CHALMERS

Industry analysis for Fouriertransform AB

Study of private equity firms focused on the Automotive industry

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Master of Science Thesis at
Department of Management and Economics of Innovation
CHALMERS UNIVERSITY OF TECHNOLOGY
Göteborg, Sweden, August 2011
Master of Science Thesis number: E2001:080

Acknowledgement

This Master Thesis has been written during spring 2011 at Chalmers University of Technology in close cooperation with Fouriertransform AB. I have while working acquired a great insight into the private equity industry and especially the companies that are focused on investments in the automotive industry. This work has also provided me with a deeper understanding of how a qualitative study is conducted and the problems that successively must be resolved.

I would particularly like to thank my supervisor, Jonas Hjerpe, and my contacts at Fouriertransform AB, Michael Johnsson and Carl Backman. You have shown great interest and given me valuable ideas and perspectives on the subject. I would also like to thank my interviewees, without your enthusiastic participation this study and thesis would not have been possible.

Many thanks!

Alexander Blom

Gothenburg, August 2011

Abstract

Venture capital is a relatively new concept in Swedish economy. The word, like many other financial concepts, is taken from the U.S. where the concept of venture capital is defined as a pure form of investment. Investments in start-up companies, venture capital, and investments in more mature companies, private equity, are increasingly important for continued economic growth.

As a result of venture capital firms economic success the competition has increased. Therefore, firms have tried to niche themselves by specializing and creating a more unique investment focus, hence become focused firms. Fouriertransform AB has a relatively unexplored investment focus, namely automotive. Hence, the purpose of this study was to discover current and future global trends regarding private equity and venture capital investments in the automotive industry. Furthermore, identify automotive-focused private equity firms globally.

The empirical study identified several current as well as future opportunities for private equity investments within the automotive industry. The most distinguishing trends are investments upstream in the automotive value chain, investment in emerging markets, investments in environmentally friendly technology and investment in new technology. Furthermore, the study showed that there exist few independent firms investing exclusively in the automotive sector. Only three entirely focused firms have been identified worldwide. Additionally, three companies that have automotive as one of its investments focuses and a number of corporate venture capital firms with relations to automotive.

Based on the study's results, I believe that the major investments opportunities will be found in the emerging markets, especially in Tier 2, 3 and aftermarket. The concentration of opportunities will be greatest in Asia as the supplier segments are financially strong, but still there are considerable investment opportunities. Furthermore, there is worldwide an extensive need for private equity and venture capital investments in alternative fuel technologies, such as fuel cell electric power, battery electric power and hybrid fuel systems. Alternative fuel technologies are often subsidized, which make them competitive in the marketplace and therefore an attractive investment for investors. Weight of cars is of vital importance for the energy consumption, hence new material development is becoming increasingly important. Therefore, I think investment opportunities also will arise within this focus, especially venture capital investments in promising companies that have developed a revolutionary new material. Additionally, I believe companies producing components in press hardening steel will be of interest to private equity investors.

Due to the limited amount of independent automotive-focused private equity firms Fouriertransform AB has a very unique investment niche, something that is positive for the firm. Fouriertransform AB may learn from all identified automotive-focused firms, but particularly from Fontinalis Partners and Transportation Resource Partners. These are both established players with similar size and investments focus as Fouriertransform AB, in addition a history of exited investments. My conclusion is that four of the identified American automotive-focused private equity firms are potential partners for Fouriertransform AB, both in terms of syndication but also through exchange of contacts and knowledge. An equivalent and uniform interest to partner with Fouriertransform AB most likely also exist from the American parties since Fouriertransform AB possesses a unique position as the only independent automotive-focused PE firm in Europe.

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1. Introduction

This chapter will give an introduction to the concept of venture capital and private equity. This is followed by a description of sector focused investments as well as a presentation of the Swedish private equity firm Fouriertransform AB. This ultimately leads to the purpose and research questions of this study.

1.1. Background

Venture capital is a relatively new concept in Swedish economy. The word, like many other financial concepts, is taken from the U.S. where the concept of venture capital is defined as a pure form of investment (Isaksson, 1999). I will later in the essay present the definition of venture capital. Despite the fact the concept of venture capital has existed in America since the 50th century has the corresponding investments in Sweden been described by a variety of terms. Isaksson (1999) means that the concept of risk capital and private equity is sometimes used as synonymous with venture capital. The author further claims that the use of concepts is not entirely correct. Isaksson points out that risk capital is a synonym for the company's equity, and that the term is used mostly due to the risk that the business owners are exposed to economic risk in relation to other external funders. Venture capital may therefore be a variant of risk capital. Private equity firms are like venture capital firms investing in companies that are not yet publicly-traded. A concise distinction between private equity and venture capital is that an investment by a private equity firm is done later in the investee business lifecycle and does not automatically imply an active involvement in the investees company.

Venture capital firms typically spread their risks over a number of investments, which later forms an investment portfolio. A company that venture capital or private equity firms choose to invest in is known as portfolio companies (Isaksson, 1999). A report from 2004 (NUTEK, 2004) describes the development of portfolio companies between 1998 and 2003. The report shows that Swedish portfolio companies partially or wholly financed by venture capital or private equity firms are increasing in value more rapidly compared to privately-owned companies. Corresponding results have been identified in an American study by Gompers and Lerner (2001). The authors say that companies which both by financial and professional means are supported by venture capital or private equity firms grow faster and generate more value than companies that did not have their support. Venture capital and private equity thus play a major role in developing businesses and ideas. Hence it is also an important source of current economic development and welfare.

As a result of venture capital firms economic success the number of firms has become very large, both in Sweden and Europe but in particular in North America. Due to internal competition, firms have tried to niche themselves by specializing and creating a more unique investment focus, hence become focused firms. That means venture capital firms exclusively focus its investments on for instance a specific industry, cluster or stage of business development. Common investment focus is Cleantech, Life science, Information and Communications Technology (ICT) and clusters such as the high-tech cluster in Silicon Valley or the automotive cluster surrounding Michigan. All the preceding is larger industries or regions. This is because the range of potential investment objects must be large enough to make the specific investment focus attractive. Automotive is however, despite the industry's size and importance, a relatively small investment niche within venture capital and private equity. Still, in Sweden one independent venture capital firm is completely focused on the automotive sector, Fouriertransform AB.

1.2. Fouriertransform AB

Fouriertransform (FTAB) is a Swedish state-owned venture capital company founded in December 2008. The company is 100 percent owned by the government and has been capitalized with SEK 3 billion. FTAB is a sector-focused investment firm and fund and finance portfolio companies as well as potentially profitable development projects within the Swedish automotive industry.

Investment focus

Fouriertransform has been founded to on a global basis strengthen the Swedish automotive industry and contribute to maintain its strong position, especially in the areas of environmentally friendly technology and safety. Investments are restricted to ground vehicles and aircrafts is not included. Hence, it might be considered that their investment focus not only is as narrow as automotive, but also include the ground-based transportation sector. Within this investment focus a wide range of products and solutions are contemplated, for example technology for reducing emissions or improve safety as well as products from raw materials to components and aftermarket. Moreover, the portfolio companies and projects must have a geographical connection to Sweden. FTAB also has financial guidelines, namely that individual investments should not exceed 5 percent of the total capital, i.e. SEK 150 million. Furthermore, usually FTAB's ownership share shall not exceed 49 percent in a single company. This may however possibly be bypassed if specific circumstances are prevailing.

Until June 2011 FTAB has completed investments in eleven companies, totaling SEK 398 million. The smallest investment is SEK 7 million and the largest is about SEK 104 million. The portfolio companies were at end of the year 2010 three companies in the field of area of More Efficient Production and the remaining in the field of Sustainable Vehicles. The companies are in various stages of business development, from the so-called start-up phase to companies in early stage and expansion phase. FTAB has made one exit, which means they have sold their investment in a portfolio company. A more detailed description of the different phases and exit strategies are given in the theoretical chapter.

The definition of whether Fouriertransform is a venture capital or private equity firm is rather diffuse. FTAB consider themselves as a venture capital firm but also intends to make investments characteristic for private equity firms. That is invest in later stages such as buy-out and more mature stages of business development, where only private equity firms are likely to be active. Therefore I choose to regard FTAB as a private equity firm that also makes venture capital investments.

1.3. Problem discussion

As a result of increased competition in the venture capital industry and the major benefits of having the possibility to make investments with partners, so-called syndication partners, it is important to have a good understanding of the other players in the same industry and niche. Due to the venture capital industry is characterized by discreetness and that Fouriertransform is relatively newly founded, they perceive they have not yet an adequate stocktaking of other automotive-focused private equity firms outside Sweden.

The venture capital and private equity market is relatively small in Sweden, but to be a small country we have a large automotive sector with many well-established and global companies. Since the competition for investment here is relatively small the Swedish automotive industry and its value chain becomes attractive to international venture capital and private equity firms. Similarly, for example in the U.S., it is much more difficult as a foreign entrant to alone invest in the automotive industry. This is caused by a lack of knowledge and insight into the country's automotive sector as well as awareness of the competing investment firms.

The model with sector-focused private equity firms is relatively untested in Sweden and FTAB is the only company with a focus on Automotive. It is therefore of great interest and importance to FTAB to get a better understanding of the international supply of automotive-focused venture capital and private equity firms, how they are financed and understand how they have chosen to work. This desired knowledge leads to the purpose of this study.

1.4. Purpose

By reason of this complex of problems and due to that research in these areas is rare the purpose of the study is to discover current and future global trends regarding private equity and venture capital investments in the automotive industry. In addition, the aim of the study is to understand the supply of sector-focused private equity firms globally, with particular interest to companies with automotive focus. Moreover to understand the similarities and differences in how these companies operate and perform to generate knowhow and identify potential partners for Fouriertransform. Hence, the research questions are:

What trends are visible in private equity investments in the automotive sector and where is the investment focus likely to be in the next 5-10 years?

Which automotive-focused private equity firms are operating worldwide and are potential partners for Fouriertransform AB?

In the above questions is venture capital included in the term private equity, additionally are the transportation sector included in automotive.

1.5. Delimitations

The study aims to be conducted from the perspective of Fouriertransform and therefore the study is limited to items that may be of interest for FTAB to investigate. This means the private equity industry which does not concern the automotive and transportation sectors are not considered in the research.

Furthermore, access to information from investment firms focused on automotive appeared to be very limited. This means that a complete description of the companies and their working methods is not possible to make. The descriptions are therefore based on relevant public information and information which was made available from the respondents. Additionally, the limited availability of information along with Fouriertransform’s influence over the study design led to the selection of potential automotive-focused companies to analyze was very restricted.

1.6. Disposition

The essay starts with a theoretical framework that both intend to provide a background to the subject and act as the basis for further analysis. Thereafter are the collected empirical material presented, after which it is analyzed and discussed. Finally, conclusions based on the study are drawn and answers to the research questions are given.

2. Theoretical Framework

In this chapter I present the theoretical framework that forms the basis for my study. The theory is divided into four parts. As this research area is rather new I found it necessary to make this breakdown in order to provide a clear framework. The first part presents the concept of venture capital and private equity. The second part illuminates three different ownership structures of private equity firms. The third part present private equity firms organizational form. The last part describes different investment and exit strategies as well as performance parameters.

2.1. Venture Capital and Private Equity

Venture capital (VC) is investments in companies not publically listed, that is not listed at a stock exchange or marketplace. The majority of VC investments in general consist of equity. However, it is common to use some intermediate form of equity and debt capital, for example, convertible bonds or bonds with warrants to underwrite for shares. A VC investment thus implies that the investor become or have the opportunity to be a shareholder of the company. VC is not only a capital investment but also assumes that the investor, the VC firm, takes an active owner involvement, for instance through representation in the board of directors. A VC fund typically makes investment for a limited period of time, normally 10 years. However, the VC firm can be prolonged for up to three extra years depending on industry and company situation. (Isaksson, 2006)

The definition of what constitutes venture capital is not precise. For some, mostly U.S. actors are VC investment only done in high-tech companies who are in very early stages of their business life cycles, which is seed and start-up. For others, often European actors, VC is all kind of equity investments in unlisted companies. However, in recent years the U.S. view has globally become more commonly used. (Gompers & Lerner, 2001)

Below are an American definition of Gompers and Lerner. This aimed to create a broader understanding of the concepts.

"Independently managed capital that focuses on equity or equity linked investments in private-owned and high-growth companies. Many venture capital funds, however, carry out other types of private equity investments. Therefore, outside the United States venture capital is often used as the synonym for private equity" (Gompers & Lerner, The venture capital cycle, 2000 s. 349).

Venture capital firms are consequently specialized in offering active business development support, VC and industry competence, to companies with development potential. The companies in which VC firms invests are typically called portfolio companies, due to VC firms tend to spread their risks in a portfolio of investments. The combination of the portfolio companies prerequisites (product, entrepreneur, market, etc.) and the VC firm's capital and expertise will hopefully lead to that the portfolio company's full development potential is utilized. When the desired growth is achieved, or when the cooperation between the VC firm and portfolio companies is no longer adding value, the VC firm realize their investment by making an exit. When investments are made in small growth companies will usually the yields of VC investments arise from the capital gain made on exit. Dividends during the investment period are usually not done, why the surplus a portfolio company generates in general can be reinvested to finance further growth. (Isaksson, 1999)

Another concept in need of a definition is private equity (PE). A common approach is to consider venture capital as a subset of the bigger PE asset class. However, as seen from Gompers and Lerner's definition, private equity is sometimes used as a synonym for venture capital. Nevertheless, VC firms mainly focus on investing in private, newly founded and fast growing companies. Besides contributing with VC private equity investors typically also invest in subsequent financing stages when the investee is more mature and also have other investment strategies. According to the European Private Equity and Venture Capital Association progressively more financial players are interested in investments in unlisted companies and thus the supply of PE firms has during the past decades grown constantly.

Furthermore, Sweden has yet another concept linked to venture capital and private equity, risk capital. Nielsen (1994) describes risk capital as synonymous with equity and state that no interest is payable on the equity capital of an enterprise. Interest should usually compensate a lender for three things, inflation, real interest rates and risk. When a company is financing another company with the help of equity the traditional interest is not disbursed. The risk is usually greater compared to a bank account and no security is given for the borrowed money. The investor hence takes a greater risk and need to be compensated for this. Instead of the regular interest rate the financier receives part of the acquired company's future profits and value growth. This means that the financier may share in any profits the company generates in relation to ownership share the investor possesses.

Figure 1 below intends to explicate the difference between venture capital, private equity and risk capital.

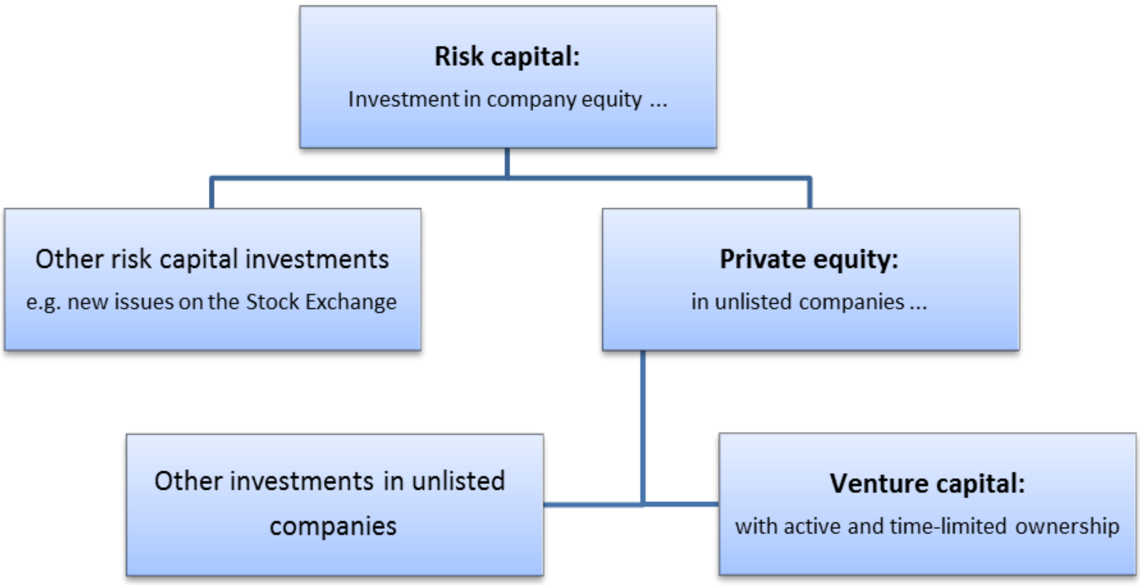

Figure 1. The difference between risk capital, private equity and venture capital (Isaksson, 1999).

2.2. Ownership structure

PE firms most often make investments from specific funds and manage several funds in parallel. Isaksson (1999) describes the different types of private equity firms. Isaksson distinguishes the firms into three different structures according to their ownership structure; independent, captive funds and state-owned.

Independent PE firms are the most common ownership structure which is owned in majority by private individuals. The independent firms are funded and managing capital deriving from external individuals, large corporations and institutional investors such as insurance companies and pension funds.

Private equity or venture capital funds that are funded completely by a single institution, such as a large cooperation, investment banks or insurance companies, are called captive funds. Captive funds are operated by employees who are called partners and investment managers working in the same manner as the independent fund partners Captive funds mostly consist of corporate venture capital firms. Hence they are not doing any PE investments and are usually included in a larger corporation whose main business is not venture capital or private equity. The venture capital activities in a captive fund are within and of interest for the parent company. These can range from subsidiaries of banks, insurance or investment companies to business units or departments in an industrial group. In recent years, an increasing number of listed industrial companies started to interest in the venture capital business, partly in order to monitor new innovations more or less likely to affect the industry and as a means for manufacturing companies to manage assets. The main difference between traditional and corporate venture capital is the corporate is usually carried out with the group's over-overall strategy in focus, while the traditional main focus is the investment portfolio returns.

State-owned PE firms are owned in majority by a government. In Sweden this category has always been one of the most active players in the venture capital and private equity market. Two major state-owned actors are Industrifonden and Sixth AP Fund, which perform PE investments both directly and indirectly through wholly or joint-owned PE companies. In recent years, the state-owned investments are increasingly comprised of joint investment projects where the state invests in independent PE funds (SVCA, 2008).

In Figure 2 an overall description of the ownership structure is presented. The figure includes all three ownership models.

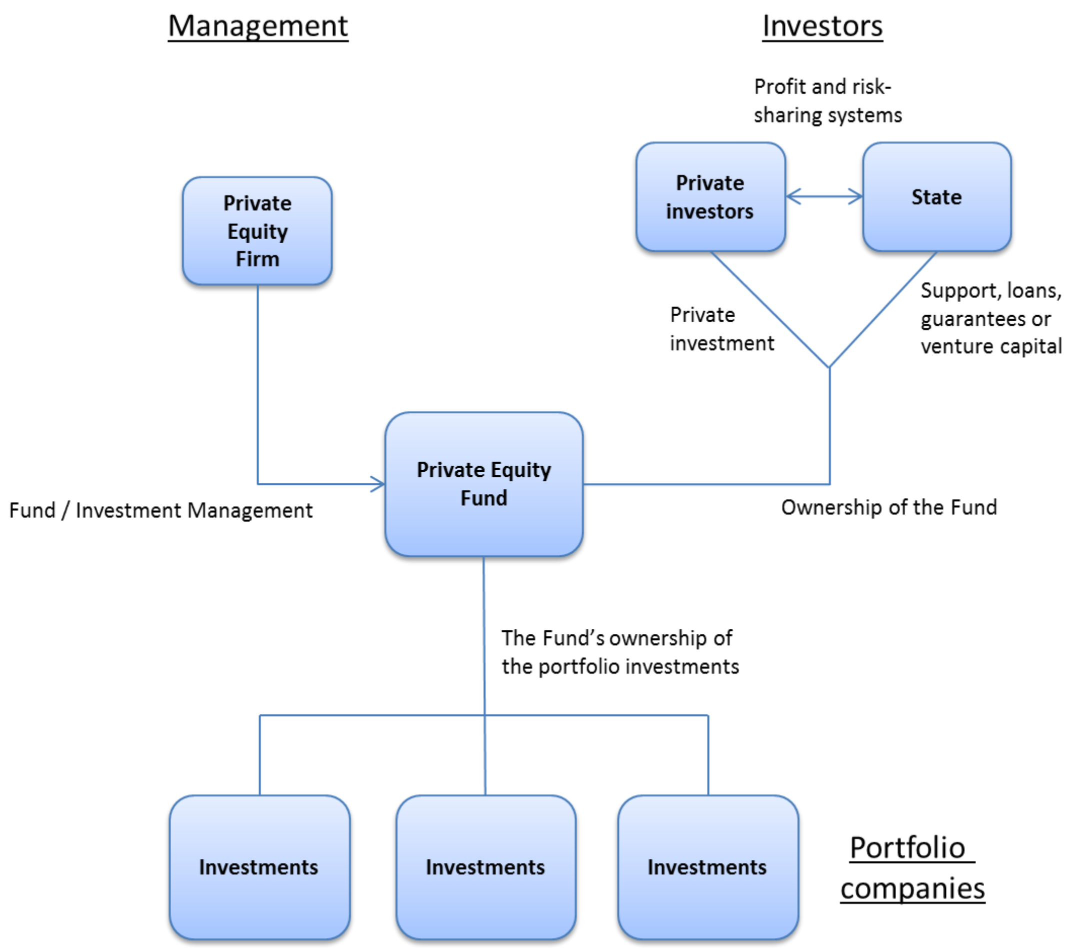

Figure 2. A model of a co-investment structure (hybrid-fund) where the state co-invests in a PE fund run by independent investors. Both investors possess an ownership share equal to their investment (inspired by Isaksson, 2006 and SVCA, 2008).

2.3. Organizational form

There are a variety of models used to organize a private equity firm. To create an understanding of a PE firms work methodology a simplified model of the organizational form is presented in the following section. The model is also valid for venture capital firms.

2.3.1. Structure

An independent private equity structure is the internationally most common form of PE firms. This includes investors and partners, which with a partnership agreement governing the firm's or specific fund's conditions. An independent firm is characterized by having several independent investors, typically institutional investors like pension funds, banks and insurance companies. Normally the firm's key persons, the general partners, invest 1-2% of fund assets into each raised fund. It is the independent management company that invites investors to invest in the funds. When a fund raising is executed, that is creating a new fund, the fund's size, lifespan and investment strategy are presented to external investors. The life of the fund is typically 10 years and the independent management company is during this period engaged in progressive multiple overlapping time-limited investment funds. When all portfolio companies in the fund have been divested, or exited, the invested money along with possible profits are being paid out to the investors and the fund is dissolved. (Ingeborn, 1999)

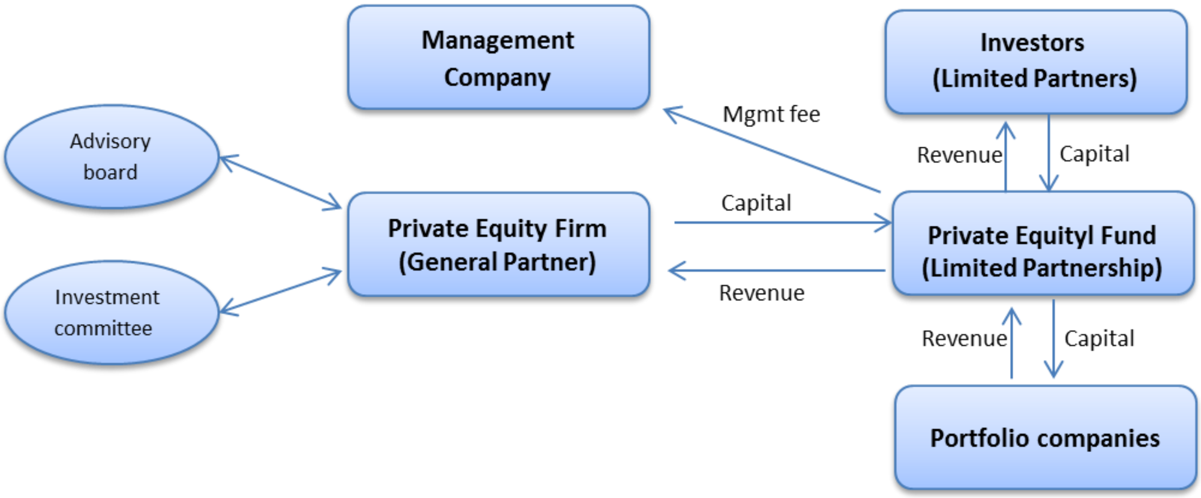

Figure 3. The structure of an independent PE firm (Ingeborn, 1999).

2.3.2. Private Equity Fund

The fund is usually a limited partnership in which investors make a financial commitment with a specified amount. Investors are part-owners in the limited partnership, while the general partners of the fund jointly own a company that is complementary. The management company receives an annual management fee for operating the fund and to cover expenses such as salaries of employees and expenses for lawyers as well as consultants. After an exit the investors' capital are first refunded and then are they given a "hurdle rate", which is the required rate of return. The possible remnant profits are split between limited partners and complementary. (Ingeborn, 1999)

2.3.3. Private Equity Firm

The private equity firm is a complementary in the limited partnership and is jointly owned by the general partners (Ingeborn, 1999). It is through this complementary as the general partners invest a smaller share of the fund's total assets. The private equity firm is responsible for the daily operational activities (Gompers & Lerner, 2000).

2.3.4. Management Company

The independent fund are managed by partners and administrated by a management company, together they are in charge of the fund's total investments. In the management company there are besides partners also employees who help with support functions. The employees have extensive knowledge and skills in analysis, due diligence processes and the operational work with the portfolio companies. In-house are also often features for reporting to investors and for internal administration. During the investment process the management company frequently hires external expertise in different areas. This may include legal and technical expertise. All the management company's expenses should be covered by the management fee. (Ingeborn, 1999)

2.3.5. Advisory Board

In both venture capital and private equity, it is common to having a scientific or industrial council, with special access to various scientific and business-oriented networks, associated with the firm. This due to the complex process of analysis and due diligence is often of scientific and technical nature. (Ingeborn, 1999)

2.3.6. Investment Committee

All investments made must be approved by an investment committee. Therefore, the investment decisions are usually recommended by the general partners to the investment committee which subsequently definitely makes the investment decision. In some cases of captive funds, the investment decisions are taken by the parent company's board of directors. (Ingeborn, 1999)

2.3.7. Portfolio Companies

The portfolio companies have only contact with the management companies' representatives. Private equity firm's general partners and selected staff are actively engaged in the portfolio company's board and serves as a strategic and operational support function. This commitment should lead to an increase in the value of the portfolio company through the points below. (Ingeborn, 1999)

- Partners will promote strong growth and that the portfolio company develops towards a satisfactory exit.
- Private equity representatives should act as advisor in strategic development decisions and growth issues.
- Private equity representatives should act as adviser for example, recruitment and organizational issues.
- Partners will provide networking and skills to the portfolio company.

2.4. Private Equity Investment Strategies

This section presents the established theories on the subject which is associated with stages of venture capital financing and investment strategies for private equity firms. There are a number of common investment strategies in private equity including; venture capital, growth capital, mezzanine capital, leveraged buyouts (LBOs) and distressed investments.

2.4.1. Venture capital financing

The first investment strategy is venture capital. It should be noted that private equity firms may have venture capital investments as part of their investment strategy, along with for instance LBOs and distressed investments. But there are also, as previously described, dedicated venture capital funds. Procedures and stages of financing is however the same for both.

2.4.1.1. Stages of venture capital financing

A company's business life cycle can be divided into a number of different phases depending on what stage it has reached in its development. An important part of venture capital and private equity firm's investment strategy is to specialize in different phases in terms of investee lifecycle. The boundaries between the different financing stages are fluid but may be broadly divided into two main stages: early stage finance, where VC is provided, and later stage finance, where PE firms mainly operate. The former can be divided into seed and start-up financing as well as early stage capital (first-round financing). Later stage finance can be divided into development capital (second-round financing), expansion capital or mezzanine financing (third-round) and bridge financing (fourth-round). Below is a brief description of the various stages of VC and PE financing in the business lifecycle. Important to note is that not all companies go through every stage in a sequential manner. Seed capital is for instance normally not compulsory by service based ventures. It applies mostly to manufacturing or research based activities. Likewise second round finance does not all the time follow early stage finance. If the company grows successfully it is probable to develop adequate cash to fund its own growth, thus does not necessitate private equity for growth. (Isaksson, 1999)

2.4.1.2. Seed and start-up financing

In the seed financing stage the investment consists of relatively little capital provided to an inventor or an entrepreneur to test a new concept or invention. Seed capital is primarily intended to fund the product development and to prove the new idea. This phase includes both work to develop the original idea as well as the preparatory work needed for future marketing and distribution, hence it is also denoted the pre-commercial seed stage. Work in seed stage consists of several sub-processes, which must be pursued in parallel. The company's expertise is gradually built up in parallel with that the business idea are being developed and refined. The costs incurred should be considered as investment costs. (Isaksson, 1999)

In the start-up financing stage the business has just started or has only been active for a short period of time. The product has not usually been tested commercially. Start-up capital is provided to the investee for product development and initial marketing. The start-up stage can be seen as a test of commercial viability of the business idea. If a prototype has been developed it should be subjected to various market tests and the preparatory work carried out in the pre-commercial seed stage must now be put into practice. The company ought to recruit staff needed to be trained for their respective tasks, the organization should be formed and production should now be started. An introductory campaign may be implemented and market contacts should be established. However, sales have not yet started and decisions on the final business plan and prototype need to be taken. (Isaksson, 1999)

In this early stage the business risk is very high due to generally no proven sales track record and no actual evidence that the business or idea will succeed. Because of the risk independent VC firms usually not provide seed or start-up capital. Instead the investors and capital come from other sources including personal savings, friends and family, business angels or a strategic alliance aiming to commercialize technology (Gompers & Lerner, 2000). However, the commercial risk falls in line with further business development and when conducted market research confirms customer demand. (Isaksson, 1999)

2.4.1.3. First-round financing - The early stage capital

The early stage capital is usually the first real round of VC financing. Funds are provided to companies that need capital to get started with commercial production, marketing and sales (Isaksson, 1999). The businesses may be marginally profitable, but most often profits are have not yet been reported. Banks are often cautious about investing at this early stage. The business typically get first-round financing from VC firms but also partly from family and friends, business angels or through a joint venture. (Gompers & Lerner, 2000)

2.4.1.4. Second-round financing - Development capital

Development capital represents the second round of financing. Development capital consists of VC for businesses that are in an early growth phase in their lifecycle and want to further improve an idea, product or service. Manufacturing and sales are increasing steadily, leading to a need for additional working capital to allow for marketing and distribution to become further established. Profits are reinvested and since the capital required is mostly too large for friends and family they are no longer a possible source of financing. Investors who provide expansion capital search for companies with a history of sales growth and profitability as well as extraordinary expansion opportunities. It is mostly first in the second round PE firms become interested along with VC firms as well as larger companies and competitors seeking to acquire the investee. (Gompers & Lerner, 2000)

2.4.1.5. Third-round financing - Expansion capital

The third round is also denoted mezzanine financing and consist of expansion capital for companies showing strong growth, rapidly increasing sales and are profitable. The funds are used expansion activities such as; marketing, working capital or product enhancements. Investors are primarily PE firms. (Isaksson, 1999)

2.4.1.6. Fourth-round financing - Bridge financing

The fourth-round financing is provided to profitable growth companies expected to be listed on a market or sold to a buyer in the near future. Hence, bridge financing is intended to finance the "going public" process. As for the third-round of financing PE firms are the main investors in this stage. (Isaksson, 1999)

Figure 4 below further clarifies the various stages of venture capital and private equity financing.

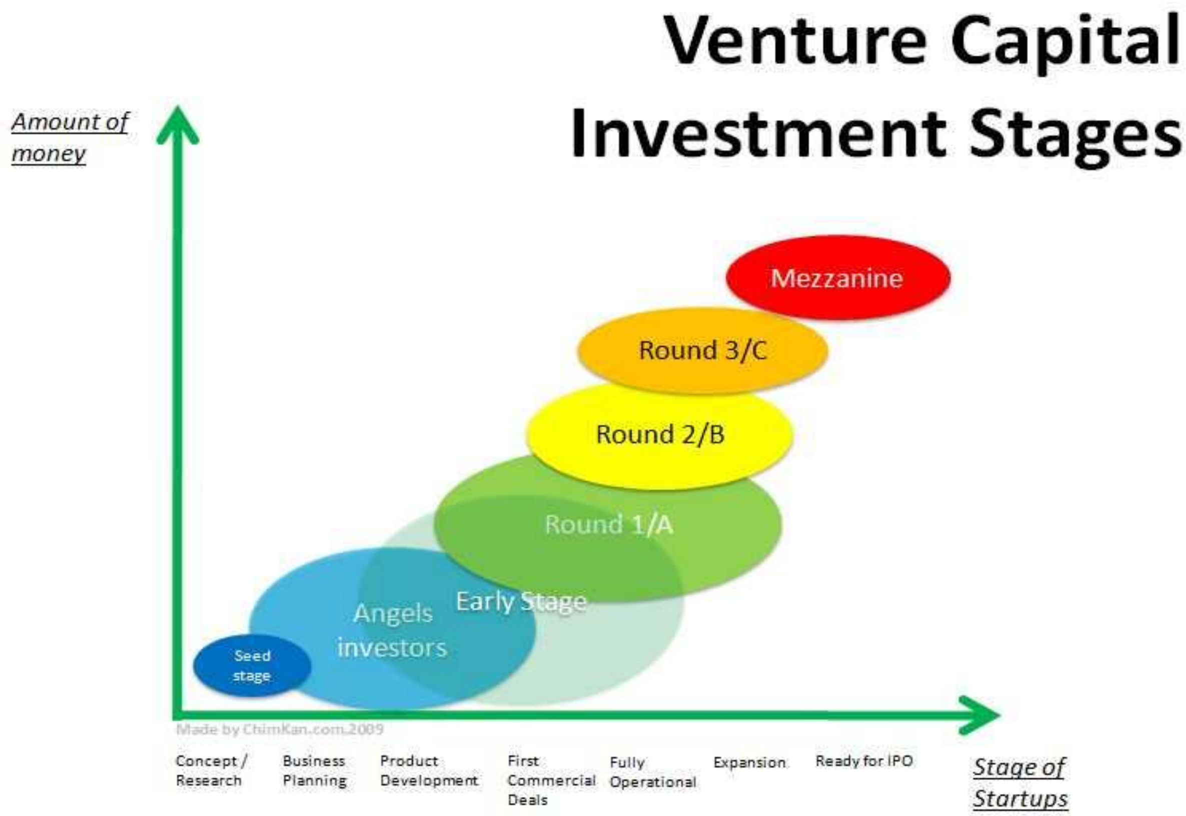

Figure 4. Stages of venture capital financing (MBA Knowledge Base, 2010).

2.4.2. Other investment strategies

The description of venture capital and private equity investments above included the majority of PE firm's investment strategies, including venture capital, growth capital, and mezzanine capital. The remaining strategies that are in need of further explanation are leveraged buyouts (LBOs) and distressed investments as well as a common approach to investing, namely syndication.

2.4.2.1. *Leveraged buyout*

When a private equity firm executes a leveraged buyout (LBO) they acquire a mature company from the current shareholders by using a fairly small proportion of own equity and a fairly large proportion of external debt financing. In a characteristic LBO transaction the PE firm becomes the majority shareholder. Hence, a LBO is significantly different from a venture capital investment since the PE firm in a VC investment usually not possesses majority ownership and the portfolio company used to be younger or more immature.

In LBOs the assets of the acquired firm are often utilized as collateral for the loans along with the assets of the PE firm. The purpose and reason to do a LBO is to enable to make larger purchases than would otherwise be possible. Additionally, the acquiring firm does not have to commit a lot of capital to the investment. (Kaplan & Strömberg, 2008)

2.4.2.2. *Distressed investments*

Under special circumstances, such as in the wake of the financial crisis of 2008, companies are forced to make dramatic changes organizational changes. As a result of financial problems, the company may become financially distressed and forced to reconstruction or put business units up for sale. This may create unique investments opportunities and private equity firms could possibly do investments and acquire companies at bargain prices. The distressed investments strategy is a wide-ranging strategy in relation to PE investments in equity or debt securities. (Keehner, 2007)

2.4.2.3. *Syndication*

Syndication is a frequently used investment strategy and means that two or more private equity firms co-invest in a company. Gompers and Lerner (2000) mean that PE investors prefer syndication primarily because they have the choice of investment confirmed by other respected sources of knowledge. Furthermore, the PE firms get a chance to test their own investment analysis and process against other investors. For a company in seed and start-up seeking venture capital financing syndication provides more available capital, expertise and support. For the VC firms syndication provide greater risk diversification in early stages of financing. Since these factors are important reasons for syndication, the PE or VC firm must be careful with their choice of syndication partners, especially for VC firms in the earlier stages. Gompers and Lerner argue that an established PE firm should not co-invest with other smaller, non- successful PE firms. Brander, Amit and Antweiler (2002) claimed that syndicated investments yield better results than own investments.

2.5. Private Equity Exit Strategies

It is fundamental to all private equity or venture capital firms that they in the foreseeable future intend to sell its investment i.e. make an exit. This section present a number of ways for a PE or VC firm to execute an exit. However, the exit strategies to be pursued usually tend to be one of the five below.

2.5.1.1. *Initial Public Offering*

Initial Public Offering (IPO) is a common exit strategy which denotes introducing a company on a stock exchange. Hence, after an IPO the portfolio company becomes listed on a stock exchange or other marketplace. The private equity firm does not sell their shares directly in connection with the listing, they typically wait for at least six to twelve months to divest its holdings in the portfolio company. The reason that PE firms are not selling off their holdings directly is often due to a so-called lock-up agreement with the broker. (Isaksson, 1999)

2.5.1.2. *Buyout exit*
Buyout or acquisition exit is sale to an industrial buyer. At this exit the entire company is sold to a third party, in exchange for cash, shares of the acquiring company or other assets. Often the portfolio company is purchased by a strategic buyer, a company in the same or similar industry who wish to combine or expand the company's product or technology by means of the new investment (Cumming and MacIntosch, 2003). Isaksson (2006) state that the buyer is regularly a larger established company who need the technology or market the portfolio company has access to. Both PE and VC firms do this type of exit.

2.5.1.3. *Financial exit*
Financial exit means sale to a new financer, usually a strategic buyer or another private equity firm. The difference between an acquisition and financial exit is that in the latter the PE firm only sells its stake to a third party. Entrepreneurs and other investors preserve their holdings in the portfolio company. If the third party is a strategic buyer it is most often looking for a way in the future seek to acquire the entire company. As for buyout exit both PE and VC firms might do a financial exit. (Cumming and MacIntosch, 2003)

2.5.1.4. *Buyback exit*
Buyback exit implies that private equity or venture capital firm sells its holdings in the portfolio company to the entrepreneurs behind the project (Cumming and MacIntosch, 2003).

2.5.1.5. *Management buyout*
Management buyout (MBO) is an exit strategy where the private equity or venture capital firm sells its holdings to the management of the portfolio company. MBO can be seen as a variant of buyback exit in which the management has a strong investor as co-sponsors. This co-sponsor is often another PE firm. (Isaksson, 1999)

2.5.1.6. *Write-off exit*
A write-off exit is characterized by a failed investment in which the investment has not met the stated rate of return. The private equity or venture capital firm may completely leave the investment, which is often associated with bankruptcy or liquidation of the portfolio company. Moreover, the investment firm can also continue to work with the portfolio company and retain its holding. But the firm then usually writes down the assets of the investment on its balance sheet (Cumming and MacIntosch, 2003). When an investment fails, there are a number of emergency solutions to choose from when the other exit strategies have become outdated. The investment failure can be the basis for reorganization, amortization, liquidation or bankruptcy. Bankruptcy is typically the last solution that investment firm would take. (Isaksson, 1999)

2.6. Performance Parameters
Private equity and venture capital firms may have unlike performance parameters and also characterize a successful investment in a different manner. It depends on their specific investment objective and investment focus. Normally, high profits and revenue growth are the primary objectives, but this may not be the only priorities. Most state-owned PE firms have other performance parameters to consider when evaluating an exited investment. To mention a few examples of other performance parameters than profit it may be knowledge growth within a specific region, growth of a cluster, larger business angel networks or more attention given to the portfolio company’s industry (Wang and Sim, 2001). When PE firms are compared, it is important to take into

account that the performance parameters may differ and that they prioritize the various parameters differently. If not all comparison objects primarily prioritize profits the comparison can give wrong results.

Wang and Sim (2001) mean that the different exit strategies have a certain ranking. They argue that PE firms, especially the independent, are very concerned about their reputation and the best way to get a good reputation is to produce successful IPOs. Most PE firms ranks exit options pursuant to: IPO, acquisition exit, financial exit, buyback and MBO exit and bankruptcy. Wang and Sim believe that there therefore is a correlation between the portfolio companies' revenue growth and exit. The companies that are considered well suited for the stock market also exhibit the best growth in revenue or value.

2.7. Industry forecasting

Most of us rarely miss the daily forecasts in television and other media. It can be about sales forecasts, weather forecasts, population growth projections, cyclical forecasts and so on. Company wise projections are needed for production and inventory planning, marketing, finance, personnel and management (Krajewski et al., 2007).

Business and industry forecasts mainly help companies to plan their upcoming activities. It provides valuable assistance since it enlightens the effect of the more general context of the marketplace. A forecast serves as a complementary tool along with a company's own belief of the future. Without forecasts it would be difficult for a company to put up a workable plan for their business and to make the right decisions. In contrast, a forecast should not be taken for granted, but reviewed and compared with other options. The main reason not to take forecasts for granted is that poor forecasts can be produced due to inadequate data. Hence, making decisions based on a forecast is no guarantee of success. To minimize the risk of making wrong decisions different forecasting methods and models should be used. (Krajewski et al., 2007)

Depending on what is to be predicted, it is important that the right kind of forecasting model is being employed. Forecasting can be both qualitatively and quantitatively. When companies do not have sufficient data to conduct a full-scale statistically based forecasting process qualitative decision models are suitable. It occurs particularly in connection with the introduction of a new technology or product, because historical data is often inadequate or completely missing. The company must then rely upon the management expertise and experience in order to generate forecasts. Qualitative decision models require the most resources and are therefore considered to be the most costly forecasting method. The disadvantage of qualitative forecasting methods is the lack of statistical calculations. Moreover, qualitative methods are highly dependent on human experience and estimations, which makes them less objective than quantitative methods. Quantitative forecasting methods are more statistically determinable. However, they are only possible to create if there is access to a sufficient amount of historical data. Quantitative methods are based on statistical calculations and consist largely of causal methods and time series analysis. If the right data are used, quantitative methods are assumed to be good tools for assessing future developments in the studied area. (Armstrong, 2001)

The most central concepts and terms in the above theoretical framework are the differences between venture capital and private equity investments. In addition, the various investment strategies and how these might affect the venture capital or private equity firms performance parameters.

3. Methodology

In order to achieve the main objective both primary and secondary data must be collected. This chapter intends to present both my method for review of primary data as well as review of secondary data. Following the presentation of the empirical material this chapter begins with discussing secondary data sources.

3.1. Method for review of secondary data

This section intends to discuss my research approach and viewpoints. This will give a deeper apprehension of the research progression as well as the process of creating the theoretical framework. Finally, a description of how the secondary data were gathered along with criticism of the data sources will be presented.

3.1.1. Research Approach

There are two fundamental research approaches, the inductive and deductive approach (Bryman & Bell, 2007). Owing to the research question and subject of study, an inductive or deductive approach might be most appropriate. With an inductive approach the researcher ratiocinate from empirical findings and moves from observation to creating theories. The deductive approach is the opposite, the researcher draw conclusions from theories and attempts to validate if these are possible to apply in reality or will become rejected (Ghauri & Grönhaug, 2002).

The deductive research approach is the predominantly basis for this study since I utilized theories to support the gathering of my empirical findings and conclusions. In addition, I have also taken a minor inductive perspective. This because there is a shortage of theories I could use since this specific research topic is relatively unexplored. Hence, present practices directed me to a few theories relevant for the study which prepossessed an inductive approach. In a deductive research approach there is a possibility and risk to be too dedicated on verifying the theory and less considerate about empirical findings (Fejes and Thornberg, 2009). I do consider the deductive research approach as the main approach since present theories have facilitated to clarify the empirical findings. However, I do not consider the risk of being too dedicated on verifying the theory to be significant in this study.

3.1.2. Research Viewpoints

The subsequent section is intended to provide the reader with insight into the author's understandings of fundamental questions concerning how knowledge is beheld and how reality is viewed. According to Fejes and Thornberg (2009) it is central to realize that the way the researcher apprehend the research questions will impinge the research design and therefore also how theories and findings are being expounded. Therefore, I will highlight two important matters in the following part, *Epistemology* and *Ontology*.

Epistemology denotes what knowledge is regarded as acceptable and describes the process of creating of new knowledge. The two foremost approaches for creating new knowledge are *positivism* and *interpretivism*. Merely knowledge created by "real" facts or means is considered to be acceptable knowledge from a positivistic viewpoint. This kind of knowledge is classified as objective knowledge because the knowledge is severer to bias. Conversely in the interpretivism view, knowledge is created based on feelings and attitudes that external parties not can observe. Hence, the interpretivistic approach proposes that the researcher need to understand the respondents or people of interest and in what way the reality hinge on the individuals that interpret it (Saunders et al., 2007). The positivistic approach is mostly employed when research items and facts are identifiable in reality, for instance when vast amount of data is gathered in management and business research. Nevertheless, a number of experts contend that the interpretivistic approach is more appropriate in business research since each organization is peculiar and due to the convoluted situation inside an organization (Saunders et al., 2007).

Ontology denotes the nature of reality and the two most important approaches are *objectivism* and *subjectivism*. Objectivism put forward that the real world subsists outer to social actors. In contrast, subjectivism proposes that a social phenomenon is generated out of the insights and observations of social entities and it argues that this real world is continuously shifting (Saunders et al., 2007).

In this study I have taken an interpretivistic approach on how knowledge is regarded and the subjectivistic viewpoint in terms of the nature of reality. I think this is a good approach to the study since, as previously mentioned, the purpose is to identify trends in private equity investments in the automotive industry. Moreover obtain an understanding of the supply of automotive-focused private equity firms worldwide, and try to distinguish similarities and differences in how these companies operate and perform. The ultimate goal is to thereby generate knowledge and identify potential partners for Fouriertransform AB.

3.1.3. Secondary data

Secondary data constitutes a significant part of the study since it supports the ongoing procedure of answering the research questions as well as make public information in the selected topic accessible. Moreover, secondary data make information collected by preceding researchers available. However, it is vital to be aware of that their purpose may have been different. (Ghauri & Grönhaug, 2002)

The gathering of secondary data has mostly been done from Chalmers University library and the databases which are made available as a student at Chalmers University. I began with searching for relevant business articles dealing with private equity and venture capital. To obtain information concerning automotive-focused private equity firms and public information available in the area I used Google as a general search engine. Important to note in order to obtain accurate results is that the American term for sector-focused is only focused. Additionally, related publications and other material of interest have been provided by my supervisor, Jonas Hjerpe, as well as from Fouriertransform.

The public information available on the subject of automotive-focused venture capital firms where very limited. However, with initially very little information the amount of collected information gradually increased when contacts and respondents recommended new sources of data.

Concerning the public information available and existing practices used by automotive-focused private equity firms I had great difficulty finding information and practices immediately suitable for this study. Probably because automotive-focused private equity firms still globally is a relative new and unexplored investment focus. Nevertheless, I found it important before making my empirical study to search for existing practices in order to obtain a comprehensive understanding of how private equity and venture capital firms operate. This required me to exploit comparable research and relate it to my research, even though these studies had a rather different focus. For instance, studies addressing private equity investments in general, without a specific investments focus, have been used.

Additionally, important sources of information have been the Swedish Private Equity & Venture Capital Association (SVCA), European Private Equity & Venture Capital Association (EVCA) as well as National Venture Capital Association's (NVCA) website´s together with their knowledge networks. Their website´s and contacts have been used as a complement to my qualitative study. In the empirical method chapter the primary data will be in focus and further discussed.

3.1.4. Criticism of Secondary data

This part intends to revise the secondary data employed in the study. More specifically discuss the validity, reliability and relevance of the data sources. The data is considered reliability if it is valid and gauge what is intended, if so the data is accurate and of relevance for the study. However, according to Ejvegård (2009) it might be problematic to classify the data properly, at least deploy a subjective opinion to the data's fulfillment concerning these requirements. In the process of finding relevant business articles Business Source Premier has mainly been used. I consider this source reliable as peer reviewed has been utilized to increase the reliability of the articles, which means that at least two independent people objectively have read the article before it was published. Nevertheless, when Google has been used to search for information I have been using my own judgment to evaluate the criteria. But as my data several times previously been quoted by other authors and were public articles, I found no motive not to take advantage of the information available. (Ejvegård, 2009)

I found governmental publications and reports from larger organizations reliable as a result of its origin. Additionally, prior to employ any information it has been evaluated regarding its relevance for the study and notable data not important for this particular study has consequently been excluded. Regarding to the validity of my data, I have not completed a profounder assessment of the secondary data sources. Consequently I do rely on that published articles and reports from governmental bodies and larger organizations are reliable and measure what they expect to do. However, I have employed all the data with an unbiased approach and attempt to evaluate the data from the reliability, validity and the relevance viewpoint.

Furthermore, critic can be directed to that information used in a few sections in the study relates to general private equity firms, rather than more desirable only automotive-focused firms. This is only because I found it very difficult to find specific automotive -focused information. However, the information presented in these sections is concepts and practices all related to private equity despite specific focus, I therefore found them appropriate for the study. Moreover, criticism can be directed to that certain conclusions are drawn from a small number of cases. This is because I have found a very few number of private equity and venture capital firms globally who are focused on the automotive industry. Hence, there were few potential comparison objects available in this study, and even fewer who were willing to share information.

Regarding the oldness of the data I have used selected older sources in the theoretical chapter. The comparatively old articles were used as they all are important and frequently cited literature and articles in the topic of private equity. Hence, I considered it more correct to refer to the original source, as I still today find them useable and topical in the area of private equity.

3.2. Method for the empirical study

With the aim of achieving the main purpose primary data must be acquired. This section depicts the empirical study's research design, research procedure as well as the sampling frame. This is followed by a presentation of the interview guide and a short analysis of the completed interviews. However, it has to be stressed that the interviews are only a stake of my empirical study, accompanied by company reports. Finally, the quality criteria´s for the empirical findings will be discussed

3.2.1. Research Design

What I took into consideration in the choice of research design was; that the chosen research method must be the most appropriate for the purpose of the study and also enable me to answer the research questions. Additionally, that the sources I use in the study must be the most suitable to collect relevant and needed data for the study from. As stated by Saunders et al. (2007) the research question ought to decide choice of method. As the purpose of this study is to analyze the trends in private equity investments in automotive, understand the supply of automotive-focused PE firms worldwide as well as their way of working, the research method is designed to support this purpose. I have assorted three unrelated sources of information whereby the desired data can be obtained; interviews with people holding a deep knowledge of the private equity and venture capital industry, objective and independent company reports as well as secondary data collected from the websites of the PE associations.

The research method I utilized is an assortment of primary and secondary data. This combination is progressively used in business and management research. Saunders et al. (2007) also argues that engage with exploratory research provides the investigator with a movability and flexibility to modify the bearing of the study as new understandings arise.

I have work with *qualitative data* as well as *qualitative data analysis* in this study. Qualitative data analysis is usually related to interpretivism and subjectivism. Quantitative data and quantitative data analysis have not been utilized in this study since it is linked with positivism and objectivism (Bryman & Bell, 2007). The connection between these concepts can concisely be depicted as qualitative data deal with words while quantitative data consider numbers (Bryman & Bell, 2007; Saunders et al., 2007)

Two frequently exploited research methods to collect data in qualitative research are interviews and qualitative analysis of documents and text (Bryman & Bell, 2007). As mentioned previously, both research methods have been employed in this study. Moreover, while the inductive approach is commonly used in qualitative research the research approach in this study is associated with the deductive approach as precedent argued in section 2.2.

3.2.2. Qualitative Study

According to Bryman and Bell (2007) a *semi-structured* interview implies that certain topics are introduced and the respondent is stimulated to speak fairly liberally around the topic. This interview type conduce flexibility as well as the opportunity to ask supplementary questions if necessary (Bryman & Bell, 2007) A different type of interviews are the *unstructured*, which is correspondingly often used within qualitative research. In the unstructured, or also termed in-depth, interviews the interviewee are encouraged and anticipated to talk utterly free about a topic without having structuring questions asked by the interviewer (Saunders et al., 2007).

By reason of the purpose of the study and hence the specific research area I perceived it difficult to obtain the desired information through unstructured interviews. Therefore all of the interviews in the study were conducted in a semi-structured manner. The interviews with people with profound knowledge of the private equity and venture capital industry were both with employees of several venture capital and private equity associations and with partners or employees of automotive-focused PE firms. The former were intended to provide insight into how the automotive-focused PE industry is enclosed and the interviewees' visions of its future development. The interviews with PE and VC firms which are working with investments in automotive were designed to give insight into their organizations. The structure of the two interview guides will be presented in more detail in section 4.4. This way of asking questions concerning different topics and then to compare the interviews would not have been feasible with unstructured interviews. By conducting semi-structured interviews I had also during the interviews possibility to ask additional questions to obtain supplementary information about any specific topic.

The interviews were carried out through video calls via Skype and face-to-face. Because of the restricted timeframe and the geographical distance the majority of the interviews were completed through video calls. In the following paragraph will criticism and possible problems with conducting video interviews be presented.

In my critique I equate a video interview with a telephone interview, despite the fact that both parties have visual contact in a video call. This is due to that I claim the emotional presence is nearly the same during a video interview as in a telephone interview. Hence, as in a telephone interview the opportunity for establishing trust between the interviewer and the interviewee is slightly restricted in a video interview compared with a face-to-face interview. This could cause lower reliability since the interviewee is less eager to answer sensitive questions. Another concern associated with telephone interviews is the lost possibility to recognize non-verbal communication (Saunders et al., 2007). Even though I conducted video interviews this happened to me. During one interview the video link stopped working and one half of the interview was done without visual contact. However, I consider the questions in this study not to be sensitive since they are not linked to any personal context but instead to the association or company the informant represents.

3.2.3. Selection of Respondents

Since the purpose of this study was to find trends in private equity investments in the automotive industry as well as to distinguish PE and VC firms with this investment niche I found it most appropriate to contact PE and VC associations as well as PE and VC firms with investment focus on automotive. The mode of procedure was that I first turned to potential interviewee's website aiming to find a suitable person to contact. Subsequently, an e-mail was sent where I presented myself and explained why I choose to contact them and my purpose with the study. This was conducted to provide the possible interviewee with information and showing my interest of performing an interview. I then followed up my initial contact with telephone calls where I had the possibility to refer to the e-mails that in advance had been sent.

All major global PE and VC associations were initially contacted, but since the response rate and willingness to share information among these was low there were only a handful of potential interviewees. After much searching for VC and PE firms worldwide merely focused on automotive I realized that the supply of these was very limited. Furthermore, a number of companies declined to discuss my issues. Hence, also here the number of potential interviewees was very limited. Despite this, I found informants that possessed the knowledge I desired to receive from the interviews. Additionally, they were dedicated to answer my questions which meant that I was allowed to ask follow-up questions and got a very good insight into their business. In table 1 below the participating interviewees are presented.

Table 1. Interviewees in the study

Respondent	Professional role	Company	Date of interview	Type
Respondent A	CEO	Swedish Private Equity & Venture Capital Association (SVCA)	2011-05-18	Video call
Respondent B	Professor in Venture Capital	Stockholm School of Economics	2011-05-27	Face-to-face
Respondent C	General Partner	Motoring Ventures	2011-06-08	Video call
Respondent D	Former CEO (resigned 2011-06-01)	Volvo Technology Transfer (VTT)	2011-06-08	Video call
Respondent E	Membership and Development Manager	Hong Kong Venture Capital and Private Equity Association (HKVCA)	2011-06-17	Video call
Respondent F	Senior Analyst	Fontinalis Partners	2011-06-20	Video call

3.2.4. The Interview Guide and Interview Procedure

Prior to the interview I found it needed to introduce the respondent with a brief description of my purpose with the interview. Hence, my intention and background were clarified and the risk of confusing the interviewee with unfamiliar concepts was minimized.

Two interview guides were designed and created; one guide for the interviews with the associations which intended to provide an overview and understanding of the automotive-focused private equity industry. The guide was used in the interviews with firms and expected to give me a deeper understanding of how firms operate and has performed. The interview guides was when finalized sent out to all interviewees minimum one week prior to the interview. The reason that this was done was to give the interviewee opportunity to prepare for the interview and be capable of provide me with more comprehensive answers. In some cases, this resulted in the interviewee had prepared material which they subsequently sent me. I believe that this approach resulted in that higher quality information was obtained from the interviews.

The interview guides were divided into several parts. Both began with some introductory questions, which were included in order to be introduced to both the interviewee the organization he/she represents. The subsequent parts differ between the two and represent different subjects related to the purpose of the study. The interview guide destined to give rise to information concerning the general automotive-focused PE industry was used in the interviews with respondent A, B and F. Consequently, the other guide was used in the interviews with respondent C, D and F. Semi-structured interviews embolden informants to talk without restrictions about the subject. This was also what happened during all of the conducted interviews. As a complement to the respondents' outspoken answers clarifying and supplementary questions were asked during the interviews. The interviewees were in a few cases supported with examples of what I meant with a specific question. The questions and the presentation of the interview guide were based from my theoretical framework. The focus of the interview guide was derived from the purpose of the study and my intention that through the interviews to obtain information that will help me answer the research questions. The interview guides can be found in the appendix.

3.2.5. Quality of the Research

When evaluating research studies two concepts are especially important to consider, the *validity* and *reliability* (Eriksson & Wiedersheim-Paul, 1999). Validity invokes accuracy of the study, which is whether the research method measures what it is supposedly to do. Reliability denotes if the study lead to reliable findings (Saunders et al., 2007). These concepts are usually applied in quantitative research and researchers are not agreed if they similarly can be used in qualitative research (Bryman & Bell, 2007).

Bryman and Bell (2007, p.306) quote Guba and Lincoln (1994) as they claim that an entirely new criteria's are required when assessing qualitative research. The authors propose that these should evaluate aspects as authenticity, conformability, credibility, dependability and transferability. Conversely, Bryman and Bell (2007) mean that the deep-rooted concepts of validity and reliability also may well be used in qualitative research. However, they cannot directly be applied as in quantitative research but must be modified and in order to be suitable for qualitative research. In this research I used the old concepts of validity and reliability, though adapted to better fit this study.

3.2.5.1. External reliability

Bryman and Bell (2007) denotes the issue that bothers with the possibility to replicate the conducted quality research as external reliability. The author claim that since the social environment is continuously shifting it is severe to construct an identical status quo in the future. Bryman and Bell propound that if an investigator wishes to reproduce a qualitative study, they ought to create the same social setting as the preceding investigators.

The process of my study has in a detailed manner been elucidated and described. This simplifies significantly for subsequent researchers in the process of replicating this study and I see no impediment to do this.

3.2.5.2. External Validity

The transferability of a study is an important issue and the external validity concerns with this ability. Another commonly used notion for external validity is generalizability. It relates to the potential problems of having the research findings transferred to a different social setting (Bryman & Bell, 2007). Research is often based on a specific and unique social environment, for instance an organization. According to Bryman and Bell (2007) it can therefore be complicated to prove that the findings can be applied a different social environment. The authors claim the transferability can be increased by clarifying each step in the research process in a detailed and exhaustive manner.

It should be noted that this research deals with ever-changing and often unique concepts. As this study focuses on automotive-focused venture capital firms the possibility for a larger samples size was strictly limited. Nevertheless, despite the limited number of automotive-focused venture capital firms, I believe the findings in this study provides a relatively correct and representative picture of the supply of automotive-focused venture capital firms as well as the trends in automotive venture capital investments.

3.2.5.3. Internal Reliability & Internal Validity

The last two important issues to highlight and take into account are internal reliability and internal validity (LeCompte and Goetz, 1982). To satisfy these criteria a consensus in the team of researchers regarding the way of analyzing and interpret the collected data is required. Moreover, are conformability among the conducted empirical investigations the developed theories developed a necessity.

I have been very aware of these criteria and the two interviews conducted in Swedish have before being analyzed carefully been translated into English not to miss or misinterpret result. Additionally have all written information been acquired in English. The purpose of the study and central concepts was properly described to the interviewees prior to all the interviews. Therefore, I maintain that all information is acquired and analyzed on an equal basis. Hence, by constantly maintaining the same approach and structure in the information gathering and analyzing process, I argue it is possible to draw conclusions from collected material in the study.

As a result of the structure of gathered information it should be emphasized that in the presentation of the empirical material primary and secondary sources are mixed, hence also the analysis of the both.

4. Empirical Findings

In the following chapter the empirical findings of my qualitative study are presented. First are the current situation and trends in private equity investments in the automotive sector depicted. Next are two selected private equity companies that are completely focused on investments in automotive considered. This in detail means depiction of their investment focus, work methodology and historic performance. The objective with this chapter is to present my result which I later will discuss and ratiocinate from in order to be able to answer my research question.

4.1. Investments in the Global Automotive Industry Sector

This part intends to present the macroeconomic background to the current situation in the automotive sector. Thereafter describe the need and opportunity for private equity investments in automotive, particularly in the supplier segments. The access to data were very limited but the presented information below is derived from interviews with experts, essentially respondent A, B and E, as well as company reports they gave me access to. I have in most cases through third party sources been able to confirm the authenticity of the interviewee's information. In the few cases I have not been able to verify the authenticity through third-party sources I have in subsequent interviews asked if they have any insight into this data. If neither the next interviewee could confirm the information it has not been included in the findings below.

4.1.1. Macroeconomic Development

In recent years the global economy has been highly volatile and is still uncertain and unpredictable. The main reasons for the volatile process are of the recent economic slowdown, the continued uncertainty as well as instability in financial markets worldwide.

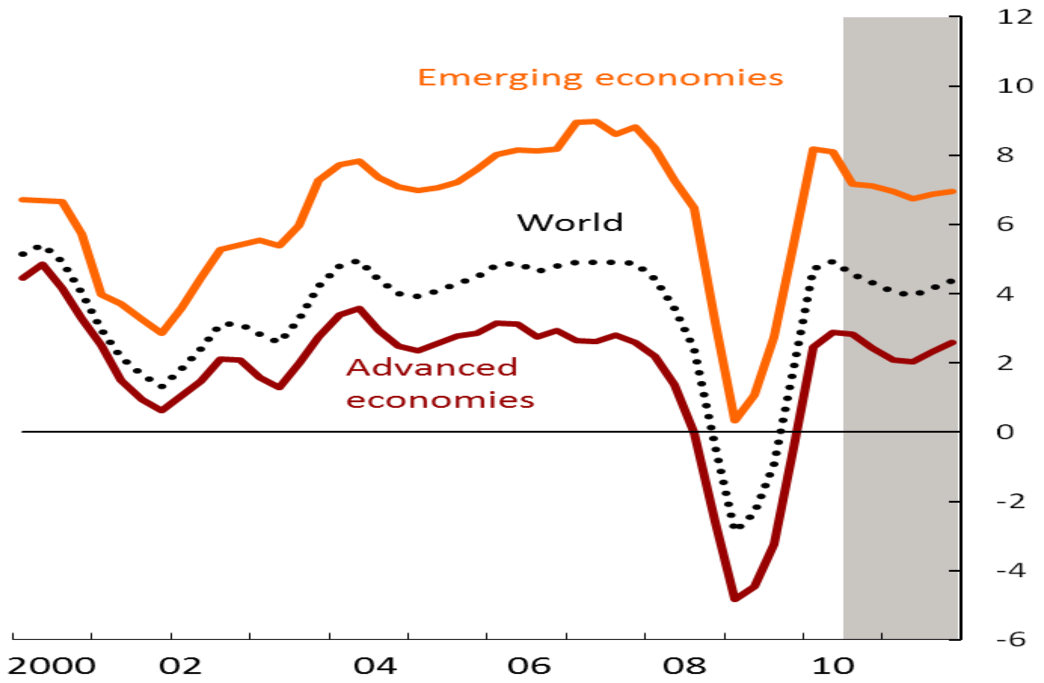

Figure 5. Real GDP Growth, percent change from a year earlier (IMF, 2010)

The worldwide slowdown in economic growth has been especially noticeable in the advanced economies, particularly in the United States, Western Europe and Japan. According to an expert in financial economics the continued development in these countries is very difficult to predict and the likelihood of a recession is substantial. However, nearly the opposite situation prevails for the so-called BRIC countries (Brazil, Russia, India and China) which have suffered less from the economic crisis as well as recovered quickly and demonstrated a continued ability to grow.

The interviewed experts pointed out that the future outlook is very difficult to assess and it is hard to evaluate the impact of potential upcoming financial market distortions. However, there is a consensus that the current market governmental interventions worldwide increase the chances that the financial markets will stabilize.

4.1.2. Impact on the Automotive Industry

The economic downturns we are experiencing have impact on most global industrial sectors and markets, including the automotive sector. The main impacts on the automotive industry originate from increased commodity prices and declining customer demand (respondent A).

Compared to many other industries the automotive sector is highly cyclical and especially vulnerable to variations in the overall economic conditions. Hence, a clear correlation between global GDP growth and automotive production volume can be identified. In fact, even the smallest decline in GDP growth has historically had negative effects on the performance of the automotive industry, with adverse effects on the entire automotive value chain. The recent economic decline has broken a period of relatively stable growth during the 21st century in terms of automotive production volume. The main reason for this steady growth is constant global GDP growth along with an increased demand in the BRIC countries. However, in the wake of the financial crisis in 2008 vehicle sales decreased abruptly. This was mainly due to falling discretionary spending as a result of expected economic downturn as well as fewer attractive financing offers caused by the financial crisis. Because of this collapse of vehicle sales many car manufacturers and suppliers experienced great difficulties. The OEM suppliers suffered especially hard when theirs, in many cases, only customer cancelled the orders or the payments were defaulted. The suppliers' great dependence on a few automakers caused significant financial problems (respondent B and KPMG, 2010).

However, it has been shown that the demand in the BRIC countries have fairly well recovered, mainly due to the historical constant growth meaning they have a history of being less cyclical. The reason why the Triad countries (EU15, Japan and USA) not have recovered as quickly could have several causes. As stated by respondent A, it may partly be because the Triad countries are still financially stressed, but also since current alterations in car technology are yet rather uncertain and customers are waiting for clear directions for which technology that will become persistent in the future, such as hybrid, electric or fuel-cells.

4.1.3. Global Merger & Acquisition Trends in the Automotive Industry

According to respondent B, data from Thomson One Banker reveals that there was a slight decline in the deal volume of merger and acquisitions (M&A) in the global automotive sector in the wake of financial crisis during 2008. However, the disclosed transaction value showed a more noticeable decline, from $31.6 billion in 2008 compared to $57.2 million in 2007. This lower figure persists as the disclosed transaction value during 2010 was $29.4 billion.

Many good investment opportunities arose in 2008 and 2009 caused by distressed M&A which forced many companies to put business units or even the whole company up for sale. The company could also become possible to acquire after a restructuring or bankruptcy. Additionally, the valuation decreased dramatically as it in a healthy market used to be 6-7x EBITDA, but now instead were at 3-4x EBITDA. This meant that the opportunities for private equity firms to make acquisitions at bargain price were many. This caused that the deal activity increased considerably in 2009. However, the average deal size remained at a low level due to the low valuations.

In 2009 Europe and the Middle East regained their dominant positions regarding M&A activity in the automotive sector. Among them was the deal activity highest in Germany, who alone represented 35 percent of global activity in automotive. This figure compares with nearly 30 percent in 2008. It must be highlighted that this figure includes more actors than private equity firm. They are included in the M&A activity, but Europe's prominent position is heavily influenced by the fact that many M&A's was completed between companies during this period, without the involvement of private equity. Nevertheless, Respondent B means that 2009 was a very turbulent and dynamic year considering private equity activity within the global automotive sector, this is especially valid for the United States. This was mainly due to the global financial crisis and subsequent downfall of vehicle sales in the United States resulted in financial, operational as well as structural restructuring of the industry.

Moreover, respondent E claims that car manufactures in the emerging markets have during the downturn benefited from investment opportunities the crisis induced. They have taken advantage of that the amount of distressed M&A increased significantly during 2008. This is reflected in particular by that car manufactures in the BRIC countries have made strategic as well as opportunistic cross-border acquisitions at bargain prices. Respondent E mean that data from Thomson Financial also uphold the overall trend that emerging market manufactures, particularly in China and India, is gradually becoming net exporters of capital as they take advantage of their financial strength and exploit their fairly simple access to funds.

For the M&A history of 2010 respondent D referred to a report written by PricewaterhouseCoopers (PwC). The report indicates that the number of deals was about the same in 2010 as both during 2008 and 2009. However, regarding the disclosed deal value 2009 was an exceptional year with many distressed M&A deals as well as government-driven bailouts. This can be seen in figure 6 below. The reason that the disclosed deal value is extraordinary high in 2009 is partly because US Treasury facilitated the total disclosed value with $82.4 billion, for instance to the reconstruction of General Motors. In addition, two mega-deals conceived in 2008 were completed in 2009, which also affect the statistics significantly.

PwC (2011) have counted to 521 closed automotive M&A deals worldwide in 2010, with a disclosed value in total of $29.4 billion. PwC has noted that the deal activity is moving upstream in the value chain as car manufacturers divest non-core assets, reinforce core competencies and engage new customers or market. Hence, the majority of the deals in 2010 were M&A of component suppliers. The increased deal activity in Europe, which was shown also in 2009, consisted in 2010 where Europe accounts for almost 50 percent of worldwide automotive M&A deals. Asian activity continues to be very important and the trend is that the number of deals is growing rapidly. In a regional standpoint, Asia stood in 2010 for the leading share of global disclosed deal value of $11 billion, in comparison with only $2 billion in 2009. Moreover, PwC state that the automotive sector seems return to growth after a recession period since 2007.

In figure 6 below the historic development of global automotive M&A deal volume and value can be seen. However, the extraordinary circumstances in 2009 should be taken into consideration and corrected for when comparing the disclosed deal value for the years after the financial crisis.

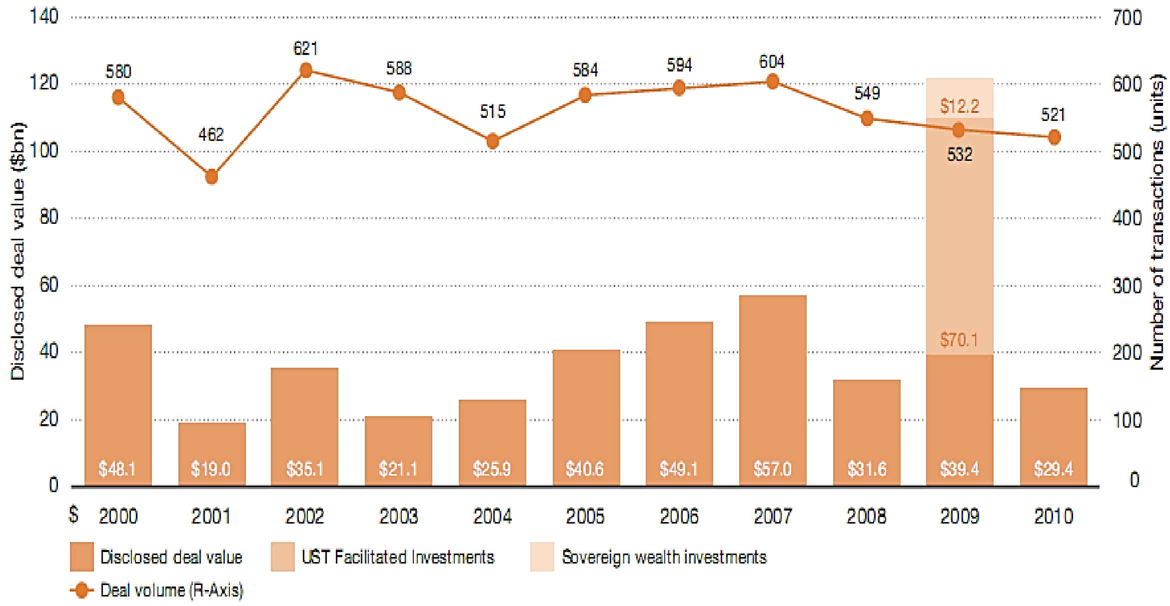

Figure 6. Global automotive M&A deal volume and disclosed deal value (PwC, 2011 p.2)

Figure 7 illustrates the rapid increase in activity now occurring in Asia. The focus is especially in China and India.

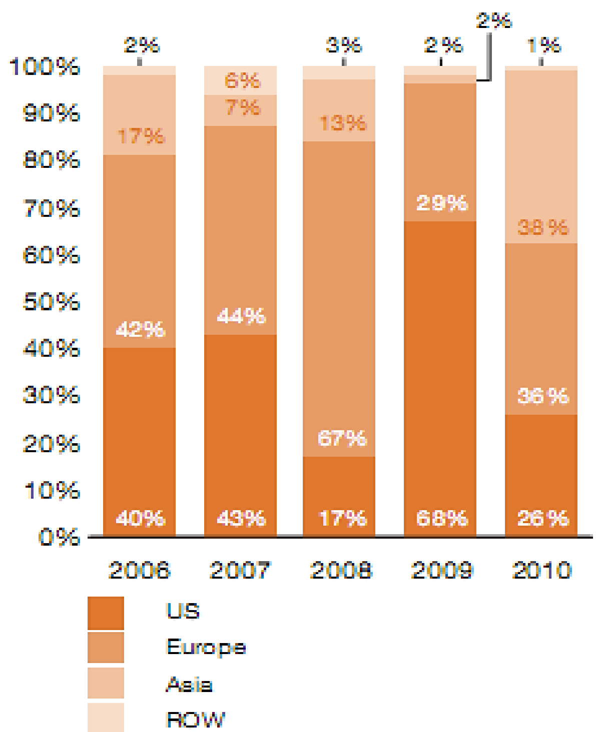

Figure 7. Share of global disclosed deal value by target region (PwC, 2011 p.8)

4.1.3.1. Financial Capital in the Automotive Industry

As previously stated it is important to note that all M&A activity are not originated from venture capital or private equity capital. Deals can also be made between companies without the involvement of other financial capital. It is therefore essential to also consider the development of financial capital in the M&A activity. Financial capital in PwC's report (2011) represent those buyers whose main business activity cannot be traced to the automotive sector such as venture capital, private equity, banks, hedge funds etc. According to PwC especially PE showed a continued strong interest in making deals within the automotive sector during 2010. But due to limited credit and funding possibilities the numbers of deals completed by financial buyers were limited. Furthermore, PwC believe that financial buyers' automotive holdings over the past five years have been less prosperous. Therefore they are most likely to search for opportunities to monetize their current investments before they yet again are willing to increase their exposure to the automotive sector again.

An interesting statement by PwC (2011) is also that U.S. based PE firms have historically been much more active in the automotive sector in comparison with their European colleagues. PwC think this trend will remain. They argue further that U.S. based firms have shown a greater interest to close deals upstream in the value chain, while the Europeans shown interest in the aftermarket. PwC believes that this trend of focusing either on component suppliers or aftermarket will continue. In addition, they think PE actors are very interesting of upcoming turnaround opportunities.

Figure 8 below shows the global M&A activity by buyer type.

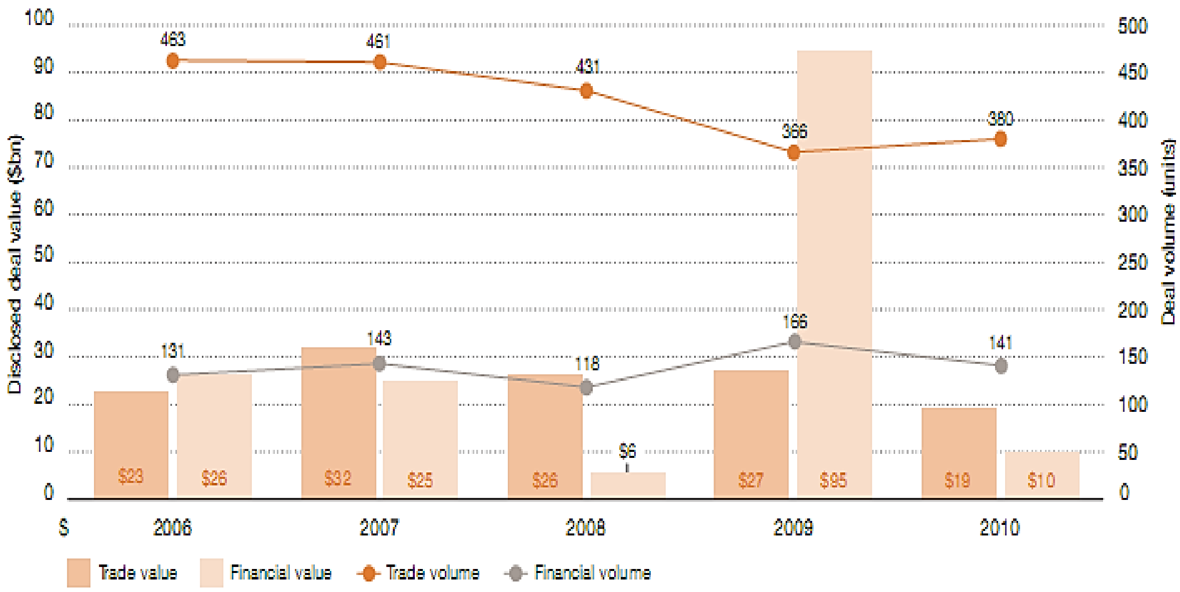

Figure 8. Global Automotive M&A activity by buyer type (PwC, 2011 p.6)

Figure 9 below shows the financial buyer's share of global automotive M&A activity

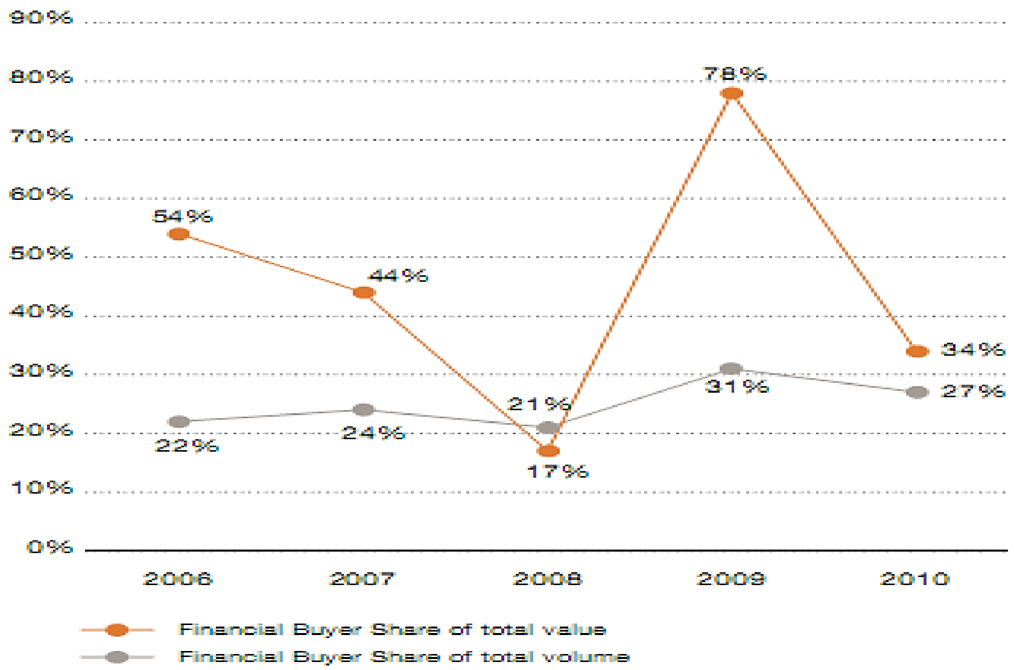

Figure 9. Financial buyer's share of global automotive M&A activity (PwC, 2011 p.7)

4.1.4. Opportunities in Automotive for Private Equity Firms

Respondent A, D as well as E see good opportunities for PE firms investing in automotive. They regard continued financial distress among suppliers, the increasing globalization and the fast emerging markets in the BRIC countries, especially Asia, as motivating factors. The experts think that the M&A activity will mainly consist of small and medium-sized deals at, in comparison with companies in other industries, lower earnings multiples valuations. Moreover, the respondents mean that the supply of deal opportunities will increase as companies strive to sell non-core business units and as still many automotive suppliers faces financial distress. The latter will not only occur in U.S. and Europe, but also in Japan, China, India and South Korea.

The Chinese automotive market is distinctive and continuously showing rapid growth. According to respondent E, which is also confirmed by respondent A, fifty individual auto manufacturers compete for customers' attention in China. Noteworthy is that that mainstream cars are showing the highest growth rate, while the demand for budget cars has recently shown to be overrated. Hence, the respondents believe that a different approach is necessary for successful private equity investments in China. They mean that other aspects than production strategies are necessary to become a successful company in the Chinese automotive market, although improving productivity is always a major success factor. Respondent E highlights brand management and customer retention as key competitive advantages. Furthermore, an ongoing consolidation currently takes place among Chinese car manufactures, meaning that only companies with strong and distinguishing brands will succeed. Furthermore, respondent E believes that best opportunities for PE investments are in volume producers of mainstream cars and in the underdeveloped aftermarket segment.

I was recommended to analyze two reports written by KPMG in 2008 and 2011 where the favorable opportunities for PE to invest upstream or downstream in the automotive value chain are further discussed. KPMG (2008) divide the automotive value chain into five segments; Tier 1, 2 and 3 as well as OEMs and aftermarket. Briefly Tier 2 and 3 produce and subcomponents which Tier 1 combines and assembles into for instance body, interior and chassis. OEMs are the actual vehicle manufactures who sells the finished product in the global marketplace. Aftermarket consists of services as aftersales service and spare parts production.

In both reports KPMG sees good opportunities in Tier 2 and 3. But they also elucidate the risk for PE associated with investing in this part of the value chain, mainly due to overcapacity and high raw material prices. However, because many companies in Tier 2 and 3 are facing financial distress, particularly metal stamping, plastic molding, and die casting companies, there are upcoming opportunities for PE firms to acquire several actors and consolidate the companies. A consolidation might give rise to steady enhancement of profit margins owing to economies of scale for firms that reach the critical mass. Other arguments to invest in Tier 2 and 3 are diversification of the customer base in other industries, opportunity for cost reductions through sourcing from low-cost countries as well as partnerships with new OEMs and their suppliers in Asia (KPMG, 2011).

KPMG (2011) distinguish some similar opportunities in both the Tier 1 and OEM segments, but due to high consolidation and low margins they think the opportunities for PE here are much less than in Tier 2 and 3. However, expansion of Chinese and Indian OEMs into Europe and U.S. may create co-investment opportunities for PE.

KPMG (2011) claim there are considerable upcoming opportunities in the automotive aftermarket worldwide. This segment is also considered attractive among PE firms since it is less capital intensive, compared to other segments of the value chain, and frequent revenue streams makes it possible to do LBOs and also keep a high repayment rate on debts. Moreover, new brands may require new entrants to this market, which can provide opportunities for PE investments. Additionally, the alternative fuel technologies are increasingly common, which will imply a need for different aftermarket services. Furthermore, are not the aftermarkets nearly as widespread and mature in the BRIC countries, causing big opportunities for PE investors.

4.1.5. Acquisition Strategies

Both respondent A and D are consistent with KPMG as they believe there are three main acquisition strategies for PE firms in the automotive sector. KPMG denotes these integrators, balance-sheet fixers and operations champions. Integrators are investments in a number of companies where the intention is to consolidate Tier 1, 2 and 3 suppliers. The PE firm does a moderate vertical integration across the supplier side of the value chain in order to obtain a supplier large enough to achieve economies of scale. With the balance-sheet fixer strategy the PE firm's intention is to restructure the debt level in the acquired firms. These investments are mainly possible in Tier 1 and 2. Finally, when conducting an operations champion investment the time horizon is relatively long. This type of acquisition is according to KMPG done in Tier 1, OEM and the aftermarket. The intention here is to transform the acquired company and focus solely on core operations. This is done by divesting non-core business units and by adding a new management team. KPMG regards the OEMs as less likely for minor PE firms by themselves to invest in. However, bigger PE companies, such as U.S. based Cerberus and Carlyle group, may syndicate and together perform this type of investment in the OEM segment. KPMG along with the respondents consider the operations champion strategy to be the riskiest acquisition strategy, but on the other hand it also offers the highest potential return to investors. Figure 10 below shows KPMG views on which strategies are made in which part of the automotive value chain and its spread in expected return. In addition are examples of three U.S. based PE firms that made investments in accordance with the strategies given.

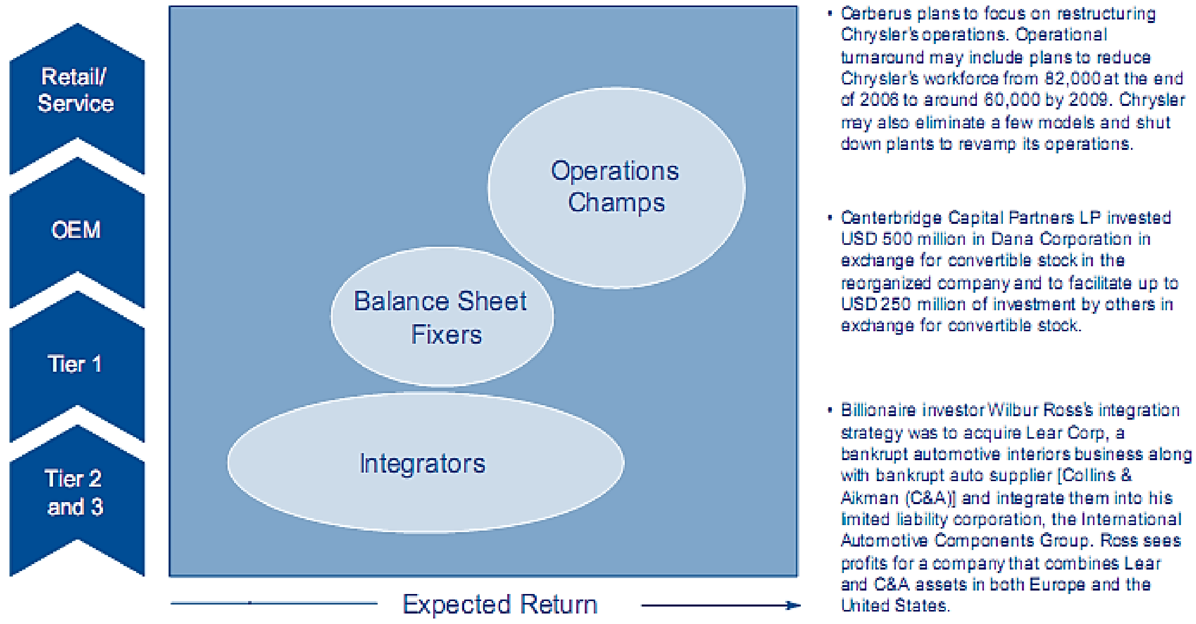

Figure 10. Acquisition strategies and expected return in the automotive value chain (KPMG, 2008 p.14)

4.2. Automotive-focused Private Equity Firms

The study of automotive-focused private equity and venture capital firms revealed that there are very few independent firms investing exclusively in the automotive and transportation sector. Only three entirely focused firms have been identified worldwide, excluding Fouriertransform. It should be noted that my definition regarding the focus on automotive and transportation has been very strict. The PE or VC firm shall have its main focus on the automotive and transportation sector and should not make investments in more than one other industry sector. During the work to identify automotive-focused PE companies I have found that many PE firms have historically invested in automotive and transportation, however there are few completely focused firms. It should also be elucidated that the access to information regarding the PE firm's investment focus is very scarce. It would however be facilitated with full access to any of the major toll-based PE databases, such as ThomsonONE and DowJones VentureSource.

The independent private equity and venture capital firms as recurrently invested in automotive and transportation are Fontinalis Partners, Motoring Ventures, Transportation Resource Partners , Humphrey Enterprises, The Carlyle Group and Cerberus Capital Management. Corresponding corporate venture capital firms are GM Ventures, BMWi Ventures, Bosch Ventures, Ford Capital Ventures, Volvo Technology Transfer and Saab Ventures. I have chosen two case companies among the independent firms which I analyzed more extensively, namely Fontinalis Partners and Motoring Ventures. The reason why I excluded corporate venture capital firms is because these organizations represent "captive" investment companies. They pursue investments in automotive and transportation companies that align with their parent companies' core business and therefore become tied to the latter. Independent investment firms differ from these organizations because they are essentially “OEM-agnostic”, meaning they allow companies to pursue relationships with any automotive company they see fit. Whereas for instance GM Ventures and BMWi Ventures may prohibit their portfolio companies from entering into partnerships with competing automakers, e.g., Mercedes, Chrysler. An independent firm does not place this constraint on the companies they acquire.

Hence, my selection of case companies is based on that they were independent firms totally focused on investments in the automotive and transportation sector. Fontinalis Partners is mainly focused on the transportation sector while Motoring Ventures is completely focused on automotive. Therefore, my hypothesis was that these would be good comparison and reference objects, as well as potential partners for Fouriertransform. Before the two case companies are described in more detail a brief description of the other independent private equity firms is given. For presentation of the corporate venture capital firms and more general information about the independent firms please see the appendix.

4.2.1. Transportation Resource Partners

Transportation Resource Partners (TRP) is a well-established PE firm with 10 employees. Their investment focus is exclusively growth-oriented companies in the transportation sector worldwide. The supplier segments of the transportation industry are of particular interest. TRP mainly do buyouts and are currently capitalizing its third fund which was set up in 2008. The previous two funds invested in 14 portfolio companies with an aggregated transactions value greater than $US 2 billion. Earlier portfolio companies consist of Penske automotive Group and Universal Technical Institute, which were exited by IPOs and are now traded at NYSE under the symbols PAG and UTI.

Usually, TRP not work active on a day-to-day operational basis in its portfolio companies. Instead, their purpose is to establish a close partnership with the companies’ management, which will lead to good investment returns. Moreover, TRP have used Penske Capital Partners as their syndication partner in several investments. They also work with external strategic partners in the industry, such as General Motors, DaimlerChrysler, Ford Motor Company, Hino Trucks and Honda Motor Co. (www.trpfund.com)

TRP have the potential to be a cooperation or syndication partner for Fouriertransform. Therefore it was my intention to be able to have them as a case company and study them more in detail. But unfortunately, due to their time constraints, I could not do an interview or obtain detailed information through other means.

4.2.2. Humphrey Enterprises

Humphrey Enterprises is a U.S. based PE firm with headquarters in Boston, Massachusetts. The firm has a rather narrow investment focus and invests in three industry sectors; automotive, healthcare and training and education. Humphrey Enterprises only make PE investments, not VC, and the equity investments ranging from $250K to $4M. In the automotive sector Humphrey Enterprises acquire and operates manufacturing firms in the supply segment. Example of a successful exited investment is Nelson Metal Products, who succeeded to organically grown from $18 million to $210 million in 14 years. Current portfolio companies include; 1) Hadley Products, a company specialized in engineering supply delivering to the commercial and recreational vehicle markets, 2) Corvac Composites, a thermoformed plastics company and 3) Foremost, a distribution company of motors, electrical, hydraulic and electronic systems. (www.humphreyenterprises.com)

4.2.3. The Carlyle Group

Carlyle is a global PE firm with headquarter in Washington D.C. It is one of the largest PE firm in the world with $107.6 billion under management and 28 offices worldwide, including an office in Stockholm. Carlyle is not entirely focused on automotive, but has automotive and transportation as one of their focus areas. They make regular investments worldwide in automotive and transportation related businesses and have invested more than $3.5 billion of equity in the sector since 1998. They have essentially done the investments through buyouts and their investment horizon is approximately 4-6 years. A selection of portfolio companies is Hertz (current), Air Cargo (exited) and Allison Transmission (current). (www.carlyle.com)

4.2.4. Cerberus Capital Management

Cerberus is another large PE firm with headquarter in New York City. Cerberus uses an established value creation model in their automotive investments and makes investments in the sector worldwide. However, they are not exclusively focused on automotive, but have automotive and transportation as one of their focus sectors. Cerberus is specialized in providing both financial resources and operational knowledge to underperforming companies. Their objective is to buy undervalued companies and through predetermined value creation models transform the portfolio companies into industry leaders. Cerberus is active owners and has a long-term investment horizon of up to 10 years. The firm has recently closed several distressed investments. Examples of current portfolio companies are North American Bus Industries and Tower International. (www.cerberuscapital.com)

4.3. Case Company I - Fontinalis Partners

4.3.1. Overview

The Executive Chairman of Ford Motor Company and great-grandson of automobile pioneer Henry Ford, Bill Ford, founded Fontinalis Partners together with Ralph Booth and Mark Schulz in December 2009. In addition to the founders are now 3 additional employees working at the firm. Ralph Booth has been CEO and Chairman of Booth American Company as well as a prosperous telecom and media investor. Mark Schulz has a past as chief of Ford Motor Company's international operations. Bill Ford has throughout his career been an environmentalist and been an advocate for improvements in all areas of the global transport sector that benefits the environment. Since Bill Ford believed governments and other investors not sufficiently responded to his argument that a change of mind regarding transportation infrastructure and technology is vital as the global population keep increasing, he initiated the founding of Fontinalis Partners.

4.3.2. Investment Focus and Investment Criteria

Fontinalis Partners is a U.S. based independent investment firm with headquarter in Detroit, Michigan, and an additional office in Boston. Despite the close relationship with Ford Motor Company the firm is not affiliated with the former. Their unique investment focus is to invest in intelligent transportation companies worldwide in search of integrating technology into daily transportation. A potential investment object should have the possibility to improve mobility throughout the world. Hence, the companies must address any of the following global transportation issues; 1) urban congestion and pollution; 2) decaying infrastructure; 3) escalating costs for users, companies and municipalities; 4) increasing demand for enhanced transit safety and efficiency and 5) ineffective utilization of energy resources. (Fontinalis Partners, 2011)

4.3.3. Fontinalis Partners towards General VC

The definition of whether Fontinalis Partners is a private equity or venture capital firm is somewhat diffuse. They consider themselves as a VC firm but also have intention to make investments of all sizes in companies worldwide. Hence, also invest in later stages, such as buy-out, where only PE companies tend to be active. Furthermore are Fontinalis Partners somewhat different from more general VC firms. They consider themself to be a “strategic investor” rather than simply a VC firm. By this, respondent F mean that Fontinalis Partners is more than merely a source of capital; they seek to use their deep transportation experience as well as global business and government network to accelerate the growth of the portfolio companies. Specifically, respondent F claim that Fontinalis Partners in particular differ from traditional VC in the following ways:

Analysis and Investment Phase

Fontinalis Partners is strictly sector focused, they only invest in the intelligent transportation systems (ITS) segment and only consider companies in, or immediately adjacent to, this sector. Because the firm invest only in ITS, respondent F believe they have a very deep understanding of the dynamics of this sector that general VC firms may not otherwise have. This means that Fontinalis Partners are constantly researching and analyzing the industry and looking for the right investments. According to respondent F VC firms with less constrained mandates often find it difficult to perform the same level of due diligence that Fontinalis Partners do.

Continued Support of Investments

Fontinalis Partners take a very active approach to supporting their portfolio companies. In fact, in many instances, Fontinalis Partners personnel might work very operational and even accept a business development role within the company. They also utilize their partners’ vast networks to help put the portfolio companies in front of key decision makers, whether they are business- or government- affiliated. Because Fontinalis Partners “hands-on” approach is so intensive, they will never be a firm that invests in 50-100 companies. Instead the firm intend to maintain a somewhat concentrated portfolio, which will allow them to devote more time and focus to the companies they invest in.

4.3.4. Financing

Fontinalis Partners purpose is to fund and partner with innovative companies which possess potential to develop the upcoming transportation technology solutions. The firm is through their investment portfolio dedicated to solve the globally demanding environmental and mobility-oriented problems. Therefore, in addition to profit on the investments the firm also have an environmentally claim for yield where the investment ought to help solve environmental problems. Fontinalis Partnership way of making and financing investments are different compared to many other VC or PE funds. Investors do not invest in a fund which then allocates the equity to the fund's portfolio companies. Instead they invest in individual portfolio company which means investors in Fontinalis Partnership varies between different deals. The firm believes this creates unique opportunities for people with exclusive expertise or industry contacts to invest in some objects. This means that the portfolio company will have access to knowledge they otherwise would not have been able to exploit.

Fontinalis Partners both invest in and seize the role as strategic operating partner to companies. As a result of all three founders and other employees of the company contributes with extensive experience and knowledge in the automotive and transportation sector respondent F believe that they have an advantage over other PE companies investing in the same sector. Fontinalis Partners are able to leverage the firm's industry knowledge and support the operational work of the portfolio companies by providing product management experience, cross-border expertise and knowledge of how to scale up start-up companies. Additionally, with the founders' international expertise and extensive industry network they are able to offer the portfolio companies unique market access and strategic relationships.

4.3.5. Portfolio Companies

Fontinalis Partners intends to invest equity and time in companies that employ data to make people cleverer drivers, cyclists, or pedestrians. An example of this is their first investment completed in January 2010, Parkmobile USA. It is a four year old Atlanta-based company who have developed an expertise and specialized in mobile parking payment systems and other advanced end-to-end solutions for electronic parking. This is a proven business model and its European counterpart was founded in 1999. With Fontinalis Partners contributions of both financial resources and industry knowledge, Parkmobile USA have managed to expand from 100 sites and to over 200 locations today, including Boston's MBTA and New York City's MTA parking systems. Fontinalis Partners purpose is now to continue expanding Parkmobile USA to all major cities worldwide.

Besides Parkmobile USA Fontinalis Partners has invested three additional companies, namely Everyday Solutions, SQLstream and Streetline. In June 2010, the firm invested in Everyday Solutions who provide GPS-driven software, hardware and services to the overall control functions for school transportation in the U.S. and Canada. Fontinalis Partners added SQLstream to its investment portfolio in May 2011. The company offers a standards-based stream computing platform. The purpose of the platform is to allow for companies to use and capitalize real-time service and sensor data. Finally, the firm invested in June 2011 in Streetline which make critical parking information available to both municipalities and citizens. This helps prevent problems and makes parking faster, easier and more efficient. Hence, Streetline contributes to reduce environmentally harmful emissions and thereby indirectly improves the environment.

4.4. Case Company II - Motoring Ventures

4.4.1. Overview

Former OEM executive at Ford Motor Company and director at BMW, GM and AlixPartners founded early in 2011 Motoring Ventures, a middle-market automotive industry focused private equity firm. The company consists of the founder Edward Hightower and four other investment managers. Motoring Ventures has at this moment not yet completed an investment. But according to respondent C, this will happen in the near future.

4.4.2. Investment Focus and Investment Criteria

Motoring Ventures is an independent PE and advisory firm focused on acquiring and increasing value in middle-market corporations in the automobile and powersports sectors. Motoring Ventures intend to generate opportunities for owners of and stakeholders in the acquired companies to make prosperous exits. Possible target companies in the automotive and powersports sub-sectors include (Motoring Ventures webpage, received 2011-06-10); alternative fuel technologies, commercial and niche OEMs, aftermarket product manufacturers, vehicle sub-systems integrators and emerging markets. The firm also searching for investment opportunities in divested business units within their investment focus.

A characteristic acquisition candidate meets the following criteria (Motoring Ventures webpage, received 2011-06-10):

- Company within the automotive or powersports industry
- $US 50-500 million in annual revenue
- 0-10% in EBITDA margins
- History of revenue and earnings
- $US 25-100 million enterprise value
- Healthy, underperforming or under-managed firm
- Unique opportunity due to financially distressed or divestitures of brands or business units

4.4.3. Motoring Ventures towards general PE

Motoring Venture has no geographic boundaries regarding their investments. The investments are merely funded by using an independent sponsor model consisting of Motoring Ventures' exclusive network of capital investors and lenders. Consequently they are not raising or making investments from specific PE funds. The typical investment is a LBO or a MBO were Motoring Ventures target majority ownership and operational control. Hence they are not making any seed or venture investments and therefore not providing any VC capital. The firm intends to execute a controlled acquisition with an equity investment in one single stage. Motoring Ventures has an investment horizon of 5-7 years, which is longer compared to most general PE firms. Since Motoring Ventures not yet have completed an investment they have not utilized syndicate partners. However, they are open to syndication and state that it depends on the specific investments circumstances.

According to respondent C Motoring Ventures have an advantage compared to general PE firms regarding investments in automotive. As a result of the unique and deep in-house industry knowledge the respondent believes that Motoring Ventures have better possibility to identify attractive upcoming technologies, identify opportunities to expand into new markets and better actively manage their investments. The firm’s professionals have extensive experience from other positions within automotive and use this by actively working with the portfolio companies. The professionals strive for increase the value of the portfolio companies by executing strategic and tactical decisions that enhance operations, decrease costs and increase revenue. Besides solely PE investments Motoring Ventures makes their extensive in-house industry expertise accessible to external parties by offering consulting and advisory services.

In the above chapter it has been presented that the financial crisis in 2008 significantly affected private equity and venture capital investment in the automotive sector. However, the deal activity has recovered and is now approaching levels similar to those before the crisis. Additionally, the crisis has caused big but transformed investment opportunities, where many financially distressed companies have been bought at bargain price by private equity firms.

Furthermore, it has been elucidated that major investment opportunities can be found in the BRIC countries, in particular India and China. In addition, the investment focus is gradually being moved upstream in the automotive value chain, especially to Tier 2 and 3. But an increasing interest to the aftermarket and spin-off service has also been revealed.

The study showed that the number of independent and exclusively automotive-focused venture capital or private equity firms worldwide is very limited. Most of these companies are in the U.S., but operates on a global basis.

5. Analysis and Discussion of Empirical data

In the following chapter the author's view of how the theoretical framework is reflected in the empirical findings as well as a discussion regarding the result of the study is presented. The purpose is that after this chapter is to be able to answer the research questions and draw conclusions from the conducted study. In this chapter is the model of venture capital investments included in the concept of private equity, if not other stated.

5.1. Investment Opportunities in Automotive Supplier Segments

Based on the empirical findings, I see major opportunities for venture capital as well as private equity investments in the automotive sector in the next five years. This is a result of a number of factors and trends. However, regardless of region or geographical area I think the investment opportunities will be greatest in the supplier segments, more specifically in Tier 2, 3 and the aftermarket. The reason, I think fewer investment opportunities will arise in Tier 1 and OEM, is that these segments are much more mature, a widespread consolidation has already taken place, the margins are small and there are often large lock-in effects to the customer due to investments causing a high risk in a volatile industry. Opportunities and unexplored opportunities in Tier 2 and 3 are still encountered in the Triad countries, partly due to that the consolidation and lock-in effects from a suppliers' perspective in these segments are not as widespread as in Tier 1 and OEM. But mostly opportunities in Tier 2 and 3 will emerge since I expect to see an increased investment activity particularly in new powertrain technology, alternative fuel technologies, safety improvements and infotainment. These opportunities will arise, as mentioned above, in the Triad countries, but even more in the emerging markets countries where it besides the above is a widespread need for investments in new plants. However, the aftermarkets for the current technology are relatively mature in the Triad countries.

I believe the major investments opportunities in particular will be found in the emerging markets, especially in Tier 2, 3 and aftermarket. The concentration of opportunities will be greatest in Asia as the supplier segments are financially strong, but still there are considerable investment opportunities. For example, there are potential investments opportunities in consolidating suppliers in the rapidly growing markets. Furthermore are the aftermarket segments in the emerging markets very immature and have a disparate structure. This implies great potential for good PE investments as these markets continues to grow and the need for aftermarket services is constantly increasing. Hence, I believe the deal activity in the emerging markets will rapidly increase.

The many opportunities that have arisen in the wake of the financial crisis and due to the large amount of financially distressed companies required to sell underperforming or non-core business units will decrease. As the companies get a stronger financial foothold they abandon the survival mode and focus on topline growth. A decreased deal flow can be considered as negative. But besides decreased deal flow, I think a reduced proportion of distressed deals also carries an increased deal size and deal multiples. This should be considered as positive for PE firms focusing on the automotive sector.

There is worldwide an extensive need for PE and VC investments in alternative fuel technologies, such as fuel cell electric power, battery electric power and hybrid fuel systems. The problem with alternative fuel technologies is that it is still expensive to produce and thus become more expensive for the customers to buy compared to the old technology. Thus, it is common for alternative fuel technologies, especially electric vehicles, to be subsidized by the government. Subsidies make them competitive and therefore attractive investment for PE and VC. But the need for subsidies also entails a higher investment risk, something that must be considered. Furthermore, there are big differences among countries regarding subsidies for different alternative fuel technologies. Altogether, I think that alternative fuel technologies are the future vehicle power and thus it will emerge major investment opportunities for PE and VC. But despite the fact that it is an attractive investment segment it is important to be aware of the risks connected with subsidies and price sensitivity of customers.

Weight of cars is of vital importance for the energy consumption. Hence, companies are becoming increasingly active in new material development. Therefore I think investment opportunities also will arise within this focus, especially VC investments in promising companies that have developed a revolutionary new material. Additionally, I believe companies producing components in press hardening steel will be of interest to PE investors. In the latter case production equipment is very capital intensive and full utilization is of importance for the bottom line profit. Also production knowledge and experience are vital. In these cases there can be possibilities to merge companies and achieve economies of scale, which can stimulate investments.

I have previously mentioned that I believe the introductions of new disruptive technologies, such as alternative fuel technologies, will provide significant opportunities for PE and VC investments throughout the supplier segments worldwide. But I also claim that other technologies, not previously directly associated with the automotive industry, in the future will get much more attention from investors. This is because other technologies are expanding into the automotive sectors, for instance infotainment and propulsion. This means that automotive-focused PE investments may include investments in software, electronics and scarce earth metals. While this development requires that private equity firm's house new specialized knowledge it also implicates new unexplored investment opportunities. Moreover, this may imply that the traditional higher multiples technology firms are incorporated into the lower multiples automotive sector.

To clarify my view of the present and future investment opportunities in automotive supplier segments and weigh them against the corresponding risks and potential threats, I have compiled figure 11 below. This elucidates the discussion above and summarizes the remaining arguments that I find relevant for upcoming investment opportunities. A full-scale figure is found in the appendix.

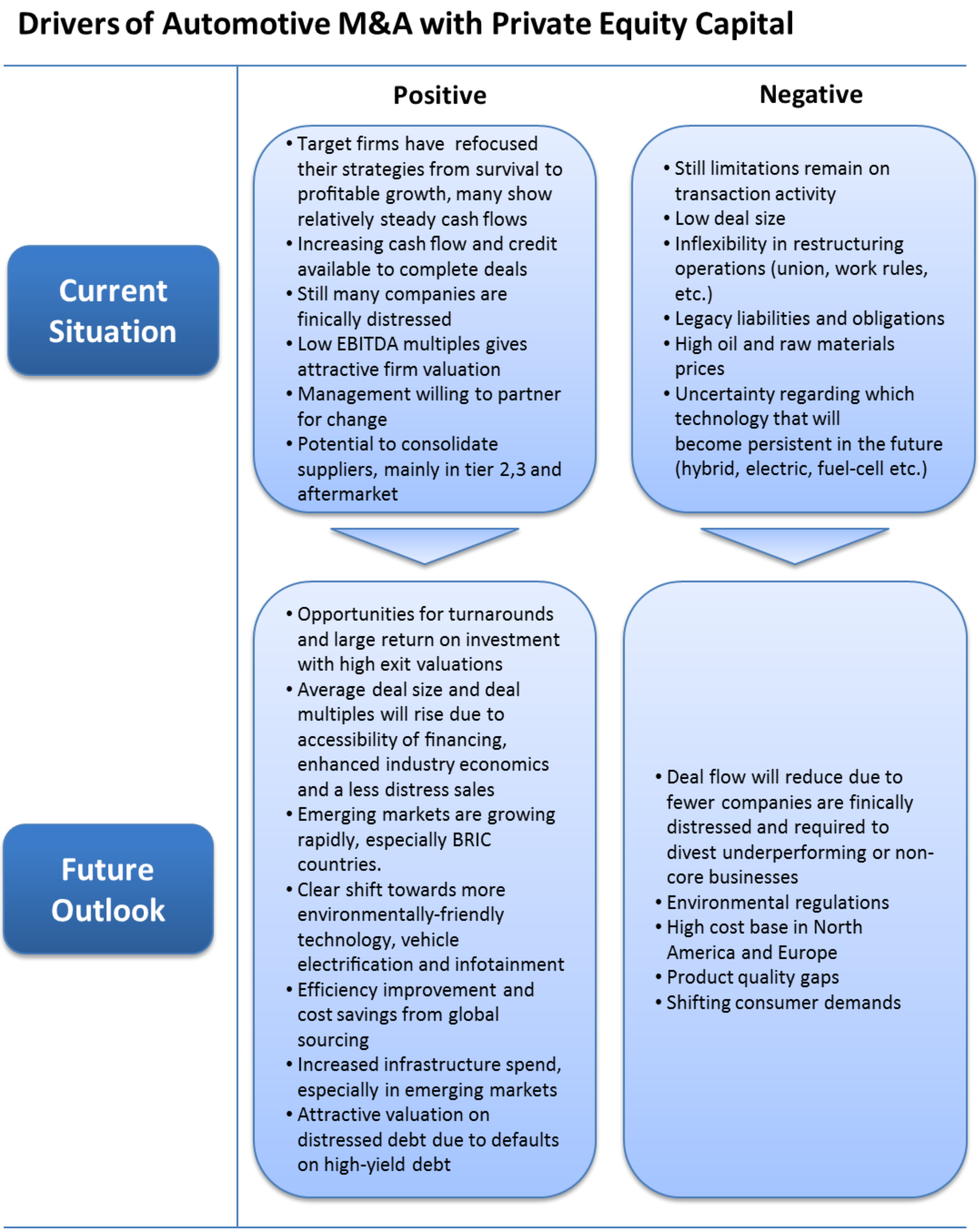

Figure 11. Overview of investment opportunities for private equity firms in the automotive sector (created by the author, inspired by KPMG, 2008, p.8)

5.1.1. Possible risk of being focused on a specific industry

During the process of analyzing the private equity industry, I have realized that focusing on a specific industry provide many positive effects, but may possibly also cause some risks and problems. The positive effects include an in-depth knowledge of the specific industry and a possibility to build a broad knowledge, contact and business network. However, in the following section the focus is on the possible risk that may occur due the narrow industry focus. I think that entirely focused PE firms have a tendency to in the analysis phase be much narrower and less open to ideas outside their focus compared to general PE firms. Additionally, being focused may induce a potential lock-in risk that is important to be aware as a focused PE or VC firm. Attention on market movements is necessary since it can provide an opportunity to for instance capitalize on technologies in a new industry or business area.

I also believe that a too narrow focus could result in a fewer number of deal opportunities, compared to general PE firms. It is here however important to keep the difference between VC and PE in mind. As stated earlier in this report a VC investment is an investment in early stage where an entrepreneur takes in capital from a VC company with the intention to e.g. develop or commercialize a product. While a PE investment in general terms provides equity to a more mature company. In the latter a PE firm is often the majority owner and utilizes existing resources in the company to increase revenue, reduce costs and increase operating profits. I think that in VC investments it is more important to analyze and know how the portfolio company should be developed. Furthermore are the technical and commercial risk is comparatively usually higher in a VC investment. I claim that in a PE investment it is more important that with the help of senior experts using the portfolio company's existing resources to enhance the performance.

Fouriertransform has both extensive in-house knowledge and the ability to exploit external senior expertise which I think reduces the risk that may arise due to that FTAB makes both VC and PE investments. In addition, FTAB’s main purpose is to strengthening the Swedish automotive cluster’s international competitiveness primarily through investments in the supplier sector. As a result of that investment is focused at the supplier segment the number of deal opportunities should definitely be greater than if FTAB focused on OEMs. Furthermore gives the supplier segments opportunities to invest in new technologies, materials and services. Due to this investment focus I consider FTAB’s risk of getting too few deal opportunities to be relatively low.

In addition, FTAB could through their investments build a network of knowledge and as a node transfer knowledge to their portfolio companies. FTAB are thus able to draw on external expertise to further develop early and innovative ideas. I believe furthermore that the FTAB should show more interest in the aftermarket, mainly due to two reasons. First, there are not only upcoming investment opportunities upstream, but also major opportunities downstream in the value chain. This is caused by increasing customer demands in emerging markets for aftermarket services. Secondly, I believe that it is most likely that the introduction of new technologies, such as fuel cells and electric vehicles, will cause needs for different aftermarket services and thus give rise to new company with upcoming investment needs.

Furthermore, it is vital for a focused PE firm to be clear about the investment objectives and prioritize those with the highest priority. This is particularly true for FTAB since they are owned by the Swedish government. According to me, the analysis and investment phases are different if the investment has the purpose of only generating profit or if the investment also has the purpose of strengthening e.g. the automotive sector in Sweden. Is there a purpose other than making profit, this must be considered and weighed the importance of making profit. Other priorities than profitmaking could have a major impact on the investment focus, potential acquisition objects and what the PE firms own investors consider a successful investment. This problem also arises to corporate ventures since differences in reporting to the parent company may cause different prioritizing between profits and other investment objectives.

However, if we consider the effects of increased PE activity in automotive, I think it can be positive effects for the industry as a whole. I think PE and VC investments will support the automotive industry to accelerate the pace of continuous improvement. Eventually, PE investment will restructure the companies and change rules of engagement, allowing OEMs as well as suppliers to effectively compete in a global marketplace. Furthermore, the automotive sector is characterized by organizing within clusters, such as Michigan and western Sweden. Hence, I think PE and VC investments in automotive also have opportunities to strengthen the regions and thus companies other than those directly related to the automotive cluster.

5.2. Automotive focused private equity firms

In search of automotive-focused PE or VC firms it revealed that the number of firms were very limited. Simultaneously was the availability of information vastly restricted which meant that some actor's investment focus was difficult to elucidate. The study showed that many European and U.S. based PE firms invests sporadically in automotive, but very few are completely focused or invest on a regular basis. Six independent PE and VC firms were identified. Three of these are completely focused on the automotive and transportation sector. The remaining three are larger PE firms that have automotive as one of a couple investment focuses. In addition to the independent firms were six corporate VC firms identified. As a result of their close connection to their parent companies, I have not chosen to focus on and discuss these in more detail.

Among the independent firms are Carlyle Group and Cerberus Capital Management the largest in terms of both size and number of funds as well as average deal size. Hence, Fouriertransform can benefit from studying these and their track record, but not likely to utilize them as syndication partners. However, the remaining four independent firms are potential partners for FTAB. Fontinalis Partners, Motoring ventures and Transportation Resource Partners (TRP) are all U.S. based firms completely focused on global investment in the automotive and transportation sector. Of these are TRP the largest and oldest firm, they are now making investments from its third fund. Hypothetically, should these be a good partner for FTAB. But the question is whether TRP are too narrowly focused on the transportation sector and thus has a slightly different investment focus compared to FTAB. Humphrey Enterprises has automotive as one of three investment focuses and have made similar investments as FTAB in Tier 2 companies. Therefore should also they be considered as a potential partner, both in terms of knowledge sharing and syndication.

Between the two case companies Fontinalis Partners and Motoring Ventures it is difficult to make a deeper comparison because of the difficulty in obtaining the desired information. Both companies were very concerned about privacy and discretion. Hence, information concerning historical returns and value creation model were not provided in detail. In addition has Motoring Ventures not completed their first investment, however according to respondent C is this on the point of being public. Even though the information obtained is not exactly what I desired to receive, it is nevertheless possible to make some comparisons between companies and draw similarities to FTAB.

Fontinalis Partners essentially makes VC investments, but also investments in later phases and thereof also PE. Motoring Ventures aims to only make PE investments and a potential investment must have a record of revenue and earnings and at the time of investment an annual revenue of $US

50-500 million. Hence, it is a markedly difference between the two at this point and Fontinalis Partners seems to be the company that is most similar to FTAB. Both companies are founded by people having an extensive experience and large established network within the automotive industry. A broad network is something both companies highlight as a key factor that differentiates them from more general PE companies. Both also believe that a large network gives them a better chance of success with investments in automotive than more general PE companies. Fontinalis Partners gives the impression that they possess the largest network with Bill Ford as one of the founders and also a lot of government contacts. Furthermore, Fontinalis Partners make investments in new technologies, which are one of the segments I believe will be the most attractive in the future and where the M&A activity will be the greatest.

Altogether, I think that Fontinalis Partners is a good match with FTAB and has the potential to be a very useful partner for the latter. FTAB and Fontinalis Partners have the same investment focus as they both do VC and PE and are very vigilant to investment opportunities in new technology in the supplier segments. They both have a large network of contacts, but in different geographical areas so an interchange of these can be beneficial for both. Moreover, Fontinalis Partners is not a newly established investment firm, which I regard as positive for FTAB when they have a history to refer to if a syndication investment would be practicable. Hence, based on the above arguments I think that a close partnership in terms of knowledge and contact sharing as well as syndication possibly will make both companies significantly more profitable.

Finally, based on the conducted interviews it is my belief that the most profitable private equity firms, regardless of investment focus, are the companies that are active owners who are deeply involved in value creation through portfolio companies' board of directors.

In this chapter, both current and future investment opportunities in the automotive sector have been discussed. I have found strong opportunities in growing markets, mainly in China and India, but also upstream in the value chain and in new technologies. The number exclusively automotive-focused investment firms is globally very limited, yet are among those potential partners for Fouriertransform. Furthermore, I believe that FTABs unique position, both in terms of investment focus but also geographic separateness, means that they have very good prospects.

6. Conclusion

In this section, conclusions from the empirical and the discussion will be presented and answers to the research questions will be given. The purpose of this study was to discover current and future global trends regarding venture capital investments in the automotive industry. Furthermore, do a market analysis with the intention to understand the supply of automotive-focused private equity firms globally. I will also present my recommendations for potential partners for Fouriertransform AB. Finally, suggestions for further research are given.

6.1. Answers to the research questions

What trends are visible in private equity investments in the automotive sector and where Is the investment focus likely to be in the next 5-10 years?

The study shows that the financial crisis in 2008 are still affecting the private equity industry in the sense that banks are more cautious regarding financing and the number financially distressed companies are still higher than before the crisis. But the study also reveals a trend that the deal activity during the last year increased and is now at normal levels. It is difficult to draw more specific conclusions from M&A data originating from the years after the financial crisis, since the PE industry was affected by extraordinary cases such as government-driven bailouts. However, the trend is distinct that the PE industry has recovered regarding the deal activity and deal flow, also shows tendencies to do so on the average deal size. However, I think the latter will be slightly lower in future than prior to the financial crisis as a result of banks' augmented risk assessment and restrained financing.

A trend towards increased deal activity in the emerging markets is obvious, especially in the BRIC countries. The number of car manufacturers in Asia is very large and the number suppliers follow the same pattern. Hence there are investments opportunities in consolidating the disparate value chain, especially Tier 2 and 3, and achieve economies of scale. Furthermore are not the aftermarkets in the BRIC countries as widespread and mature as in Europe and North America. This despite the fact that the middle class is growing rapidly and especially Asia begin to have relatively the same car fleet as Europe and North America. Thus, they should on short notice also face the same needs for aftermarket services. Hence, I believe private equity firms will have a big investment focus on the emerging markets in coming years.

We are in the midst of a technology shift, from fossil fuels to alternative fuel technologies such as hybrid, electric and fuel-cells. This shift gives rise to disruptive changes in the automotive industry as well as immense investment opportunities for VC and PE firms. It is clear that the major investment focus will be on alternative fuel technologies in the coming years. I believe the greatest opportunities are not to be found close to the OEM’s, instead upstream in the value chain at Tier 2 and 3. The investment risk with new technology is always substantial and must therefore be taken into account. But in Tier 2 and 3 is usually the deal size smaller compared to downstream in the value chain. This means that a PE firm that focuses on alternative fuel technologies probably will have the opportunity to diversify their portfolio and spread risks by investing in several alternative fuel companies. A consequence of this development is also an increased focus on environmentally effective solutions. This is a rapidly growing area that closely interacts with alternative fuel technologies. Example of that the focus increases in this area is Fontinalis Partners, they are completely focused on investments that contribute to a better environment. Opportunities to invest in alternative fuel technologies and environmentally effective solutions will not be geographically concentrated in the next 5 years. Companies in Europe, North America and Asia will all try to be in the forefront on both segments.

In parallel to this shift in fuel and power we are also in the middle of another shift, although not as disruptive. The study unfolds that previously unfamiliar technology to the automotive industry is expanding into the industry. Industries and technologies such as software, electronics and infotainment are becoming increasingly important for the automotive value chain to be able to handle without external partners. This development suggests a need for venture capital and hence investment opportunities. Most of this technology is not entirely new, it is only given a new sector of application. Therefore, I regard the investment risk as smaller compared to if the technology was brand new and unexploited. I believe that this expansion of technology into the automotive industry is global and simultaneous. Therefore, pursuant to the preceding, I believe that opportunities to exploit these investment opportunities will arise both in Europe, North America and Asia in the coming years.

Which automotive-focused private equity firms are operating worldwide and what are their essential differences?

The study showed that there is globally very few automotive-focused PE and VC firms, all are listed in appendix. The screenings was based on information the firms made public as well as published media articles. The information regarding specific investment focus was extremely limited and therefore there might be a risk that I have missed some single investment firm in my study. The risk would definitely have been neglected if the PE firms made more details on their investment focus public.

However, due to the extensive screening and because I have asked all respondents whether they have knowledge of other automotive-focused firms, I assess this risk to not affect my ability to draw conclusions based on the study. Therefore, an apparent conclusion is that it is worldwide an exclusive group of private equity firms that is completely focused on automotive. Moreover, FTAB are the only independent PE firm utterly focused on automotive in Europe. This provides FTAB with a very unique investment niche, something that is positive for the firm. FTAB can, compared to its competitors in Europe which are more general, obtain and reprocess a unique and profound knowledge of the automotive industry and thus gain a competitive advantage. Besides having a better knowledge and a knowledge network allowing more effective managing of the portfolio companies, FTAB also have an advantage in the screening and analysis phase. Like the foregoing, they can prior to investing use their specialized knowledge to detect unique deal opportunities. The ability to identify unique opportunities or early distinguish shifts in the industry ought a dedicated automotive-focused firm better at compared to more general private equity firms. FTAB should therefore be aware of their exclusive position among the independent firms in Europe that invest in automotive and take advantage of this.

I think FTAB can learn from all identified automotive-focused firms, but particularly from Fontinalis Partners and Transportation Resource Partners. These are both established players with similar size and investments focus as FTAB, in addition a history of exited investments. Motoring Ventures has no history of exited investments. But, nevertheless, are they of significance because they possess extensive industry knowledge and also showed interest of syndication in Europe. Nor Fontinalis Partners was negative towards syndication investments since it is something they successfully previously completed. Additionally, Humphrey Enterprises is of interest because they have automotive as one of three investment focuses. Their investments are also of the same size as those of FTAB. Additionally, their scope of investments from VC to PE with focus to the supplier segments is also similar to the policy of FTABs investment strategy. The four companies' specific investment focus differs somewhat, although they focus on the same industry. Fontinalis Partners primarily makes investments in early stages and the companies must have the potential to improve mobility worldwide and to contribute to a better environment. Transportation Resource Partners mainly invest in growth companies in later stages and focuses on the transportation sector. They are the biggest of the three firms and have in their first two funds invested in 14 companies with total transaction values exceeding $US 2 billion. Motoring Ventures is newly established but intends to make investments in later stages and only in companies which experienced a positive and stable EBITDA margin. Finally, Humphrey Enterprises invest in later stages where they acquire and operate manufacturing firms in the automotive supply segment. All the firms above do not focus on OEMs, but in other segments of the automotive value chain.

Based on the information received is my conclusion that all four of these PE firms are potential partners for FTAB, both in terms of syndication but also through exchange of contacts and knowledge. Since they have a similar investment focus, but in the existing state of affairs focusing on different geographic regions, I see no reason not to consider partnerships. An equivalent and uniform interest to partner with FTAB most likely also exist from the American parties since FTAB possesses a unique position as the only independent automotive-focused PE firm in Europe. The case companies, and also most likely the remaining two, contemplates Europe as an attractive investment region, however also an unfamiliar market. Hence, I think they find the risk reduced if sharing knowledge and contacts or even make syndication investments with a European PE firm. Consequently, it is my belief that they see great benefits of sharing information, contacts and investment opportunities with FTAB.

6.2. Suggestions for further research

The access to information was very limited in this study. During the study I concluded that with full access to one of the larger fee-based private equity databases additional valuable information could be obtained. In particular, information and data regarding historical returns as well as identify PE firms which claim to be general but frequently invest in the automotive industry. Therefore, my recommendation for further research is to by means of access to such a database study how and which PE firms that invest in Automotive. I think it through such a quantitative study is possible to detected similarities and differences among PE firms recurrently investing in automotive and also possibly to discuss common success factors for PE investments in automotive.

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8. Appendix

8.1. Appendix A: Interview guide VC associations

Below is the interview guide for the interviews with representatives of private equity and venture capital associations. The purpose of the guide, which also was sent to the interviewee in advance, is to provide a basis for a semi-structured interview where they general headings should be discussed. The underlying questions under each heading have not been asked in all interviews. This depends on how detailed the interviewee talked about the overall topic.

During these interviews the interviewees spoke very freely regarding the headings below. Without asking very specific questions this gave me a good overview of M&A activity in automotive as well as the prevalence of private equity and venture capital in this sector.

Interview guide

Overall information about private equity investments in automotive

How have the M&A activity in the automotive sector evolved over the past decade?

Has the M&A activity been focused to any specific region?

How much private equity or Venture capital has been invested in automotive over the past decade?

What are the trends?

i. Regarding region
ii. Regarding where investments are made in the automotive value chain

Automotive-focused private equity firms

Are you aware of any private equity or venture capital firms which exclusively invest in the automotive or transportation sector?

Within automotive, is there any region or technology that private equity more frequently invest in?

How do you think private equity investments in the automotive sector will develop the next ten years?

8.2. Appendix B: Interview guide VC firms

Below is the interview guide for the interviews with representatives of automotive-focused private equity or venture capital firms. The purpose of the guide, which also was sent to the interviewee in advance, is to provide a basis for a semi-structured interview where they general headings should be discussed. The underlying questions under each heading have not been asked in all interviews. This depends on how detailed the interviewee talked about the overall topic.

Interview guide

Overall information about [company name]

What is your investment focus and investment model?

What is the size and number of your funds?

What is your historical ROI?

Who are your main competitors?

Investment criteria

How do you carry out your analysis and selection of investments?

i. What are the main factors you consider?

What is the main purpose of your investments?

- For instance; appropriate technology, strengthen a cluster or only for capital gain etc.

Financing

How do you finance your investments?

- For instance; by industry, institutional investors or government etc.

How do you carry out the typical investment?

- For instance; Seed, VC, LBO/MBO etc.

In which stages do you invest?

Do you use syndicate partners?

i. What kind of partners?
ii. What is the purpose of the partnership?

What different exits do you use?

How do you measure success or failure of an investment?

Value creation model

Do you prefer majority or minority ownership?

How do you manage you investments?

i. Active ownership
    - In-house analysis?
    - Own representatives on the board?

- Do you actively work with value creation plans?

ii. Passive ownership
   - Acting through a network?
   - Ownership agenda and investment horizon?

[Company name] towards general Private Equity firms

How are you differentiated compared to more general or other focused PE in …

i. Deal selection and deal flow?
ii. The investment stages?
iii. The way you manage your investments?
iv. Investment horizons and exit strategies?
v. ROI?

8.3. Appendix C: Independent automotive-focused PE and VC firms (1 of 2)

Company name	Sector focus	Description	Headquarter	Webpage
Fontinalis Partners	Automotive & Transportation	Exclusively focused on Automotive and transportation, especially the latter. Make mainly VC investments, but also PE, in transportation infrastructure and new technology. Invest in companies with the potential to improve mobility worldwide. Along with two others is Bill Ford, the Executive Chairman of Ford Motor Company, co-founder.	Detroit, Michigan USA	www.fontinalispartners.com
Motoring Ventures	Automotive	Exclusively focused on Automotive. Make PE investments, not VC. Provides advisory services as well. Focus on sub-sectors.	Southfield, Michigan USA	www.motoringventures.com
Transportation Resource Partners	Automotive & Transportation	Exclusively focused on Automotive and transportation, especially the latter. Make investments in growth-oriented companies in the sector. TRP is currently investing out of its third fund that was formed in 2008. The prior two funds invested in 14 companies with total transaction values exceeding $2 billion.	Bloomfield Hills, Michigan USA	www.trpfund.com
Humphrey Enterprises	Automotive, along with two other sectors	Focused on three primary industry sectors: Automotive, healthcare, and training and education. Make PE investments, not VC. The equity investments ranging from $250K to $4M. Acquire and operates manufacturing firms in the Automotive supply segment. Example of a successful exited investment is Nelson Metal Products, accomplished organic growth from $18M to $210M in 14 years. Current portfolio companies include; 1) Hardley Products, a company specialized in engineering supply delivering to the commercial and recreational vehicle markets, 2) Corvac Composites, a thermoformed plastics company and 3) Foremost, a distribution company of motors, electrical, hydraulic, and electronic systems.	Boston, Massachusetts USA	www.humphreyenterprises.com

Appendix C: Independent automotive-focused PE and VC firms (2 of 2)

Company name	Sector focus	Description	Headquarter	Webpage
The Carlyle Group	Automotive & Transportation, among others	Not entirely focused on Automotive, but has Automotive and transportation as one of their focus areas. Make regular investments in the Automotive, and have invested more than $3.5 billion of equity since 1998. A selection of portfolio companies is e.g. Hertz (current), Air Cargo (exited) and Allison Transmission (current). Is one of the largest PE funds in the world with $107.6 billion under management and 28 offices worldwide, including a office in Stockholm. Ranked as the third largest PE firm in the world in 2010.	Washington D.C., USA. Global PE firm with 28 offices worldwide	www.carlyle.com
Cerberus Capital Management	Automotive & Transportation, among others	Not exclusively focused on Automotive, but has Automotive and transportation as one of their focus areas. Are specialized in providing both financial resources and operational knowledge to underperforming companies. Hence, their intention is to buy undervalued companies and through certain value creation models transform the portfolio companies into industry leaders. Cerberus has a long-term investment horizon. Have recently closed several distressed investments. Examples of current portfolio companies are North American Bus Industries and Tower International.	New York City, USA. Global PE firm and one of the largest in U.S.	www.cerberuscapital.com

8.4. Appendix D: Corporate automotive-focused VC firms

Company name	Sector focus	Description	Headquarter	Webpage
GM Ventures	Automotive, Cleatech and Infotainment	Provide VC to early-stage start-up companies with the intention to improve GM's ability to innovate and make sure that the customers have access to the best technology available. Investment focus: Cleatech, Infotainment, Smart materials as well as interesting business models in other sectors.	Detroit, Michigan USA	www.gmventures.com
BMWi Ventures	Automotive, among others	Provide seed and first-round capital to promising start-ups companies with any business which may be beneficial for BMW, regardless of sector. Invest in companies worldwide.	Germany. Several offices worldwide	www.bmw-i-usa.com/en_us/i-ventures
Ford Capital Ventures	Automotive	Provide VC to promising start-ups in the Automotive sector. Has not been active in recent years.	Dearborn, Michigan USA	www.fordcapitalventures.com
Robert Bosch Venture Capital	Automotive, among others	Provide financing from early to expansion stage to start-up companies. RBVC invests in companies worldwide both directly and via venture capital funds. Investment focus: Wide range of technology companies that have the potential to be integrated in Bosch business.	Stuttgart, Germany. Global, 4 offices worldwide	www.rbvc.com
Volvo Technology Transfer (VTT)	Automotive & Transportation and Cleantech	Invests in companies based on technologies and services in areas of relevance for the Volvo Group.	Gothenburg, Sweden	www.volvo.com/venturetech
Saab Ventures	Automotive & Transportation and Cleantech	Invests in small and medium-sized entrepreneurial companies that have the potential to be a part of Saab's future core business and spin-outs.	Linköping, Sweden	www.saabgroup.com/en/About-Saab

8.5. Appendix E: Figure 11