}{\text{Total Assets}} \]

= EBIT / Total Assets

= Fixed Assets / Total Assets

FIGURE 8 Investment and assets ratios curves
9.2.5.4 Assets Ratios Conclusions

The structure of fixed assets compared to total assets was almost the same in two enterprises, and was close to 40%. The ROA ratio was better in the Finnish firm. The private firm managing its assets better then Boehringer-Ingelheim. However, the crisis negatively affected assets ratios.

9.2.6. Cash-Flows Ratios

Cash-flow ratios are pointing out investment opportunities/possibilities. Macroeconomic studies of Gilchrist and Himmelberg (1995) showed that cash-flow is an important investment predictor. It measures a company’s financial health and underlines a firm’s solvency and liquidity. Cash flow evolution shows the difference between cash in and cash out during a given period.

9.2.6.1 Cash-Flow Ratio

Boehringer-Ingelheim’s cash-flow situation was very satisfactory; the company had more cash in than cash out. The German company had a huge capacity to invest, which indicates that the enterprise had a solid financial structure. Even during the crisis, when cash flow decreased by more than 400 M€, the German company’s cash flow was equal to 2,000 M€. The financial crisis affected company’s cash flow only in 2008, when it decreased. In 2010, the enterprise’s generated cash flow was equal to 2234 M€. The family business firm had enough capacity to finance its investment with internal resources.

Orion’s situation was also good. Enterprise cash flow was much smaller than the family firm’s, but this was normal, because of the firm’s size. Before the crisis, Orion had cash-flow of 110 M€ in 2006. The beginning of the crisis drastically decreased cash flow, to 90 M€. However, during the following years, even during and after financial crisis, the company’s generated cash flow was around 170 M€. As with Boehringer-Ingelheim, Orion had a big capacity to finance its investments using internal resources.

A fiscal studies article by Bond and Meghir (2005) argues that investment is possible if there is internal resources (cash flows) are available or if firms can find funds (e.g., issuing new shares or getting a loan). The family business as well as the private firm was able to finance its investment by its operational cash-flow. Obviously, cash by itself does not generate any return. Only an investment or placement can generate positive or negative returns.

The financial crisis had a limited effect on companies’ cash flows. Boehringer-Ingelheim saw its cash flow reduced in 2008, and Orion’s was reduced at the beginning of the crisis (2007). However, the firms’ cash flows were affected only one year, recovered very quickly. Orion performed even better during the crisis and afterwards, reaching its highest point in 2010.
Boehringer-Ingelheim’s cash flow reached its highest position at the end of the crisis, 2,409 M€ in 2009.

### 9.2.6.2 Net Cash Ratio

*Investopedia* defines net cash as a measurement which helps to underline investment opportunity in the case that a firm is deciding to issue new stocks. Net cash is computed by subtracting total cash from total liabilities.

Boehringer-Ingelheim’s net cash situation was very good. The firm’s net cash was constantly rising during the five-year period. The financial crisis accelerated its improvement. From 2007 to 2008, net cash increased by more than 300 M€. Moreover, net cash tripled in one year, from 1,312 M€ in 2008 to 3,877 M€ in 2009. This significant improvement can be explained by a rise in financial securities. Previous analysis shows that the financial crisis had negatively affected the company’s EBIT performances, and consequently the family firm was taking more precautions to ensure its cash statement. When the crisis ended, the company reduced its securities and net cash. Net cash was 3,118 M€ in 2010.

Orion’s net cash position followed the same trend as Boehringer-Ingelheim’s, except for in 2007, when Orion’s net cash decreased. During the financial crisis, the private firm increased its securities. In this period, net cash improved. In 2007, net cash was 94 M€ and in 2008 it was 177 M€. After the crisis, securities were reduced significantly and the company’s net cash become almost the same as it was before the crisis, at 91 M€.

During the crisis, both companies increased their securities to protect themselves from unpredictable risks. After the financial crisis, the security level was reduced. The family business had an impressive volume of net cash. The German firm’s position, which included securities and financial liabilities, was much better. In 2010, Boehringer-Ingelheim’s net cash position was 34 times bigger than Orion’s. This was normal, because the German firm is a much bigger enterprise. However, Orion’s cash position was also very good. The financial crisis had a positive impact for both enterprises. Financial securities increased during the crisis and decreased after the financial crisis.

### 9.2.6.3 Working Capital/Working Capital Ratio

A working capital ratio shows the percentage of working capital needed to make a given amount of sales. This ratio can be computed by subtracting current assets from current debts.

Boehringer-Ingelheim had big working capital ratio compared to its sales. The percentage was too high. In 2006, working capital represented 39% of its sales. The financial crisis increased this percentage. After 2007 the percentage continued to increase constantly. In 2009, it represented 45%. The end of the crisis did not provoke any recovery, and the working capital ratio reached 48%, the highest percentage of the five years.

Orion’s working capital compared to its sales was satisfactory. Before the crisis, in 2006, this ratio was 18%. The financial crisis had a positive impact for Finnish firm, because working capital decreased to 15% in 2009. However, after the crisis, this ratio increased to 24%.
The working capital ratio was better in the Finnish company during these five years. Furthermore, during the crisis, this ratio decreased, while the family business’s increased. Orion’s working capital ratio improved, while Boehringer-Ingelheim’s not.
### 9.2.6.4 Financial Tables and Curves

#### Cash-Flows ratios

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<tr>
<th>CASH-FLOWS in M€</th>
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<th>2007</th>
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<th>2009</th>
<th>2010</th>
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<td><strong>Profit (loss)</strong></td>
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<td><strong>Net working capital (BFR)</strong></td>
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<td>1 997</td>
<td>2 409</td>
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<td>90</td>
<td>176</td>
<td>176</td>
<td>171</td>
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<td><strong>Net Cash including securities and financing liabilities</strong></td>
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<td>1 312</td>
<td>3 877</td>
<td>3 118</td>
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<td>94</td>
<td>177</td>
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<td></td>
</tr>
</tbody>
</table>

**TABLE 9 Cash-flows**
FIGURE 9 Cash-flow Ratios
9.2.6.5  Cash-Flow Ratios Conclusions

Cash-flow ratios and curves analysis was useful for understanding the companies’ cash and working capital management.

Boehringer-Ingelheim had important cash-flow and net cash position. The family business had enough capacity to pay for investment with internal resources, as did Orion. Both firms were ensuring cash by increasing financial securities during the crisis. After the crisis, both enterprises reduced financial securities.

The German firm had a huge cash-flow and net-cash volume; this shows that company was using different cash management strategy. Some economists claim that it is not efficient for a firm to have a large amount of cash. This cash could be used for investment or placed to advantageous use in interest-rate accounts. Too much cash holding could be considered to be inefficient cash management. Cash by itself generates certain costs (i.e., taxes). Boehringer-Ingelheim was perhaps too cautious. During the crisis, however it is hard to say what was good strategy and what was bad. I believe that a company should maximise its profits and reduce its costs, but at the same time, a firm should take some precautions to avoid risks.

9.3.  Business Plan

It is important to start company’s financial analysis with the information which is easy to get. Balance sheet and profit & loss data let me conduct financial ratios analysis. Historic and actual figures showed the evolution of the firms’ financial environment the five-year period. This 5-year period showed the financial situation before, during, and after the subprime crisis. But what about the future forecast? What profits and losses will the firms generate in the future? What is the company’s actual value, taking future expectations into account? These questions cannot be answered without a business plan or an operating plan.

“Entrepreneur” website defines a business plan as a written document. It is a map which shows where a business actually is and where top managers want this business to be in the future. A business plan describes financial statements, financial background, strategy, etc. It forecasts business evolution (Achimescu, 2010). A business plan helps to avoid unexpected situations. Honig and Karlsson (2004) claimed that an entrepreneur should plan future performance by establishing a business plan.

A business plan should be at least composed of the page of contents, executive summary, market analysis, and support documents. Putting a business plan into place requires a company’s internal resources, such as human, financial, and material resources, etc.. Most of time, a business plan is composed of 3 scenarios: pessimistic, base-line and optimistic. Different assumptions and provisions can completely change the results of a business plan. It is essential to choose an appropriate business plan.

The following business plan will compute the companies’ net present value.

9.3.1.  Parameters Definition
The person who is in charge of mergers, acquisitions, and investments should always take into account parameters such as a country’s annual inflation rate, interest rate, corporate tax rate, weighted average cost of capital, and discounted rate. Before going further, an understanding of these essential inputs is necessary.

- **Annual inflation** shows the change of prices. The inflation rate is generally calculated monthly or annually. Uncontrollable inflation can be very costly socially and economically. Uncontrollable inflation brings disastrous consequences. Deflation or hyperinflation is very dangerous for a country’s economy. Firstly, deflation is good for customers, but not for enterprises. Firms can lose competitiveness. Moreover, profits can be consequently reduced. Enterprises will see its profitability degrading. The loss of profits leads to layoffs. Unemployed people will lose purchasing power and will consume less, and so firms will sell fewer products, etc. Secondly, hyperinflation can lead to the collapse of a country’s economy. Historic examples include Germany, Argentina, Bolivia… At the same time, Philips (1958) proved with his “Philips curve” that there is a positive correlation between inflation and employment rate. The Philips curve underlines that inflation has a positive impact on employment rate. However, it is necessary to supervise the inflation rate. The rate cannot be too high, because it increases prices (customers will lose purchasing power), and at the same time not too low (i.e. deflation), because inflation positively affects employment levels. The most difficult issue for economists is to find the middling point of inflation which will satisfy employment levels and an acceptable level of prices changes.

![The Philips curve](Economic report of the president, 1985)

- **The interest rate** is the cost charged by borrowers to lenders for a loan. Most of time, an interest rate is expressed on an annual basis. Big companies listed on stock markets are generally ranked by rating agencies (Standard & Poors, Moodies, Fitch, etc). Companies can borrow money at lower or higher costs depending on their rankings. Kitamura (1997) stated that a country’s or company’s interest rate reveals the economic situation. AAA is the best ranking awarded by the ranking agencies. This says that there is very small risk that the company or country will not reimburse its obligation. The best ranking note lets a company (or country or other organization) get capital needed with very low interest. Lower rankings increase the cost of borrowing.

- **Corporate tax** was defined by the “Investorwords” webpage as a tax amount that must be paid/not paid by a company depending on the amount of profit/loss generated during the fiscal year. The firm’s location defines the amount of the tax and tax computation rules. Moreover, governance principles create a relationship between corporate governance and taxes. There is a positive impact on taxes if corporate governance is dynamic (Sartori, 2009). Therefore, a tax planning strategy can be very beneficial. Many economists underline that reduction of corporate taxes can have a
positive impact on economic growth. Elevated corporate taxes discourage businesses to invest and to innovate. Investments and new business creation are very sensitive to corporate tax level, which is why politicians must be very careful in setting up a country’s corporate taxes.

- **Weighted average cost of capital (WACC)** shows how a company finances its needs. The measurement is composed of proportionately weighted debts and capital. A firm’s assets are financed by equity and debts. Therefore, the WACC calculation includes preferred stocks and long-term debts. The weighted average cost of capital helps to find the ideal capital structure. An enterprise maximizes its value when capital structure is composed of an efficient financing combination (Nantell and Carlson, 1975).

\[
W = \frac{E}{E+D} r_e + \frac{D}{E+D} r_d (1-T_m)
\]

- \(E\), Market Value of Equity or Market Cap = Share Price x Total Shares Outstanding
- \(D\), Net debt is typically the debt value on the balance sheet (unless the company is in distress)
- \(r_e\), Cost of Equity = rf + beta x (rm – rf) according to CAPM model
- \(r_d\), Cost of Debt = rf + risk-premium appropriate for the company’s credit rating
- \(T_m\), Tax Rate = marginal tax rate

- **Discounted rate** is the rate used to discount free cash flows, which allows one to compute enterprise terminal value. The discounted rate takes into account time valuation of money as well as the actualisation of free cash flow by WACC.

### 9.3.2. Concepts Definition

It is important to understand a P&L (profit and loss) sheet’s utility. In my earlier research and analysis (ratios analysis) of the selected companies, I defined EBIT, NOPAT (Net Income), etc. Enterprise value and adjusted equity value can be computed only after obtaining an enterprise’s free cash flow, discounted cash flow and cumulative discounted cash flow. These concepts are defined as:

- **Free Cash Flow** shows a company’s capacity to finance its investments by internal funding.
- **Discounted Cash Flow** underlines investment attractiveness. This valuation method shows a company’s ability to generate cash. DCF is a financial technique evaluating investment projects and capital budgeting (Velez-Pareja, 2005). The purpose of DCF
valuation is to figure out a company’s value based on its future cash-flow performances.

Discounted Free Cash Flow Formula

\[ DCF = \frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \ldots + \frac{CF_n}{(1+r)^n} \]

\[ CF = \text{Cash Flow} \]

\[ r = \text{discount rate (WACC)} \]

DCF model performances improve with a better understanding of factors that impact accuracy (Edward, 2009).

- **Cumulative DCF** (discounted cash flows) is the sum of yearly forecasted discounted cash flow which gives the value of NPV (net present value).
- **Net present value** shows the attractiveness of current investment (Hepburn and Groom, 2007; Weitzman, 1998). NPV is a useful method which helps to make relevant investment decisions. As initially observed by Pazner and Razin (1975), and then by Hepburn and Groom (2007) and Buchholz and Schumacher (2008), an investment project can be accepted only if NPV value will be positive. There are many critical variables and factors such as discount rate, growth rate, seasonality of cash-flow, inflation, etc. Incorrect factor estimations will distort NPV.
- **Terminal value** is the product of future cash flow and market-capitalisation (William and Stuart, 2010). It shows the expected cash generation to infinity and perpetuity. This perpetuity can have positive or negative growth.

Terminal value formula:

\[ TV = \frac{FCF_N (1 + g)}{(w - g)} \]

TV: terminal value

FCF: future cash flow

g: the future cash flow annual growth

w: weighted average cost of capital

N: year

- The value of the company can be obtained by taking the sum of terminal value and of net present value. It shows an estimated price of the firm that investors should pay if they want to acquire the whole company (i.e., 100% of shares). Current management performances and skills have an impact on a company’s value (Kiyotaki, 1990). If management is efficient and this is recognised by investors, then the value of the firm
will rise faster than its cash flow. This fact underlies operational management communication and the importance of such efforts.

- Adjusted equity value is a firm’s equity value; i.e. the value of the company plus the firm’s cash and minus financial debts. This value is impacted by inflation. The adjusted equity valuation is more relevant than other evaluation methods; because it takes into account a company’s financial debts and available cash.

9.3.3. Business Plan Assumptions

The following business plan does not take into account the inflation rate because of a lack of internal information (which country the firm is buying materials from, if suppliers are from the same country, etc). Moreover, future inflation rate estimation is very complex. This business plan has a goal of be as simple as it is possible, as I am attempting to avoid unnecessary complexity for this kind of analysis. The business plan will have only one scenario (baseline) with simplified assumptions.

![Business Plan Assumptions](image)

<table>
<thead>
<tr>
<th>Boehringer-Ingelheim</th>
<th>Orion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WACC</strong></td>
<td>12%</td>
</tr>
<tr>
<td><strong>g (Growth Rate)</strong></td>
<td>6%</td>
</tr>
<tr>
<td><strong>Corporate Taxes</strong></td>
<td>15%</td>
</tr>
<tr>
<td><strong>Working capital in % of Sales</strong></td>
<td>42%</td>
</tr>
<tr>
<td><strong>Annual Investment</strong></td>
<td>785 M€</td>
</tr>
<tr>
<td></td>
<td>12%</td>
</tr>
<tr>
<td><strong>g (Growth Rate)</strong></td>
<td>7%</td>
</tr>
<tr>
<td><strong>Corporate Taxes</strong></td>
<td>26%</td>
</tr>
<tr>
<td><strong>Working capital in % of Sales</strong></td>
<td>18%</td>
</tr>
<tr>
<td><strong>Annual Investment</strong></td>
<td>30 M€</td>
</tr>
</tbody>
</table>

**TABLE 10 Business plan inputs assumption summary**

- **WACC** is equal to 12% for both companies (average figures are from pharmaceutical industry firms’ data).
- **Growth rate** (g-sales growth) is based on the average of the previous five years. Orion’s average sales growth out of 5 years was around 7% per year, while Boehringer-Ingelheim’s was around 6% per year. After 2010, I assume that sales will grow 7% per year in the private firm and 6% in the family business (based on past figures averages).
- **Corporate tax**: In Germany, corporate tax was equal to 15%, which was much lower than the Finnish corporate tax (26%). The taxation system differs in two countries. At the first glance, it is easier to create a new business in Germany than in Finland. New business creation is very sensitive to taxation level. The impact of corporate tax reduction on economic recovery, employment rate etc can be analysed. Normally, the corporate tax reduction positively impacts long-term economic growth.
- **Working capital as a percentage of sales**: 42% for Boehringer-Ingelheim and 18% for Orion (based on past figures average). Schulman (1985) demonstrated how working capital can be managed.
- **Investments**: Companies must invest in R&D, buildings, etc. I estimate that during the next five years, Boehringer-Ingelheim will need 30 M€/year and Orion 785 M€/year.
every year for investments. Boehringer-Ingelheim needs more investments because of the size of the company. The companies’ previous investment figures give investment estimations.
### 9.3.4. Boehringer-Ingelheim Business Plan

#### TABLE 11 Boehringer-Ingelheim business plan results

<table>
<thead>
<tr>
<th>In M €</th>
<th>Actuals</th>
<th>Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>10 988</td>
<td>11 584</td>
</tr>
<tr>
<td>Variation</td>
<td>5%</td>
<td>7%</td>
</tr>
<tr>
<td>EBITDA</td>
<td>2 140</td>
<td>2 100</td>
</tr>
<tr>
<td>Variation</td>
<td>-2%</td>
<td>-6%</td>
</tr>
<tr>
<td>EBIT</td>
<td>2 243</td>
<td>2 382</td>
</tr>
<tr>
<td>Variation</td>
<td>5%</td>
<td>-13%</td>
</tr>
<tr>
<td>NOPAT</td>
<td>1 722</td>
<td>1 809</td>
</tr>
</tbody>
</table>

#### Working capital

<table>
<thead>
<tr>
<th></th>
<th>% of sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actuals</td>
<td>4 424</td>
</tr>
<tr>
<td>Forecast</td>
<td>5 794</td>
</tr>
</tbody>
</table>

#### NOPAT

<table>
<thead>
<tr>
<th></th>
<th>% of sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actuals</td>
<td>1 722</td>
</tr>
<tr>
<td>Forecast</td>
<td>1 459</td>
</tr>
</tbody>
</table>

#### +/- VC change

<table>
<thead>
<tr>
<th></th>
<th>% of sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actuals</td>
<td>56</td>
</tr>
<tr>
<td>Forecast</td>
<td>477</td>
</tr>
</tbody>
</table>

#### Investments (Capex)

<table>
<thead>
<tr>
<th></th>
<th>% of sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actuals</td>
<td>951</td>
</tr>
<tr>
<td>Forecast</td>
<td>-785</td>
</tr>
</tbody>
</table>

#### Amortisation and Depreciations

<table>
<thead>
<tr>
<th></th>
<th>% of sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actuals</td>
<td>630</td>
</tr>
<tr>
<td>Forecast</td>
<td>651</td>
</tr>
</tbody>
</table>

#### Free Cash Flow

<table>
<thead>
<tr>
<th></th>
<th>% of sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actuals</td>
<td>3%</td>
</tr>
<tr>
<td>Forecast</td>
<td>4%</td>
</tr>
</tbody>
</table>

#### NPV

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NPV</td>
</tr>
</tbody>
</table>

#### Terminal value (to infinity)

|                | 11 801     |

#### Value of the company

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of the company</td>
</tr>
</tbody>
</table>
The structure and composition of a business plan are based on the company’s investor evaluation process. An investor’s goal is to buy low, sell high, collect early, and pay late. They are looking for the opportunity to buy the company at the best price. However, the selling price should be reasonable; otherwise it will be hard to sell the company with over-estimated price.

In this business plan excel worksheet we can see Boehringer-Ingelheim’s actual figures (Sales, EBIT, Net Income, etc.) and forecasted figures based on hypothesis. The average variation of EBITDA and EBIT growth during the years 2006–2010 was negative. It was partially caused by financial crisis; I suppose that the situation after 2010 will be better. I suggest that EBITDA and EBIT will grow in the future at 0.5% per year. The average investment during past 5 years was around 785 M€/year; I will keep this amount the same for the future. Payback computation is not relevant here because I am searching to calculate company’s value. Amortisation and depreciation level will represent 4% of sales (based on the 5 past years’ average figure).

The following business plan shows that the net present value of the company was 4,858 M€ and it represented 29% of total firm’s value. The terminal value to infinity was 11,801 M€ (71% of the company’s total value). Finally, the sum of NPV and of terminal value shows that the value of the family company was 16,659 M€ in 2010.

In this table we can see that the value of the company is 16,659 M€ if WACC is equal to 12% and if working capital as a percentage of sales is 42%. The table shows the company’s value sensitivity on variables (WACC and working capital as a percentage of sales). The higher WACC and working capital as a percentage of sales is, the smaller enterprise value will be. WACC and working capital as a percentage of sales have a negative impact on the company’s value.

In this table we can see that the value of the company is 16,659 M€ if WACC is equal to 12% and if working capital as a percentage of sales is 42%. The table shows the company’s value sensitivity on variables (WACC and working capital as a percentage of sales). The higher WACC and working capital as a percentage of sales is, the smaller enterprise value will be. WACC and working capital as a percentage of sales have a negative impact on the company’s value.
This table shows sensitivity analysis of the company’s value depending on specific variables (WACC and growth rate g). The value of the enterprise is 16,659 M € if WACC is 12% and if growth rate g is 6%. The growth rate g positively influences the value of the company; in contrast, WACC negatively affects the value of the firm.

<table>
<thead>
<tr>
<th>In M €</th>
<th>NPV of Forecast Period</th>
<th>4,858</th>
<th>29%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NPV of terminal value</td>
<td>11,801</td>
<td>71%</td>
</tr>
<tr>
<td>Enterprise value</td>
<td>16,659</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Cash position</td>
<td>(end 2010)</td>
<td>2,023</td>
<td></td>
</tr>
<tr>
<td>Financial debts</td>
<td></td>
<td>9,538</td>
<td></td>
</tr>
<tr>
<td>Adjusted Equity Value</td>
<td>9,144</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TABLE 14 Boehringer-Ingelheim discounted cash-flow valuation

The discounted cash-flow valuation table shows the firm’s valuation. The family business’s value was 16,659 M €. However, the adjusted equity value of the firm is the most correct for the “real valuation”. Adjusted equity value takes into account total debts and the actual cash position. As Boehringer-Ingelheim had a large amount of debts, the adjusted equity value of the firm was 9,144 M € in 2010. Moreover, the earlier analysis had already underlined that the family company had an important indebtedness level. Adjusted equity value shows that company’s debts divide the enterprise value by 2. The enterprise’s value was 16,659 M € in 2010, but investors will pay only 9,144 M € for this company because of the level of debt that the firm has.

<table>
<thead>
<tr>
<th>In M EUR</th>
<th>EBITDA</th>
<th>EBIT</th>
<th>Net Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figures 2010</td>
<td>1,896</td>
<td>1,708</td>
<td>888</td>
</tr>
<tr>
<td>Multiples in 2012</td>
<td>8.2</td>
<td>10.3</td>
<td>16.7</td>
</tr>
<tr>
<td>Value of the company</td>
<td>15,547</td>
<td>17,558</td>
<td>14,847</td>
</tr>
<tr>
<td>Cash position</td>
<td>2,023</td>
<td>2,023</td>
<td>2,023</td>
</tr>
<tr>
<td>Financial debts</td>
<td>9,538</td>
<td>9,538</td>
<td>9,538</td>
</tr>
<tr>
<td>Adjusted Equity Value</td>
<td>8,032</td>
<td>10,043</td>
<td>7,332</td>
</tr>
</tbody>
</table>

TABLE 15 Boehringer-Ingelheim multiples valuation

The value of the company can be also estimated with the multiples valuation method. The “Damodaran” webpage used data from 5,891 firms to obtain multiples values in each industry in 2012. Damodaran’s research showed that in the pharmaceutical industry, a company’s EBITDA should be multiplied by 8.2, EBIT by 10.28, and net income by 16.72 to compute the firm’s value. After multiplication, enterprise value was situated between 14,800 and 17,558 M€. Adjusted equity value was between 7,300 and 10,000 M €. The results of DCF and of multiples valuation models were quite close to each other; only the evaluation methods were different. The DCF model is more relevant and more precise, but its process consumes a lot of time. Investors
(especially in stock markets) who want to have a quick idea of a company’s value usually use the multiple valuation method.
### 9.3.5. Orion Business Plan

<table>
<thead>
<tr>
<th></th>
<th>Actuals</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Forecast</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sales</strong></td>
<td>641</td>
<td>684</td>
<td>711</td>
<td>772</td>
<td>850</td>
<td>912</td>
<td>979</td>
<td>1,051</td>
<td>1,128</td>
<td>1,210</td>
<td></td>
</tr>
<tr>
<td><strong>EBITDA</strong></td>
<td>187</td>
<td>194</td>
<td>185</td>
<td>207</td>
<td>254</td>
<td>272</td>
<td>292</td>
<td>313</td>
<td>335</td>
<td>359</td>
<td></td>
</tr>
<tr>
<td><strong>EBIT</strong></td>
<td>187</td>
<td>196</td>
<td>184</td>
<td>204</td>
<td>253</td>
<td>270</td>
<td>289</td>
<td>309</td>
<td>331</td>
<td>354</td>
<td></td>
</tr>
<tr>
<td><strong>Taxes</strong></td>
<td>-52</td>
<td>-50</td>
<td>-48</td>
<td>-52</td>
<td>-60</td>
<td>-70</td>
<td>-75</td>
<td>-90</td>
<td>-86</td>
<td>-92</td>
<td></td>
</tr>
<tr>
<td><strong>NOPAT</strong></td>
<td>145</td>
<td>145</td>
<td>136</td>
<td>151</td>
<td>185</td>
<td>200</td>
<td>214</td>
<td>229</td>
<td>245</td>
<td>262</td>
<td></td>
</tr>
<tr>
<td><strong>Working capital</strong></td>
<td>114</td>
<td>128</td>
<td>114</td>
<td>112</td>
<td>202</td>
<td>164</td>
<td>176</td>
<td>189</td>
<td>203</td>
<td>218</td>
<td></td>
</tr>
<tr>
<td>% of sales</td>
<td>18%</td>
<td>19%</td>
<td>16%</td>
<td>16%</td>
<td>15%</td>
<td>18%</td>
<td>18%</td>
<td>18%</td>
<td>18%</td>
<td>18%</td>
<td></td>
</tr>
<tr>
<td><strong>NOPAT change</strong></td>
<td>-19</td>
<td>-14</td>
<td>-14</td>
<td>-8</td>
<td>-90</td>
<td>38</td>
<td>-12</td>
<td>-13</td>
<td>-14</td>
<td>-15</td>
<td></td>
</tr>
<tr>
<td><strong>Investments (Capex)</strong></td>
<td>-30</td>
<td>-30</td>
<td>-30</td>
<td>-30</td>
<td>-30</td>
<td>-30</td>
<td>-30</td>
<td>-30</td>
<td>-30</td>
<td>-30</td>
<td></td>
</tr>
<tr>
<td><strong>Amortisation and Depreciation</strong></td>
<td>43</td>
<td>46</td>
<td>49</td>
<td>53</td>
<td>57</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>% of sales</td>
<td>5%</td>
<td>5%</td>
<td>4%</td>
<td>4%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td><strong>Free Cash Flow</strong></td>
<td>251</td>
<td>218</td>
<td>235</td>
<td>254</td>
<td>274</td>
<td>251</td>
<td>195</td>
<td>188</td>
<td>181</td>
<td>174</td>
<td></td>
</tr>
<tr>
<td><strong>DCF rate</strong></td>
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<td>0.9</td>
<td>0.8</td>
<td>0.7</td>
<td>0.6</td>
<td>1.0</td>
<td>0.9</td>
<td>0.8</td>
<td>0.7</td>
<td>0.6</td>
<td></td>
</tr>
<tr>
<td><strong>Cumulative DCF</strong></td>
<td>251</td>
<td>446</td>
<td>633</td>
<td>814</td>
<td>988</td>
<td>251</td>
<td>195</td>
<td>188</td>
<td>181</td>
<td>174</td>
<td></td>
</tr>
</tbody>
</table>

| **NPV** | 988 | 21% |
| **Terminal value (to infinity)** | 3,725 | 79% |
| **Value of the company** | 4,713 | 100% |

**TABLE 16 Orion business plan results**
Orion’s results are the following:

- **NPV was 988 M € in 2010, representing 21% of the total value of the firm.**
- **Terminal value was 3,725 M € in 2010 representing 79% of the total value of the firm.**
- **The private enterprise’s value was 4,713 M € in 2010.**

![Table 17 Orion's sensitivity analysis table (WACC and working capital in % of sales)](#)

The value of Orion was 4,713 M €, if WACC was equal to 12%, and if working capital as a percentage of sales was 18%.

![Table 18 Orion's sensitivity analysis table (WACC and growth rate g)](#)

When WACC was 12% and growth rate g was 7%, then the value of the private firm (Orion) was 4,713 M € in 2010.

![Table 19 Orion’s discounted cash-flow valuation](#)
The private company was valued at 4,713 M € in 2010. The adjusted equity value was 4,524 M € in 2010. The difference between enterprise value and adjusted equity value was much smaller than the family company (Boehringer-Ingelheim) because of the limited debt level that firm had.

<table>
<thead>
<tr>
<th>In M EUR</th>
<th>EBITDA</th>
<th>EBIT</th>
<th>Net Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figures 2010</td>
<td>254</td>
<td>253</td>
<td>185</td>
</tr>
<tr>
<td>Multiples in 2012</td>
<td>8.2</td>
<td>10.3</td>
<td>16.7</td>
</tr>
<tr>
<td><strong>Value of the company in M EUR</strong></td>
<td>2 084</td>
<td>2 597</td>
<td>3 088</td>
</tr>
<tr>
<td>Cash position</td>
<td>90</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>Financial debts</td>
<td>278</td>
<td>278</td>
<td>278</td>
</tr>
<tr>
<td><strong>Adjusted Equity Value</strong></td>
<td>1 896</td>
<td>2 408</td>
<td>2 899</td>
</tr>
</tbody>
</table>

TABLE 20 Orion’s multiples valuation

The value of the private firm was between 2,100 and 3,100 M € in 2010. The adjusted equity value was between 1,900 and 2,900 M € in 2010. There was a difference between the DCF and multiples valuation models. The DCF model’s figures were better. The explication for this is that Orion was performing much better compared other pharmaceutical industry firms. Furthermore, the multiples valuation was based on pharmaceutical companies’ average performances. Every company is unique, and thus the DCF model is more relevant for a firm’s evaluation.

**9.3.6. Business Plans Comparison**

These following tables summarize the business plan results of the family and non-family firms. Ramsey (1928) and Weitzman (1998) analysed different approaches. One approach claimed that discount rate choice depends on project cost allocation and its benefits.

<table>
<thead>
<tr>
<th>Boehringer-Ingelheim</th>
<th>Orion</th>
</tr>
</thead>
<tbody>
<tr>
<td>In M €</td>
<td></td>
</tr>
<tr>
<td>NPV of Forecast Period</td>
<td>4 858</td>
</tr>
<tr>
<td>NPV of terminal value</td>
<td>11 801</td>
</tr>
<tr>
<td><strong>Enterprise value</strong></td>
<td>16 659</td>
</tr>
<tr>
<td>Cash position (end 2010)</td>
<td>2 023</td>
</tr>
<tr>
<td>Financial debts</td>
<td>9 538</td>
</tr>
<tr>
<td><strong>Adjusted Equity Value</strong></td>
<td>9 144</td>
</tr>
</tbody>
</table>

TABLE 21 Companies discounted cash-flow results comparison

This table underlines that the value of the family business company was 3.5 times higher than that of the private firm. Moreover, the NPV value represented 29% of the company’s total
value, while in the private firm it was 21%. For terminal value, Boehringer-Ingelheim had 71% of total enterprise value compared to 79% in Orion. These percentages demonstrate, that future forecast seems to be much brighter for private enterprise. Orion’s growth will be greater than Boehringer-Ingelheim’s.

Therefore, the difference between the companies’ adjusted equity values was much smaller than the difference between the enterprises’ values. It can be explained by indebtedness levels. The adjusted equity value evaluation of Boehringer-Ingelheim was hardly affected by financial debts, which were too high. The family firm had too many debts compared to Finnish firm. The difference between values was much smaller in adjusted equity valuation models.

<table>
<thead>
<tr>
<th></th>
<th>Boehringer-Ingelheim</th>
<th>Orion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Value of the company in M EUR</strong></td>
<td>15,547</td>
<td>2,084</td>
</tr>
<tr>
<td><strong>Adjusted Equity Value</strong></td>
<td>8,032</td>
<td>1,896</td>
</tr>
</tbody>
</table>

**TABLE 22** Companies multiples valuation results comparison

As the family business is much bigger company, the value of the firm was bigger (between 14,800 and 17,600 M € in 2010 vs. Orion being between 2,100 and 3,100 M € in 2010). Adjusted equity value in the family firm was between 7,300 and 10,000 M € in 2010, whereas in the private company it was between 1,900 and 2,900 M €.

**9.3.7. Conclusions**

Establishment of a business plan let me estimate the companies’ values. I wanted to know the net present value and terminal value of each firm. An analyst’s role is to analyse and to make the best investment decision. My analysis started with ratios analysis and finished with the business plans. Ratios allowed me to observe past performances and the business plans forecasted the future. Using these methods, I developed my own view of the companies’ financial situations.

Boehringer-Ingelheim’s size let the firm keep a higher value. The company was more expensive to buy. However, the Finnish company’s fast sales growth and low indebtedness level made the firm’s forecast much better. Furthermore, because of high debt levels in the family business, the difference in adjusted equity valuation value between the firms was much smaller than the difference in the companies’ values.
10. Variables, Validity and reliability

For my research I utilized lots of accounting data. The accounting figures were taken from the companies’ websites. Financial analysis took financial statement figures from the years 2006-2010. I was wanted to have valuables and reliable figures. I was ensured of the validity and reliability of the figures because each company had financial statements approved by shareholders and audited by auditing companies known worldwide, such as Pricewaterhouse, etc. Moreover, as Orion is listed on the Helsinki stock exchange, the private firm had to give appropriate and audited financial information every trimester. Furthermore, the financial statements were consolidated according to international financial reporting standards (IFRS).

The financial analysis had to have the analytical ability to set up a content validity. All financial analysis was done using an Excel worksheet. Excel worksheet tables, graphs, formulas, and computation models were already validated by real life cases. My previous studies let me have an important background in finance. Moreover, I already have 2 years of experience in the financial field. I had an internship in mergers and acquisitions and subsidiaries controlling in Astrium-EADS. After it, I was sent to Moscow, Russia to support our subsidiaries financial team, in which I am currently working. EADS is a multinational company which employs more than 120 000 people around the world. My daily work consisted of analysing the company’s financial statements, creating business plans, etc. Financial analysis methods and business plan settlement were approved by the company’s chief financial officer and top managers. Furthermore, my business plans and financial analysis were used for new joint ventures creation and for analysing potential targets. The usefulness and correctness of these methods of analysis were tested and re-tested multiple times. My Excel worksheet file took into account already-existing valid tests on the firm’s performance evaluations seen on stock market webpages as return on equity and gearing ratios, and new analysis methods were adapted to the company’s needs.

Ratios analysis used exactly the same method as for real work. The Excel file was indexed and planned by me and validated by my manager (Patrick Chilot – Senior Financial Analyst, Astrium-EADS). I took variables (balance sheets and profit and lost statements). The human mistakes could of course have happened when entering the financial figures. However, I tested and re-testing the results and entered figures. Financial analysis is reliable and consistent from one time testing to the next. I used test and re-test reliability on different companies and on my selected ones. Moreover, I tested and re-tested the entered and obtained results one hundred times. I found that there were no errors on variation from one set of results to another. The results satisfied me as to the validity and reliability of the methods of analysis used.

However, individuals and companies have different approaches to analyzing their company’s financial statements. Their analysis is based on their priorities and views on
financial sustainability. Some analysts will pay more attention to profitability and others to the company’s liquidity status. All depends on whether a person is a buyer, seller, or consultant.

My research used sampling validity. I used knowledge from my previous studies and completed this validity with experts’ knowledge in finance field. For Neergard and Ulhoi (2007), sampling ensures the quality of research outcomes. Therefore, it provides the best information. The reliability was confirmed by testing and re-testing entered figures and obtained results multiple times.
11. Discussion

11.1. Findings and Analysis

Many authors have emphasized that family businesses are different from other businesses. According to Chua, Christman and Sterer (2003), family businesses are different from private firms because of family members’ participation in business life. The company’s functioning and corporate culture is based on family members’ actions. Litz (1995) compares a family business to a small business. Furthermore, some authors as Gallo (1995) and Poutziouris have claimed that family businesses have difficulties growing, keeping sustainable business, and internationalizing. My case study showed opposite results. Boehringer-Ingelheim is a family company which employs more than 40,000 employees around the world and markets in 50 countries. The German firm is a 100% internationalized company. Therefore, the company has no difficulty growing at all. Even during bad macro-environmental conditions, the family business’s sales were growing.

According to Niall (2009), Allen and Gale (2009), the 2007 financial crisis was one of the most significant since Wall Street crash of 1929. It caused many negative impacts on world’s economy. Kumar, Subramanian, and Yauger (1998) stated that bad macro environment conditions are a good opportunity to use tactical plans to respond to economic changes. For Dobri and Luffman (2000), cultural behaviour is a part of tactical orientation. Interviewed persons from the family business and the private firm confirmed this statement that every company has its unique business culture. Chen (2008) outlines how cultural differences can explain an industry’s performances. Michael Millington stated that Boehringer-Ingelheim has a unique culture based on German roots and on the family’s culture. This culture is strongly focused on innovation and on careful business management. Family business relations influence a firm’s management strategy (Dunn, 1995). Orion’s business development director said that Finnish culture dominates in his company because 80% of employees are Finnish and Orion’s headquarters are located in Finland. Dobri and Luffman (2000) argued that the concept of market orientation is a cultural issue. Both companies are market-oriented firms. Market orientation theory examines the role of enterprises’ executives’ decisions in making the company successful. Market orientation is also influenced by a firm’s culture (Hurley & Hult, 1998). Interviewed individuals underlined that the company’s culture and values make the firm unique and successful. The family business firm is definitely influenced by Whilst Boehringer-Ingelheim’s unique corporate culture, which, as underlined Michael Millington, has German roots. In contrast, the private firm Orion has mainly Finnish cultural footprints. An enterprise’s resources promote market-orientation culture and increase the firm’s performance (Kumar,
Subramanian, Yauger, 1998). Every country has its own business culture. This culture is mainly structured on cultural ethics. Each enterprise should respect their country’s business ethics codes. This approach improves firm’s value creation. Lindfelt (2006) studied ethical concepts, such as ethical roles, ethical network identity, and ethical atmosphere. Finnish business culture has specific ethical cultural codes. Kotonen (2009) researched Finnish listed companies on Helsinki stock exchange. He found that corporate social responsibility was increasing over time in these firms. There is a positive link between social responsibility and profitability. Shareholders insist firms act socially responsible. Finnish firms make reports on the company’s corporate social responsibility. These Finnish corporate social responsibilities were investigated by Vuontisjärvi (2004) and Juholin (2004). They underlined that corporate social responsibility reporting challenges are mostly the same as for international firms. German cultural business ethics were studied by Ulrich (1996), who conducted a study of the 500 biggest German firms. He found that German companies’ business instrument ethics are mission-oriented. According to Palazzo (2002), German firms are reticent to address questions publicly, especially normative questions. Moreover, he claimed that German business is relying on traditional but at the same time challenging business ethics codes.

This 2007th financial crisis was very powerful. Hendrics (2005) underlined that firms do not recover rapidly after an economic slowdown. There are consequences for the company’s profitability (return on equity and return on sales ratios). My research showed that Hendrics’s statement can apply to family business companies, as Boehringer-Ingelheil could not reach the same performance as before the crisis. My interviewee at the family business pointed out that during the crisis, the company was raising cash to protect the company. Cash-ratios analysis confirmed this; the company increased its financial securities during the crisis. In contrast, the private firm recovered very quickly. However, Ilkka Larma, Orion’s Business Development Director, stated that Orion didn’t feel any crisis consequences except for short-term financing. Moreover, he claimed that Orion was not carrying out any special strategy to cope with this crisis. My financial analysis showed different results. The company had definitely changed its strategy by increasing financial securities in a bad macro environment. Therefore, the 2007 crisis affected the Finnish firm’s financial performance, working capital, etc. I observed that my interviewed persons were not willing to share confidential information. They described general facts without giving precise information. A firm’s employees are not willing to share information, because of very strong world market competition. For these reasons, from my point of view, it is important to have an independent company’s analysis.

A few questions remain. What makes a business sustainable and profitable? How can good financial structure and financial growth be maintained even in bad macro-environmental conditions? According to Kreuger and Filbeck (2005), business success depends on the company’s executives’ capacity to efficiently manage inventories and payables. There could be a positive impact on financial profitability if corporate governance is dynamic (Sartori, 2009). Scherer (2011) says that there is a positive correlation between research and development spending. Boehringer-Ingelheim’s international product manager claimed that his company had heavy investments in R&D between 2008 and 2011. The German firm launched new human pharmaceutical products in new therapeutic areas. Bond and Meghir (2005) underlined that investment is possible if either the cash-flow position is sufficient or if the company has the capability to borrow money. My research outlined that Orion and Boehringer-Ingelheim both had very good cash-flow and net cash-flow positions. Both enterprises were able to finance their investments with internal resources. Their capacity to invest was very high. Financial ratios showed that the companies’ gross margin level was very elevated, more than 50%. Enterprises
in the pharmaceutical industry spend huge amounts of money in R&D. Michael Millington claimed that his company is profitable and sustainable because of the long term perspective that Boehringer-Ingelheim has. The German company has more flexibility in dealings with stock markets. The enterprise is less focus on short-term profitability and more on long term goals. He pointed out that family businesses have a greater sense of responsibility. Business is more focused on particular values and on employees’ contributions. Boehringer-Ingelheim’s international product manager thinks that good cash management and investment focus in growth areas can allow the firm to have a good financial structure and sustainable financial growth.

In contrast, Ikka Larma, Orion’s Business Development director, emphasized other important points in his opinion. He did not mention social responsibility or long-term vision. For him a sustainable and profitable company is one where enterprise has a clearly defined strategy, company’s values are understood by all employees, workers are motivated, and the enterprise is offering good quality products and services. Orion’s Business Development Director stated that all these things maintain good financial structure and sustainable growth even during bad macro-economic conditions. However, Ikka Larma also stated that it is important to understand macroeconomics to deal with the crisis. Besides these statements, Hiraga (2011) underlined that a corporate tax deduction positively impacts the long-term economic growth of a firm. An efficient capital structure combination maximises enterprise value (Nantell, 1975). In addition, a business plan lets us estimate future performances (Honig and Karlssen, 2004), and it thus, it outlines if a business will be sustainable and profitable in the future.

Gallo and Vilaseca (1996) argued that family business firms have low debt levels. A firm’s debts are more related to company’s size. On the contrary, Coleman and Carsky (1999) pointed out that family businesses have the same amount of debts as private firms. My financial analysis results showed that family business firm Boehringer-Ingelheim had many more debts compared to the private firm Orion. Therefore, I agree with Coleman and Carsky’s observation. A firm’s behaviour is more based on management decisions, and there is no importance in what ownership structure firm has.

11.2. Future research

My case study took into account the period 2006–2010. It was the perfect period for analysing the consequences of the financial crisis (the subprime crisis) for differently-owned firms and looking at the financial situation before, during, and after financial crisis. However, I did not take into account the year 2011’s actual financial figures. I could have added this data, but it was unnecessary for my study, and would have consumed extra time. The values of the companies and the equity values could therefore be different today, but my goal was more to have an idea of which valuation scales the enterprises were situated in.

People thought that 2007 financial crisis was over or almost over, in 2010. However, future showed another financial crisis hit Europe with the European sovereign debt crisis. The explosion of risk in the Euro-zone and European Union scared the rest of the world. As a consequence of Europe’s economic slowdown, stock markets slumped. The European Union is the third largest economy in the world. Consequently, its economic slowdown had a big impact
on world’s economy. The negative consequences of this crisis for Europe can be compared to subprime crisis.

The consequences of the European Union sovereign debt crisis for differently-owned firms could be the subject of a future master’s thesis.
12. Conclusion

My master studies in Entrepreneurship in a Family Business at the University of Jyvaskyla gave me a particular interest in entrepreneurship and in finance. My lectures pointed out that family companies’ governance is much more complicated than private firms’. Family business’s employees are mixing work, money, and love. Employees’ future and happiness are mostly based on enterprise success in business. The firms’ owners are searching to have long-term sustainable and profitable business. Therefore, stockholders are patient for returns on investments; the firm’s generated profits are usually invested in the company’s development process. Those firms are called “risk-averse”. Family enterprises are not willing to internationalize quickly or simply to be internationalized. If the firm was not internationalized in the 1st generation, there is only a small chance that it will happen in the 2nd or 3rd generation. Family business owners are scared to grow too fast or to conquer foreign markets because of risks of failure or of takeover. However, for a firm to grow quickly requires an increase of capital. Capital increase is risky and demands certain sacrifices. For example, a company’s founder can loose controlling majority rights, which is often unacceptable for a family business founder. The founder’s goal is to make business sustainable and profitable and then to transfer it to their relatives. However, the business’ sustainability and survival depends on how successful the succession process is. Over 50% of these firms do not survive beyond the 1st succession. One reason could be the jealousy between family members. Thus, it is hard to make the right decision to choose the most reliable successor. The choice could be between a family member and an “outsider”. It is complicated to make a good choice which will satisfy family members and which will be profitable for the company. In this situation, family business consultants can help. A succession process must be ready in advance. A family business consultant’s role is crucial in this process. He can give an outsider’s view of company’s situation. Their neutrality and experience are important variables for taking a good decision in this kind of situation. Good organisation, business strategy planning, and family business consultant advice are indispensable for successful family business succession. Unplanned succession can cause an “earthquake” in the firm’s and families lives.

In contrast, a private company has a different business approach. A private firm privileges shareholders satisfaction maximization through increasing enterprise profitability. The company usually takes more risks to meet stockholders’ requirements on profitability. Management organization and internal motivation is based on top management’s relations with employees. The company’s goal is to grow as fast as possible and to make profits very fast. The biggest difference between family and private firms can be seen in their goals. A family business company has a long-term orientation while a private firm is more short- or mid-term oriented. A private firm’s goal is profit maximization rather than sustainability.
These statements and studies gave me an enormous interest in understanding differently-owned companies, and I wanted to see if those statements were always correct. A financial crisis (subprime) hit the world bringing a lot negative consequences. I pondered what could make a good combination between entrepreneurship and finance, and I came to the realization that it would be good to make a case study of differently-owned companies by analyzing and understanding their financial statements before, during, and after the financial crisis.

For my master’s thesis research, I chose two successful and sustainable pharmaceutical companies: Boehringer-Ingelheim, a German family company with old traditions and Orion, a Finnish private firm. Those firms were in the same industry (pharmaceutical) but headquartered were in different countries.

I started my research by collecting all necessary data from books, journals, internet webpages, interviews, etc. It was quite difficult to get any financial information about the companies. The firms were not willing to easily collaborate. Globalisation makes competition between companies very intense. Enterprises are not willing to show confidential internal information publicly. However, I managed to get some interviews, and principal data for financial analysis (annual reports, financial statements, and balance sheets) was taken from the companies’ websites or from stock market webpages. This information was sufficient to set up an analysis model.

Development of my survey was divided into two parts:
1 – Ratios analysis
2 - Business plan set up

Financial analysis of the companies leads me to discover some differences and similarities between two firms, including:
1) Ownership differences:
   - Boehringer-Ingelheim is a successful German family enterprise, created in 1885. After the 5th succession, family members still control the company.
   - Orion is a private Finnish company listed on the Helsinki stock exchange, and also a very successful business.
2) Cultural differences:
   Even if German culture is quite similar to Finnish culture, firms have different cultural business approaches. Moreover, taxes levels are different in each country.
3) Size and market-domination differences:
   Boehringer-Ingelheim is much bigger company than Orion. The Finnish company was mostly operating in Nordic Europe, whereas the German firm was present almost everywhere around the world. However, the family firm’s main market was in Europe.
4) Except ownership and cultural differences, both enterprises had profitable and sustainable businesses.
5) Both companies were operating in the same industry (pharmaceutical) and were multinational enterprises
6) Aims and Values:
   - Stangenberg-Haverkamp was working as Global Product Manager at Boehringer-Ingelheim. He underlined that the family business had a long-term outlook and was more focused on long-term achievements. In his opinion, the German firm had greater social responsibility than private firms. Individuals contributed a lot to the company’s performances. Boehringer-Ingelheim’s unique corporate culture was based on innovation and on careful financial management. Furthermore, German culture influenced enterprise aims and values.
Ikka Larma, Orion’s Business Development Director, mentioned that his company had a clear strategy and that Orion’s values were definitely influenced by Finnish culture. He did not mention long-term outlook or social responsibility, which is a difference between family and private firms’ values and aims. The family business was the more long-term-oriented company.

My research identified differences and similarities between the enterprises in management and in business culture. However, the difficulty lay in explaining the firms’ behaviour during the crisis.

Before this survey, I thought that my research would confirm many theories on family businesses and private companies, but I was surprised. Before ratios analysis and business plan settlement, I thought that family business strategy would be cautious, that a private firm will take more risks, etc. My research become more and more interesting as it advanced. Ratios analysis was very beneficial for my survey. Accounting figures showed the financial situation before, during, and after financial crisis.

I started the ratios analysis with operating ratios and curves. Financial figures showed that the family firm was much bigger company than the private firm. This was very interesting. Generally, family firms are compared to small- or middle-sized companies. Thus, they are risk averse and avoid growing too fast. The German firm had almost 2 times the revenue of the Finnish company. Boehringer-Ingelheim is a fully internationalised enterprise. The size of the company brings difficulties to family members in keeping a majority of the firm’s stocks. The German firm is an enormous actor in pharmaceutical industry, however, the firm is still owned by family members. The financial crisis did not affect Boehringer-Ingelheim’s revenue growth. During the financial crisis, revenues growth slowed down, but still grew. Gallo, Cappuyns and Kristin (2004) stated that family businesses grow more slowly than private companies. Poutziouris, Chittenden, and Michaelas (1998) claimed that private companies are more market-oriented and tend more toward growth. In this case, the family business was much bigger firm than the non-family enterprise; however, the private firm’s revenue growth was much faster during this five-year period. Gallo’s (2004) and Poutziouris’s (1998) predictions were correct. Other operating ratio measurements, such as EBIT, were affected by the crisis. Both companies saw EBIT performances degrade in 2008. The private firm recovered the next year while the family business did not. Boehringer-Ingelheim’s EBIT situation continued to degrade even in 2010.

Boehringer-Ingelheim’s Global Product Manager underlined that his company saw its profitability declining after 2008. In his opinion, this decline was due to the company’s investments in future growth areas and inefficiencies in parts of the business rather than to the impacts of the financial crisis. However, he stated that the enterprise faced challenges during the subprime crisis, such as product pricing pressure and decrease revenues in Southern Europe. Therefore, the firm had a more difficult environment in mature western markets. In my opinion, Stangenberg-Haverkamp’s statements were confusing. He said that EBIT performances had not decreased due to the impacts of the financial crisis, and then mentioned pricing pressure, decline in revenues in Southern Europe, etc. In my opinion, the financial crisis had definitely affected EBIT performances.

Similarly, Ikka Larma, Orion’s Business Development Director, said that his company did not feel any major impacts on profitability. However, figures showed that the private firm’s EBIT had declined in 2008. The financial crisis degraded Boehringer-Ingelheim’s working capital, which was already bad. In contrast, during the crisis Orion improved its working capital management. But it came to the same statement as it was before in 2010.
To summarize about operating performances, all operating ratios were better in Finnish firm. Except EBIT, which decreased in 2008, Orion did not feel the consequences of the crisis as much. Even more, working capital management improved during this period. Boehringer-Ingelheim was more sensitive to the crisis and the firm did not recover after it. Moreover, working capital management was not good. The operating ratios analysis underlined that resisting capacity was stronger in a private firm during financial crisis.

After those analyses I switched to liquidity analysis. I noted that the liquidity situation was good in both companies. During the financial crisis, the family business’s liquidity improved while the private firm’s declined. Ikka Larma stated that Orion had difficulties with the availability of short-term financing. Therefore, the German company, which seems to be more risk-adverse, improved its liquidity. Instead of the short-term financing difficulties that the Finnish firm faced during the crisis, the company’s liquidity was very good. Solvency positions decreased in both companies during and after the crisis, but both enterprises had satisfactory solvency. However, Orion had the better solvency position.

Deeper analysis revealed interesting points. The family business had too many debts, because its gearing ratio was very high, although during and after the crisis company reduced its level. Boehringer-Ingelheim was more indebted than a non-family business firm.

The German firm’s amount of debt was worrying. I can suppose that this company was using the leverage effect to increase its profitability. The leverage effect is more often used by risk-taking firms, while a family business is supposed to be a risk-adverse company. It is an interesting point, because a lot of authors argued that family firms avoid risks. Gallo and Vilaseca (1996) claimed that family firms have low indebtedness levels. However, Coleman and Carsky (1999) argued that a firm’s ownership structure does not have any impact on how much debt a company will use in its structure. However, the financial crisis pushed the family business to reduce its debt level, while the private firm saw its debts rising. The financial crisis multiplied Orion’s gearing ratio by 2. Therefore, Orion’s total debt level compared to its equity was better than in Boehringer-Ingelheim. The family business seems to have been avoiding risks and at the same time taking risks. The German firm had too many debts, but at the same time the company reduced its debt level during and after the crisis. Boehringer-Ingelheim’s Global Product Manager confirmed that enterprise went through heavy investments between 2008 and 2011. Those investments were financed by cash or by debts. During the crisis, the companies made enormous efforts to reduce debts. I can say that financial crisis pushed Boehringer-Ingelheim to be more cautious, while Orion had more debts because of difficulties obtaining short-term financing. Perhaps short-term financing was replaced by long-term financing.

The pharmaceutical industry is a very profitable industry. On average, margins are surpassed by 40%, an enormous profitability. Boehringer-Ingelheim and Orion achieved very impressive performance levels. Harris, Martinez and Ward (1994) argued that strong spousal commitment increases family business profitability. Family business performances are greater if family members are still active and present in the company’s activity (Christman, Chuab and Litz, 2003). Family business members’ motivation and attitude affects family business performance (Poza and Messer, 2001). For Boehringer-Ingelheim’s Global Product Manager, the family business was financially profitable because the German firm had long-term perspectives and flexibility on dealing with capital markets, and because the company’s sense of social responsibility was high.

Both companies performed very well. However, the consequences of the financial crisis lead to difficult years for Boehringer-Ingelheim. Before the financial crisis, the family company
was performing very well in all performance ratios. The German firm’s performances were better than in Finnish company before the crisis. But the financial crisis affected all of the company’s performance parameters (ROS, ROE, etc.) and the company could not recover even after the crisis. For Stangenberg-Haverkamp, this decline had more to do with investments that Boehringer_Ingelheim made in future growth areas or with inefficiencies in parts of the business. In my point of view, performance has nothing to do with investment. On the contrary, investment should improve a company’s sales. Consequently, investment should reduce a company’s cash position.

Ikka Larma claimed that Orion did not face any consequences from the crisis in terms of financial performances. This affirmation is true, except for 2008, where the Finnish firm’s financial performances decreased. However, the company recovered very fast, and in 2010 was even better than before the crisis. The private firm performed much better than the family business. Investment and assets ratios were correct in both enterprises. In both companies, fixed assets ratios performed similarly. During the crisis, the ratios decreased and after the crisis they recovered. The return on assets ratio was better for Orion. During the crisis, the ratio decreased for both firms. However, the private firm recovered while the family business did not.

The cash flow position of the German company was very good. The company had an enormous capacity to finance its investment projects. I suppose that for this reason the firm was not yet listed on stock markets. Moreover, family members were not willing increase the risk of losing controlling majority rights. As mentioned before, investments reduce cash-flow position, and this is the case for Boehringer-Ingelheim for 2008. Stangenberg-Haverkamp mentioned that the firm went through heavy investments. I noticed it in 2008, because the company’s cash flow decreased by more than 400 M€. Orion’s cash-flow position improved during the crisis, from 90 M€ to 170 M€. However, Orion’s internal funding capacity was weaker. For this reason the firm was listed on Helsinki stock exchange. During the financial crisis, both companies increased their net cash position by increasing financial securities. They wanted to secure their financial statements. After the crisis, financial securities were reduced to the same level as before the crisis. Orion’s cash flow and net cash position was much smaller compared to Boehringer-Ingelheim. Cash progression was constant except for 2007, when it decreased. The German firm saw its cash decreasing in 2008; it then recovered for two years and decreased again in 2010. Working capital management was bad in the family firm. Furthermore, it degraded both during and after crisis. The cash and net cash positions were impressive in the family firm; however, the crisis had negative impacts on its evolution. Boehringer-Ingelheim had enormous capacity to finance its investments. Orion’s capacity was much smaller and weaker, but Orion managed its working capital much better than Boehringer-Ingeheim.

Establishment of a business plan let me get enterprises’ values. Boehringer-Ingelheim’s value was 4 times Orion’s. This is normal, because the family business was a much bigger firm. However, terminal value percentages (79% for Orion and 71% for Boehringer-Ingelheim) showed that the future forecast seems to be brighter for the private firm. The adjusted equity value difference between two companies was reduced two times, because of the high debt levels already underlined in the ratios analysis. Multiples valuation was quite close to discounted cash flow computation for the German firm, while Orion’s discounted cash flow values were higher. It showed that the private company was performing much better compared to pharmaceutical industry’s average.

Orion’s interview let me understand that companies’ are not willing give internal information. My interviewer said that Orion did not feel crisis consequences except short-term funding. However, financial figures speak for themselves. Orion felt the consequences of the
crisis not only in short-term funding, but in performance, debt, liquidity, and cash positions. The five-year period 2006-2010 had a lot of changes. But while it is true that crisis had limited impact on the company, I can see that the company adapted its management to resist the crisis by changing financial management strategy, etc.

My research gave me both expected and unexpected results. Before this analysis, I supposed that the financial crisis had an impact on both types of companies, and that the private firm would be more profitable and more risk-taking. Some of these facts were confirmed and some not. The biggest surprise for me was family business debt level and risk-taking. Boehringer-Ingelheim took more risks to increase its profitability by using the leverage effect. Family businesses are supposed to be more cautious. However, the German company is an enormous internationalized enterprise. Family businesses are supposed to be small- or middle-sized firms, and internationalization is a complicated process. Generally speaking, family businesses are found to have lower sales growth, fewer employees, a smaller share capital, fewer shareholders, and a higher proportion of board members. I found instead that Boehringer-Ilgelheim was a much bigger company than Orion, but that the Finnish company was much better managed and more sustainable. The financial crisis affected both companies, however, the private firm resisted much better from all points of measurements, and it recovered very fast after the crisis in 2010. The financial crisis hit the family business deeply. Orion is a very successful company. It is an example to other firms of how a company should be governed and managed during a crisis. My interviewed persons underlined that each company has a unique corporate culture which is influenced by country’s business culture. Boehringer-Ingelheim has German roots in its business culture, and Orion Finnish. In my point of view, culture and business ethics explain a lot about why the companies acted differently during the financial crisis.

My research showed me that business can be sustainable and profitable even during “hard times” if there is value creation for customers. Therefore, the company should have a reasonable debt level, good management performances, and executives’ willingness to increase the value of the firm. A company’s success depends on how the firm implies its strategy and how quickly the enterprise can adopt its strategy to changing macro-environmental conditions. My interviewees underlined that business culture and clearly defined strategy are the keys to success. However, enterprises cannot influence some things, such as the country’s business culture and taxation level. It is very important to be in a country which valorises business creation and development.

Differently-owned companies have advantages and disadvantages. In my opinion, it is very good that the family business has long term vision and values social responsibility. However, those kinds of firms have difficulties adapting their strategy to a rapidly changing microenvironment. Moreover, the succession process is too complicated and risky. Therefore, the private firms are more flexible when dealing with changes. I noticed during my case study that the family business became more cautious during the crisis, even though the firm had high debt levels. During the crisis, Boehringer-Ingelheim increased its cash position and reduced debts. The biggest differences between the family and private firms can be seen in their goals. The private company was seeking high profitability, while the family business was more based on long term sustainability. I think companies should find a middling point between profitability and risk taking. Furthermore, fast adaptation to a changing economic environment guarantees the firm’s sustainability and profitability.

To conclude, instead that Boehringer-Ilgelheim was bigger company than Orion, the Finnish company was better managed and more sustainable. Financial crisis affected both
companies, however a private firm was resisting better in all points of view and it recovered very fast after the crisis in 2010. Financial crisis hit deeply family business results. Orion was very successful company. It is an example for other firms how the company should be governed and managed during the crisis. From the point of view of investors, both companies were very successful and had sustainable businesses. However, if taking an arbitrage opportunity, investors will prefer Orion Company because of its performances and ability to face the consequences of this crisis.
13. REFERENCES

13.1. Research Literature


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### 13.2. Internet Sources

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14. APPENDICES

14.1. Interview Questions (For Michael Millington – Boehringer-Ingelheim International Product Manager)

How would you describe your daily work? What kind of education/ skills and expertise are required for your position?
In your opinion, what exactly does make a family business financially profitable and sustainable?
What knowledge and skills you consider are required to possess in order to maintain good financial structure and sustainable financial growth even during bad macro-economic conditions?
Did Boehringer Ingelheim face challenges during the financial crisis that started in 2008?
Did crisis have consequences on company’s financial performance/ debt level and liquidity status?
When did Boehringer Ingelheim start to feel effects of the crisis?
What strategies did Boehringer Ingelheim apply in order to cope with crisis?
Would you say that German culture has an influence on Boehringer Ingelheim’s management and its’ business methods?
Is this financial crisis still affecting performance of the company or Boehringer Ingelheim has recovered already?

14.2. Interview Questions (For Ilkka Larma – Orion Business Development Director)

How would you describe your daily work? What kind of education/ skills and expertise are required for your work position?
In your opinion, what exactly does make a business financially profitable and sustainable?
What knowledge and skills you consider are required to possess in order to maintain good financial structure and sustainable financial growth even during bad macro-economic conditions?
Did Orion face challenges during the financial crisis that started in 2008?
Did crisis have consequences on company’s financial performance/debt level and liquidity status?
What consequences financial crisis had on Orion’s stock price on Helsinki stock exchange?
When did Orion start to feel effects of the crisis?
What strategies did Orion apply in order to cope with crisis?
What was company’s financial situation before and after financial crisis?
Would you say that Finnish culture has an influence on Orion’s management and its’ business methods?
Is this financial crisis still affecting performance of the company or Orion recovered already?