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An Analysis of the Belgian Private Equity Market

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Abstract

Purpose - The purpose of this thesis is to provide a general overview of the private equity industry in Belgium and more specifically, explore the effect of private equity investment on portfolio companies. Besides, verifying if portfolio companies are better performers than their peers. Evidence from research conducted abroad is put to the test in the Belgian market.

Design/methodology/approach - This thesis is based on a set of 323 Belgian companies. Three hypotheses are tested, reflecting the particularities of private equity in Belgium. Each of them is rooted in existing literature, predominantly focused on the United States and the United Kingdom. The subject is tackled from a quantitative standpoint, i.e. annual accounts processed and obtained with the van Dijk Bel-First database software.

Findings - The type of private equity firm has an influence on the performance of its portfolio companies. Indeed, independently owned portfolio companies exhibit higher profitability ratios compared to government-backed portfolio companies. Mere financial engineering adds less value than an interventionist approach, emphasizing operational improvements. Finally, the Belgian portfolio companies seem to be not as profitable as compared to their Belgian peers.

Originality/value - This thesis provides an overview of some of the most important facts about private equity in Belgium, which is under-researched. It is also the first empirical research to touch upon the background of various private equity players.

Introduction

In recent years, investors have been looking for alternative opportunities that provide higher returns than conventional investments. Private equity is an illiquid asset that provides an opportunity to further diversify portfolios beyond the more traditional stock and bond instruments (Buchner, Kaserer & Wagner, 2010, p. 41). Indeed, Kaplan (2009) observes that the volume of capital committed to private equity (PE) as a percent of the value of the stock market continues 'to be at or near an all-time high'. Globally, PE funds oversee ca. $1 trillion of capital (Metrick & Yasuda, 2010, p. 2303).

The extensive literature studying the impact of PE transactions on acquired companies has focused mainly on countries host to major financial centers such as London, New York and Singapore. In these countries a mature equity-centered financial system is already in place. Belgium, a Continental-European country, has a bank- centered financial system (Black & Gilson, 1998, as cited in Beuselinck, Deloof & Manigart, 2009, p. 613). The scope of the research conducted in Belgium has been fairly limited. Based on the growing number of portfolio companies however, it is clear PE is moving forward[1].

The following facts give an idea of the size and intensity of Belgium's activities compared to other European countries: of the total European PE market, Belgian private equity firms make up 4,5%, while investments of PE in Belgian companies amount to 5% of the total EU market (European Venture Capitalist Association, 2010, p. 10). These figures are significant given the size of Belgium's economy.

This paper is divided in two parts. The first part consists of a literature review where the subjects discussed are carefully selected, keeping in mind an audience that has no or merely basic awareness of what private equity is. I refrained from explaining the fundamentals of how private equity works as it would weaken the added value of this

[1] A list of portfolio companies in Belgium for 2009 can be found in the "Appendices" section.

thesis[2]. Instead, the literature overview highlights the most discussed items and those facts that I deem most critical.

The purpose of the second part of this Master's Thesis, which focuses on Belgium, is to build and test theory through a hypothetico-deductive model (Colquitt & Zapata-Phelan, 2007, p. 1281). In order to test the theory, I have mapped out all private equity-backed Belgian companies. Next, I divided the sample set into different subsets applying various criteria so as to test the underlying performance. Employing financial ratios, I benchmark performance against two types of portfolio companies: ones that are not financed by private equity and private equity companies' performance among themselves as defined by their typology[3].

Three hypotheses have been developed, of which two have not yet been investigated to my knowledge. One hypothesis aims at building a theory building whereas the other two test existing theories in the Belgian market. Two out of the three hypotheses analyze the performance of portfolio companies dependent on the nature of their eventual owner whereas one hypothesis benchmarks the portfolio companies in general to their non-private equity-backed Belgian peers.

Qualitative data such as interviews turned out to be harder to find than I initially suspected, so I turned to publicly available annual accounts as my primary information source. I have spent a substantial time and effort ensuring the accuracy of my data.

Reading articles in The Economist and newspapers such as the Financial Times sparked my interest in this topic. The secrecy behind the private equity industry made me determined to expand my understanding of this expansive asset class. I am grateful to my promoter who came up with a perspective from which to approach the matter: analyzing the private equity industry in Belgium, the country where I was born and raised. On a related note, PE financed (meanwhile) internationally

[2] In case one would be interested in getting to know the fundamentals of PE, I strongly suggest to read:
Institute of Chartered Accountants in England and Wales. (2008). *Private Equity Demystified: an explanatory guide*. London: Gilligan, J., & Wright, M.

[3] Private equity firms founded by Governmental institutions, independent, banks, etc.

established brands, such as Google, Federal Express and Skype (Fried, Bruton, & Hisrich, 1998, p. 494; Metrick & Yasuda, 2010, p. 2304). National companies funded by private equity include Lunch Garden, Studio 100, Neuhaus, Vandemoortele and Aviapartner among others.

In closing, driven by strong-mindedness to pursue a holistic strategy to my thesis, I completed a three-month internship as a researcher in the Brussels office of The Riverside Company, an international private equity firm headquartered in New York City. Being an insider allowed me to get a deeper understanding of how the industry works, including its day-to-day practices.

Nomenclature

Phrase (and synonyms)	Definition
Private equity firm **Private equity player** **Private equity owner**	Within the scope of this Master's thesis, a PE firm places private equity investments in which investors and a management team pool their own money, usually with borrowed money, to buy shares in a business from its current owners[4].
Portfolio company	A company that has been acquired by a PE player.
Target company	A company in which a private equity firm has a potential interest or is strongly considering to buy.
Asymmetric information	A concept that refers to a transaction where one party has more information than another party.
Agency costs	A type of internal cost that arises from, or must be paid to, an agent acting on behalf of a principal. Agency costs arise because of core problems such as conflicts of interest between shareholders and management. Shareholders wish for management to run the company in a way that increases shareholder value. But management may wish to grow the company in ways that maximize their personal power and wealth that may not be in the best interests of shareholders[5].

Table 1. Frequently used private equity jargon

[4] Institute of Chartered Accountants in England and Wales. (2008). *Private Equity Demystified: an explanatory guide*. London: Gilligan, J., & Wright, M.

[5] Taken from www.investopedia.com

Literature Review

A Rising Asset Class

Investors are increasingly turning to private equity for a higher return on their investments, because traditional asset classes such as stocks or bonds, on average, provide more modest returns. While its roots are in the United States and in the UK, private equity has spread throughout other capital markets ever since. In the beginning it was challenging to raise capital. Today, however, institutional investors, corporate investors, private individuals, funds-of-funds, government agencies and sovereign wealth funds are, among others, the biggest capital providers to the PE industry (Klier, Welge & Harrigan, 2009, p. 7; European Venture Capitalist Association, 2010, p. 16).

The distinct feature of this asset class is its illiquidity. In contrast to other asset classes (e.g. stocks, foreign currencies, natural resources, etc.), which can be easily sold on a market, here the investor assigns capital to the PE firm that stays in the fund as long as it needs to fulfill its strategy (Kaplan, 2009, p. 16), with a typical estimated time horizon of three to seven years.

The Private Equity Prototype

This section gives a typical example of how private equity works in the context of a family firm. Imagine a firm started by an engineer. At one moment, this engineer, acting as the CEO of his own company, will look for someone to take over the company due either to lack of the right management skills to cope with a growing business, or the interest in selling the company in order to retire. Here is where private equity comes in. It is an alternative to being acquired by an industry player or to exiting via an IPO[6] (Dawson, 2011, p189).

Some reasons why the engineer-entrepreneur would particularly prefer private equity include a chance for the family members to remain connected with the business, to conserve the firm's autonomy and to access financial resources for growth ambitions and acquisition strategies. In their analysis of the cognitive structure of entrepreneurs'

[6] Initial Public Offering

motivation toward private equity financing, Morandin, Bergami & Bagozzi (2006) advance a particular, intrinsic motive for engaging in private equity, i.e. prestige. Complementary to monetary rewards, entrepreneurs value intrinsic rewards such as personal satisfaction and status when teaming up with a PE firm.

Another prototype of possible target companies are previous divisions of a company (Wright, Jackson & Frobisher, 2010). Conglomerates sometime sell off unprofitable or non-core divisions. These divisions hail PE as they were previously characterized by carelessness, unreasonable performance targets or other constraints by their owner (Barber & Goold, 2007, p. 54).

The public-to-private market provides a third source of target companies for the PE industry (Wright, Jackson & Frobisher, 2010, p. 87). Small companies turn to PE when the stock market does not live up to their expectations. They hope to reap the benefits of having another ownership structure and eliminate the costs associated with being public.

The last option for PE companies to acquire target companies is simply buying them from other PE firms. These are called 'secondary buyouts' and are far more common now than ten years ago (Wright, Jackson & Frobisher, 2010, p. 93). Portfolio companies are held for a limited amount of time. Afterwards, the company can choose among three options: IPO, corporate buyer or another PE firm.

In their quest for profitable opportunities, PE firms look beyond family companies as private equity targets.

Venture Capitalists Versus Business Angels

Two other types of private equity investors are venture capitalists ("VC") and business angels ("BA"). The two differ in terms of funding, objectives and monitoring. The scope of this thesis does not include the performance of business angels funding. Yet, due to their appeal and the fact that they are often mentioned in private equity literature, I will briefly touch upon them.

Obtaining short-term profits does not drive business angels. Rather, they invest for the long term. BAs do not have to justify their actions as they invest their own funds. VCs, on the other hand, are concerned with their reputation, since a successful track record is a precondition for fund-raising. They work with the money they are given by the investors and are thus under more pressure to perform (Bruton, Filatotchev, Chahine & Wright, 2010, p. 497). The stress on performance is reflected in their tendency to select companies with a less dominant management team or less concentrated ownership as it limits their negotiation power.

With the goal of assuring a good bet, the VCs rigorously screen the target company before investment. They do this by analyzing the target's financial statements, competitive positioning and growth opportunities. The investors who back the venture capitalists seek a good return for their own investors[7]. As such, they are continuously working to make sound investments and building and maintain a trustworthy reputation.

BAs do not have to be concerned about their reputation. They experience less need to sell their shares, so they can derived increased profit more from being patient and having a long-term perspective. Their monitoring takes place predominantly after the investment has been made (Bruton, Filatotchev, Chahine & Wright, 2010, p. 497). These wealthy individuals are usually business experts and act as a coach for the companies they invest in. The nature of the relationship makes BAs more eager to invest in closer geographic areas as compared to VCs for whom the investments can be thousands kilometers away (Sohl, 1999, as cited in Bruton, Filatotchev, Chahine & Wright 2010, p. 498).

Private Equity Management Models

Private equity companies can be divided into four categories according to how they are managed: generalists, specialists, financial engineers and the 'interventionalists' (Klier, Welge & Harrigan, 2009, p. 8).

[7] The investors are the focal point whereas BAs focus on the company itself.

Generalists and Specialists

These two categories are differentiated by how the private equity player pursues its acquisition strategy.

Generalists acquire target companies in a range of industries. As long as the target complies with the pre-set financial criteria (e.g. revenue or EBITDA), it will be considered for purchase. For instance, a generalist may hold information technology companies as well as FMCG[8] firms in the same portfolio.

Specialists can either specialize by function or by investment (Pappas, Allen & Schalock, 2009, p. 25). The former refer to, for instance, a devoted sourcing team whereas the latter denotes the preferred industry of the PE firm. These specialists generally limit the scope of their target companies to a specific industry. There are two possible causes as to why some private equity companies end up being specialist. First, the founder was active in a specific industry and therefore the private equity house started to acquire companies building on this industry expertise. Second, the private equity company started focusing on a particular industry, going down the learning curve.

Three reasons exist for why PE chooses to specialize. The first one is improving their knowledge of a well-defined market by achieving multiple transactions. Furthermore, they attempt to lure more deals through establishing a hallmark within a distinct industry. Finally, by specializing they provide an answer to the expectations of investors (Brian, 2008, p. 354; Collinson & Gregson, 2003, p. 189).

The two aforementioned strategy categories should not be seen as black and white. Actually, more private equity companies fall into a grey area. For example, one company can have different funds, each having their own specialty, such as clean technology or pharmaceutical industry. As such, they take advantage of portfolio relatedness while being not being bound to a particular industry.

[8] Fast Moving Consumer Goods

Financial Engineers and Interventionist Investors

These two categories refer to the extent to which the private equity managers are actively involved in the control of the portfolio companies.

Financial engineers apply a more traditional, passive management model (Klier, Welge & Harrigan, 2009, p. 8). Once a private equity player acquired a company through a combination of their own funds and bank debt, they engage in activities so as to repay the debt. Capital is more efficiently used and the tax charge for the acquired companies is less than before the acquisition (Gilligan & Wright, 2008, p. 5).

The leasing or sale of assets is commonly used to repay the debt. The latter can take an extreme form known as 'asset stripping'. Asset stripping is the opposite of genuine value creation and will be discussed under the heading private equity controversy. Critics protest that the high returns to PE are only the outcome of high leverage (Kaplan, 2009, p. 10).

Given the current state of the economy with leverage in short supply, PE's potential to create value through mere financial engineering has declined (Matthews, Bye & Howland, 2009, p. 21). In turn, interventionist investors can add value by combining financial engineering with operational techniques.

Interventionist investors are actively involved in decision-making and create value by means of active ownership (Klier, Welge & Harrigan, 2009, p. 8). This type of ownership requires strong knowledge of running a company. Moreover, interventionist investors are usually industry experts with a solid background. They substantially outperform the financial engineers when it comes to the analysis of their net IRR (Klier, Welge & Harrigan, 2009, p. 8). The drawbacks of applying the interventionist investor models are a reduction in tradability and it requires a higher investment in terms of time and money.

Whereas one cannot be a pure generalist and specialist at the same time, the four categories are not mutually exclusive. The following example confirms this statement: an interventionist investor can be both a generalist and a specialist. If the interventionist investor leverages merely its management skills, such as by exhibiting

broad-based management skills by being part of operations in different industries, it will be more likely a generalist. Conversely, if the interventionist investor has an in-depth knowledge of a specific industry, it will probably be a specialist.

Private Equity Performance

Much has been written regarding what influences private equity performance. 8 functions of private equity impact performance: monitoring activities, higher remuneration to the portfolio companies' executives, its role as an intermediate, networking, the skills of the general partners, growth pace, size of the fund and its innovative capabilities.

PE's chief objective is to maximize shareholder value. Listed companies have the same aspirations, yet PE is in an advantageous position, offering "greater flexibility and greater opaqueness regarding the manner in which organizational resources are reallocated or disposed of in the interests of short-term returns" (Wood & Wright, 2009, p. 364). Furthermore, PE organizations endeavor to create a sense of urgency that accelerates the decision-making process, thus enabling swift action (Matthews, Bye & Howland, 2009, p. 25).

Fried, Bruton, & Hisrich (1998) suggest that the PE companies' board are more actively involved and the result is higher performance compared to the non-PE backed companies. PE establishes a 'discipline force' on its portfolio companies' management. Nevertheless, executives at publicly listed companies may sometimes act in their own interest by making decisions that benefit themselves rather than the company they are working for. They grow the company by going on a buying spree, solely to increase the prestige of their job position and in the end this acts as a justification to augment their remuneration package.

In accordance with the increased monitoring, Beuselinck, Deloof & Manigart (2009) remark that in Belgium portfolio companies publish higher quality financial reports after the PE investment. Subsequently, the governance of PE has a positive impact on the transparency of financial reporting towards externals. In conformity with the

enhanced transparency, PE create a better methodological and metric-based management framework (Matthews, Bye & Howland, 2009, p. 25).

It is in the interest of the private equity firm to increase the value of portfolio companies. In order to align the interests of the portfolio company's managers with those of the PE company, the PE company may create double incentive system, of which the first incentive one is offering increased compensation. The reasoning behind this practice is of a totally different essence than what has been said in the previous paragraph. In addition, portfolio companies feel less regulatory pressure when contrasted with their listed equals (Kaplan, 2009, p. 15), so they can agreeably pay out royal wages. PE companies offer a higher pay with the ultimate goal of increasing the value of the portfolio company. That is why companies backed by PE firms are more eager to perform better.

Other than offering a higher remuneration, private equity organizations usually require the top executives to invest some of their own funds in the transaction, i.e. the second component of the incentive system. Hence, executives will accomplish their task in such a way that it will maximize the value of the company, thus their own funds they have initially invested (Klier, Welge & Harrigan, 2009, p. 10).

In their *Journal of Private Equity* article, Siming (2010) argues that PE companies' value creation goes beyond what has been discussed so far in the literature. He sees PE firms as 'market makers' and defines them as facilitators of "trading in markets and have the most basic feature of holding an inventory of assets that are available for purchase". Besides bringing operational improvements, the author writes that the PE company performs the role of an intermediary, linking the players in the market for 'corporate control'.

In addition to their role as an intermediary, PE relies on an extensive network of service providers. Some services are commonly contracted out to headhunters, patent lawyers, and investment bankers, hired by the PE firm as external consultants (Gorman and Sahlman, 1989; Sahlman, 1990, as cited in Hochberg, Ljungqvist & Lu, 2007, p. 251). This might be an explanation of the secrecy involved in the industry. Owing to the conventional wisdom "knowledge is power", PE firms know that their

comparative advantage is contingent upon the quality of the knowledge they have access to. The better-informed their network, the more likely the PE firm will have a superior performance. As such, it is in the very interest of the PE industry to have an obscure reputation (Brian, 2008, p. 354).

Another factor that makes private equity, acting as active investors, an added value to their portfolio companies is its ability to grow young companies faster than the market average (Inderst & Mueller, 2009). PE provides growing companies with the oxygen to do so. Moreover, they foreclose opportunities for competing companies by engaging in 'strategically overinvesting'. In fact, active investors add relatively higher value in competitive industries along with industries where early investments have long lasting effects e.g. due to learning curves, economies of scope, and network effects.

In terms of fund size, the largest PE players account for the majority of the total dollar amounts raised. In a study on *The Economics of Private Equity Funds*, Metrick & Yasuda (2010) find that the upper 10% of the biggest funds in their sample of 4.204 PE funds raised between 1993-2005 constitute circa half of the total dollar amounts.

Finally, PE firms foster innovation. Figures from databases such as the US Patent and Trademark Office and Delphion prove that the quantity of patent demands is stimulated by private equity activity (Ughetto, 2010, p. 129; Chen, Gompers, Kovner & Lerner, 2010).

Investee Valuation

Cumming & Dai (2011) suggest that fund size has a key impact on the companies that are to be acquired. The fund's size and as a second factor its reputation have an impact on the valuation of the portfolio companies. A clear distinction should be made between normal PE companies and reputable ones and between small funds and larger funds.

The idea that diseconomies of scale also affect the private equity industry is confirmed by Cumming & Dai (2011). They argue that as a fund grows, human

capital is unable to match the attention requirements that are needed when assessing new target companies. Consequently, bigger funds tend to overpay new targets as they lack sufficient resources to conduct a proper due diligence. These diseconomies of scale can be avoided when the number of 'as-good quality' keeps up with the growing fund.

Small funds tend to overpay as well. Weaker inside government systems and agency problems result in smaller funds paying relatively more for their targets (Cumming & Dai, 2011, p. 3). Bigger funds are usually at a further point on the learning curve and their experience helps them identify a fair price for the target company.

On a critical note, larger healthy PE firms can afford much more thorough analysis than small funds do. A better explanation is that demand is outstripping supply, i.e. that a number of large funds compete for few deals, driving prices up. Smaller healthy funds are more likely to be specialized and presumably better in knowing what they buy or they can be venture capitalist funds, which are by definition investing at high valuations (W. Jaworski, personal communication, August 15, 2011).

The second factor, the fund's reputation, has an important influence on the actions of the target company. The latter is willing to lower its price in exchange for being associated with a fund with an excellent reputation, believing that reputable funds will help them to boost growth (Cumming & Dai, 2011, p. 4). Indeed, if the target company sees the PE player as certified, they are willing to receive a lower investment amount (Hsu, 2002, as cited in Denis, 2004, p. 307).

A final view on the dynamics of investee valuation is the way PE firms assess the growth opportunities. The over-investment hypothesis explains how some companies are deceived in their quest for a good return on investment (Li et al., 2009, as cited in Chou, Gombola & Liu, 2009, p. 1115). No matter what size the PE firm has, overall one can say that targets with high growth opportunities are less interesting for investors in the short term. Investors are overly optimistic and therefore more likely to pay a higher price. Once the transaction has been made, the proceeds are mainly used to reinvest in the portfolio company, reflecting a belief in a bright future rather than a

focus on short-term gains. Conversely, firms with fewer growth opportunities will use their profits to service debt, which is more attractive to the investors.

Information Asymmetry Dynamics

Some common pitfalls in private equity include adverse selection, agency costs and asymmetric information. These occur the most often in the publications regarding private equity and stem ultimately from the economics/psychology discipline. These problems happen at three stages: prior to the investment, during the holding period and when selling the investment. Every stage involves costs for the PE company.

Prior to the investment, the PE firm will run a rigorous due diligence process. They find out about new deal opportunities via their network. Some examples include investment bankers or senior managers from the different industries the PE firms are involved with. Other, more proactive ways of finding new deals are the use of specialized databases or nosing around new business trends or proposed legislation. Keeping up with current trends is vital and serves as a prerequisite for a good due diligence.

A fictional example might be a Nature article that provides full coverage and evidence on the harmful consequences of candy containing gelatin coming from animal collagen. At this point it might be wise to screen the market for companies that manufacture candy using a substitute base ingredient.

After the strategic potential of the target is evaluated, private equity firms will assess whether the accounts of the target fit their financial requirements (e.g. EBITDA size). Every single private equity firm has other predetermined criteria for investment[9].

The information asymmetry dynamics prior to the investment reflect a due diligence paradox. The longer and more scrutinized the due diligence process, the more costly it is, but it will be at the same time more likely that the problem of information

[9] Some private equity firms will only consider target companies with an annual revenue between 1.000.000-7.000.000€ whereas other PE firms will opt for companie with a revenu higher than 50.000.000€.

asymmetry will be overcome. A PE company will have to make a tradeoff between staffing the time-consuming research process or risking possible unsuccessful acquisitions.

During the holding period, information asymmetries are especially common in family firms. Two recurring issues are higher governance costs and adverse selection (Achleitner, Herman, Lerner & Lutz, 2010, p. 19). The first are caused by family members who have the feeling they are more authorized to engage in certain behavior, such as making decisions without formal approval from other decision makers in the company. Free riding makes up another governance cost as family members might be reluctant to act proactively or there is no need to prove oneself (Dawson, 2011, p. 190).

Complementary to this vision, private equity brings strategic benefits in industries prone to information asymmetries (e.g. biotechnology). Finding new financial resources, commercial partners, research partners become less complicated when PE firms back such companies (Folta & Janney, 2004, p. 240).

In the context of family firms, adverse selection[10] refers to the preference of having family members in key management positions or the likelihood of hiring incompetent family members instead of external applicants. Private equity can do away with these problems as they can create value through changing management positions and guide and monitor the employees' actions in the general interest of the family firm. In short, private equity establishes a more effective governance system and provides a monitoring role.

At the exit procedure, PE firms want to maximize their return. This is also in interest of the other shareholders as they profit from a higher valuation of their company. Hence, these will do everything in their power in order to make possible buyers believe that the company is worth its (expensive) selling price. PE firms with portfolio relatedness are in a good position to negotiate high prices for exits of portfolio companies that are of the same type as their other portfolio companies

[10] PE firms can as being an outsider hardly assess who are (not) the family members.

(Klier, Welge & Harrigan, 2009, p. 10). Indeed, the reputation of having a particular industry expertise will create a sense of trust and empathy that less-informed investors cannot portray.

The Private Equity Controversy

The literature provides one dominating disagreement about PE: job losses. A clear-cut example is asset stripping (Wood & Wright, 2009, p. 361), whereby the PE player sells off the acquired company's belongings in order to generate cash flow to pay back its debt. Accordingly, many jobs were lost as subdivisions were being sold out. This dark side of PE was more common in the past and is meanwhile prohibited by law in countries such as the U.K. Nowadays the debate still goes on, although the subject of the debate's magnitude has appeased, i.e. discussions about job losses still go on, being due to other circumstances than the more sinister asset stripping.

In line with asset stripping, Wood & Wright (2009) highlight the negative consequences of heavily leveraged buyouts. While cash-hunting to settle the debt, PE engage at times in disgraceful actions such as using a target company's pension funds.

Usually, private equity investors hold their stake in the portfolio firm for an average of 4-6 years. At one point in time a 'liquidity event' will generate the bulk of the private equity investors' profit (Brav & Gompers, 2003, as cited in Bruton, Filatotchev, Chahine & Wright 2010, p. 493). The performance of the firm will be optimistically represented in the run-up to the IPO (Initial Public Offering). This results in the acquirers paying an expensive price premium for which they might subsequently compensate by cutting jobs. In a worst-case scenario the adverse selection problem may possibly lead to financial troubles for the acquirer as he or she overpaid.

The effect of PE on the job market is a popular theme. Kaplan (2009) remarks that even the highest ranks of the corporate hierarchy are more likely to be fired than their public peers if they are considered not to be performing their duties appropriately.

Shifts in corporate ownership through buyouts seem to give rise to increased plant and company efficiency (Cressy, Munari & Malipiero, 2011, p. 6). The aftereffect is shedding jobs. The authors refer to this process as 'rationalization'. Shareholders are clearly in an advantaged position compared to the employees of the company. However, this claim should be nuanced. There may be job cuts in the short run, but as the firm reinvest its proceeds and continues to flourish, the medium run can possibly create new jobs, more than initially have been slashed. The portfolio companies backed by PE ultimately become 'net employers'.

The Future

An interview with Steve Kaplan (2009) in the Journal of Applied Corporate Finance sheds some light on the future of private equity.

The government increasingly scrutinizes public companies and there exists a downward pressure on the remuneration for top executives. Private equity companies do not experience such pressure and for that reason they can use high pay to align the interests of the CEO with those of the PE company[11]. Although affected by the economic downturn, private equity remains attractive to investors. However, the current business environment brings along the need for restructuring of the PE firms' strategy.

PE firms have built up an enormous stockpile of cash. Their buying power is at an all-time high, however, the debt markets for leveraged deals have become paralyzed. Mere financial and governance engineering bring only minimal profits in today's hot market for PE deals. Operating capabilities are becoming more fundamental to achieve an increased return on investment (Wright, Jackson & Frobisher, 2010, p. 86). Private equity companies play on this trend by hiring former CEOs or industry experts, acting as external consultants to maximize operational improvements.

[11] Public-to-private transactions happen more nowadays to profit from the advantages of not being listed.

The PE sector in Europe will come under increased scrutiny due to a Directive on Alternative Investment Fund Managers passed by the European Parliament in November 2010. PE funds will be obliged to disclose information about the remuneration of the funds' executives, the portfolio companies encompassing their plans for the business and for employment and it will include a clause that prohibits asset stripping (Wright, Jackson & Frobisher, 2010, p. 91).

The European Venture Capitalist Association (2010) looks at the future from a post-downturn frame of mind. In spite of the fact that the PE industry was severely struck by the frozen financial markets, the outlook for the era thereafter remains optimistic. The step up of the macroeconomic environment, the return of trade buyers to the market, and the increased presence of valuable investment opportunities are all contributing to a bright look on the future.

Yet, a critical remark should be made. At the time being, countries such as Portugal, Greece, Ireland and Spain are ratings downgrades by credit agencies. This action can possibly trigger a decrease in business confidence as well as in the liquidity of the financial markets. To conclude, one should be careful making statements by looking into the future's crystal ball.

A final word of wisdom is worth pointing out: "change is the one certainty in an uncertain economic environment. It is a PE firm's responsibility to make sure that it is organized effectively to handle it" (Pappas, Allen & Schalock, 2009, p. 28).

Research

The goal of this Master Thesis is to describe the Belgian private equity market landscape. The analysis was structured into two phases. In the first phase I assembled a set of all Belgian companies that were encompassed by private equity. In a second phase, I used the Bureau van Dijk Bel-First software to look up and analyze the portfolio companies' annual accounts.

Data description

Portfolio Companies

The website of the Belgian Venture Capitalist Association (BVA) was the foundation of my research. My ultimate goal was to gather every single Belgian company that was part of private equity in 2009. I only considered the portfolio companies in which the private equity parent held a majority stake or in which the private equity player had significant power to influence decision-making[12].

In my quest of the Belgian portfolio companies, I used different information sources to retrieve a maximum of these companies and it allowed me to perform validity crosschecks simultaneously. The sources I used were the websites of the private equity firms listed as members of the BVA[13], the Mergermarket database[14], the Bel-First database, and online newspaper articles. If a company was not certain to be private equity funded, I excluded it from my research to keep my analysis as accurate as possible.

Most of the members present on the BVA member list had a section on their website which showed their current portfolio companies. For those private equity firms that did not make this information available, I obtained their portfolio listing by contacting the company directly by e-mail or by phone. Some of them were so kind to send me a more comprehensive annual report.

[12] Subordinated loans, such as the one given from Nivelinvest to Creaset SA were not included in the set - information obtained from Nivelinvest's annual report
[13] http://www.bva.be/fb111mggc622gkw1szu149.aspx
[14] http://www.mergermarket.com/

The Mergermarket and Bel-First databases addressed a deficiency in the BVA member list: foreign private equity firms with controlling stakes in Belgian companies. Indeed, the member list on the BVA website consisted predominantly of Belgian private equity firms or firms with strong links to Belgium (e.g. having a representative office in our country). These two databases together with newspaper articles had another objective: validity checks.

The result was a database of 323 unique Belgian companies that are part of private equity. The bulk of the portfolio companies are owned by a single private equity firm. However, some portfolio companies are at the same time part of two or more private equity players (examples include Formac Pharmaceuticals and Microtherm Engineered Solutions).

The private equity owner can be classified according to their background. Below are listed the four major identifiable categories with some PE firms operating in Belgium:

Financial institutions	BNP Paribas Fortis private equity, KBC Private Equity
Governmental institutions	Limburgse Reconversiemaatschappij (LRM), Participatiemaatschappij Vlaanderen, Société Régionale d'Investissement de Wallonie (SRIW)
Independent organizations	GIMV[15], Waterland Private Equity Investments, E-Capital
International organizations	3i Group, Doughty Hanson & Co, H2 Equity Partners

It is needless to say that one and the same private equity company can belong to more than one category.

[15] Gimv started as a Flemish government initiative and ended up being progressively detached from this role: http://www.gimv.com/view/nl/388320-+Hoogtepunten+.html

Empirical Evidence

The next phase of the research process was the calculation of empirical data, using the portfolio companies' annual accounts as a basis[16]. Financial ratios were then calculated and contrasted with a control group (i.e. Belgian companies that are not part of private equity).

All the annual accounts were available on the website of the National Bank of Belgium. The added value of using Bel-First was its wide-ranging offer of features. These enabled me to make subsets of companies and calculations in a swift manner.

The first step involved looking up the annual accounts of the portfolio companies. My only given piece of information was the name of the target company, together with its private equity owner. Surprisingly, the lion's share of these companies had slightly different names and consequently a different value added tax identification number[17]. This is due to the complexity of some of the companies' financial structure. The private equity company could only have a relatively bigger significant influence on only one annual account. I wanted to be absolutely sure in which of the obtained annual accounts for the same company the private equity player was present.

There was a clear need for a validation procedure so as to keep my research as robust as possible. I contacted each of the portfolio companies by e-mail, asking in which value added tax identification number the private equity owner was present. Being faced with a low response rate, I decided to take a more proactive approach by calling the portfolio companies.

The phone numbers were usually obtained from the respective corporate website. Whenever possible I immediately contacted the financial director or the accounting department. I usually got in touch with the general receptionist who at that point dispatched my request to a colleague. From my experience, a number of employees, not being part of management, were unaware that a private equity house was

[16] The tables in the "Appendices" section contain exactly the same numbers as those that are discussed in the tables throughout the document. Yet, they are ordered in such a way enabling an approach from another angle.

[17] Examples of ambiguities: Taminco & Taminco Group, Euroglas & Euroglas-De Landtsheer, Desmet Ballestra Engineering & Desmet Ballestra Group, etc.

overlooking the company. If I was fortunate, I obtained the necessary information within five minutes. Sometimes it took days or even weeks before the right person could provide me with trustworthy information (i.e. the correct value added tax identification number). A simple double-check turned out to be a titanic work.

After I gathered all the precise tax identification numbers for which I was sure private equity was involved, I could use these unique numbers to make subsets and calculate ratios based on their clustered annual accounts. These clustered accounts are an aggregation of all the companies specified by predetermined criteria. The same is true for the other sets of companies that are created. Each of them is chosen according to some criteria, which then gives a certain amount of companies. The annual accounts of the latter are then added up, creating as it were a 'mega annual account'.

The whole analysis is based on the year 2009. With the aim of drawing unbiased conclusions, I did a historical analysis for the companies I was sure they were part of private equity during the 2006-2009 period[18]. The latter acted as a conclusion-tester of my findings for the year 2009. The next section is split up in "2009 analysis" and a "2006-2009 analysis".

[18] I did not include 2005 as this reduced the number of companies in my sample and hence the statistical significance.

2009 analysis

For the 2009 period I sliced the database of 323 companies up into various categories in order to get a genuine understanding of the performance within each segment. In the first stage, I compared the portfolio companies among themselves. To accomplish this, I clustered the annual accounts into the following categories:

All Private Equity Portfolio Companies	
Government-backed Portfolio Companies	Privately owned Portfolio Companies
Annual revenue <1.000.000€	
Annual revenue 1.000.000-5.000.000€	
Annual revenue 5.000.000-12.000.000€	
Annual revenue >12.000.000€	

Table 2. Categories subject to analysis 2009

The government-backed and the privately owned portfolio were compared among themselves. I wanted to see whether the PE company's heritage has an influence on the performance of their portfolio companies.

Next, I benchmarked the revenue categories above to their non-private equity backed counterparts, i.e. all the remaining Belgian companies that are no portfolio companies. These revenue categories were already prefixed in the Bel-First software and reflect four quartiles in which the annual revenues of Belgian companies can be split.

My first intention was to cluster the annual accounts of all the other Belgian companies. I stepped down from this approach due to two reasons: the sample was too big and the software together with the laptop I was given, was simply not able to process this huge amount of data. Secondly, I wanted to keep my benchmarking as precise as possible.

My sample of 323 companies represented a specific range of business activities. It is straightforward that the range of business activities for all other Belgian companies was more ample. With the aim of keeping my comparison as truthful as possible, I solely included all other Belgian companies with those business activities that were

present in portfolio companies' sample. Using table 3, I will tell you how I succeeded in getting a sample of non private equity-backed Belgian firms that allowed me at the same time a fair comparison and a sizing down of my data.

Criterion	All other Belgian companies (n)
All active Belgian companies	1.232.409
Available annual account for 2009	71.066
NACE-codes[19]	34.995

Table 3. Narrowing down to a relevant set of Belgian companies

As you can see, I was able to gradually decrease the amount of companies in my sample with the aim of achieving a set of all other Belgian companies that reflect the same characteristics (i.e. no NACE-code is included which is not represented in the sample of the PE portfolio companies) as the portfolio companies. As such, this enabled me to make a relevant comparison. Unfortunately, 34.995 annual accounts were still too big to be clustered into one annual account. Cutting them up in the same revenue categories as I did with the target companies allowed me to construct a grouped annual account for each revenue category.

I calculated the same ratios for the non-private equity backed companies as I did for the portfolio companies.

The ratios I calculated for each of this segments were current ratio, liquidity ratio, gearing ratio, solvency ratio, return on total assets (ROA)[20], return on total equity (ROE), return on capital employed and profit margin. Table 4 and 5 explain how the different ratios are calculated and how one should interpret them.

[19] NACE (Nomenclature statistique des Activités économiques dans la Communauté Européenne) Code Classification Index to classify business activities.
[20] The net return on total assets is calculated as well.

Financial Ratio		Formula
Liquidity	**Current Ratio**	$\frac{\text{current assets}}{\text{financial debts payable within 1 year} + \text{other amounts receivable, deferred charges \& accrued income}}$
	Liquidity Ratio	$\frac{\text{current assets-stocks and contracts in progress}}{\text{financial debts payable within 1 year} + \text{other amounts receivable, deferred charges \& accrued income}}$
Solvency	**Gearing Ratio**	$\frac{\text{non-current liabilities} + \text{financial debts payable within 1 year}}{\text{shareholders funds}}$
	Solvency	$\frac{\text{shareholders funds}}{\text{total liabilities}}$
Profitability	**Return On Assets (ROA)**	$\frac{\text{current profit/loss before taxes}}{\text{total assets}}$
	Return On Equity (ROE)	$\frac{\text{current profit/loss before taxes+debt charges}}{\text{shareholders funds+non-current liabilities}}$
	Profit Margin	$\frac{\text{operating profit}}{\text{current profit/loss before taxes}}$

Table 4. Financial ratios calculation[21]

[21] All calculations are provided by Bel-First.

Financial Ratio		Explanation
Liquidity	**Current Ratio & Liquidity Ratio**	These ratios are used to identify the company's ability to pay back its short-term liabilities (debt and payables) with its short-term assets (cash, inventory, receivables). A higher current ratio reflects a better capability of a firm paying its obligations. A liquidity ratio or current ratio under 1 suggests that the company would be unable to pay off its obligations if they came due at that point. While this shows the company is not in good financial health, it does not necessarily mean that it will go bankrupt - as there are many ways to access financing - but it is definitely not a good sign. The ratios can give a sense of the efficiency of a company's operating cycle or its ability to turn its product into cash. Companies that have trouble getting paid on their receivables or have long inventory turnover can run into liquidity problems because they are unable to alleviate their obligations.
Solvency	**Gearing Ratio & Solvency**	Solvency ratios try to measure the risk involved in the repayment of debt and the ability of a company to meet its debt in the long run. The higher a company's degree of leverage, the more the company is considered risky. A company with high gearing (high leverage) is more vulnerable to downturns in the business cycle because the company must continue to service its debt regardless of how bad sales are. A greater proportion of equity provides a cushion and is seen as a measure of financial strength. The solvency ratio is verifying the relation between the shareholders funds and the total liabilities. This ratio should ideally be above 27,5% to be considered in a safe zone.
Profitability	**Return On Assets (ROA)**	An indicator of how profitable a company is relative to its total assets. ROA gives an idea as to how efficient management is at using its assets to generate earnings. Calculated by dividing a company's annual earnings by its total assets, ROA is displayed as a percentage. Sometimes this is referred to as "return on investment".
	Return On Equity (ROE)	A ratio that represents how much profit a company generates with the money shareholders have invested. It answers the question: would the owners be better off selling the business and placing the proceeds in a bank deposit account?
	Profit Margin	A ratio of profitability that measures how much out of every dollar of sales a company actually keeps in earnings. A higher profit margin indicates a more profitable company that has better control over its costs compared to its competitors. Profit margin is displayed as a percentage; a 20% profit margin, for example, means the company has a net income of $0.20 for each dollar of sales. Looking at the earnings of a company often doesn't tell the entire story. Increased earnings are good, but an increase does not mean that the profit margin of a company is improving. For instance, if a company has costs that have increased at a greater rate than sales, it leads to a lower profit margin. This is an indication that costs need to be under better control.

Table 5. Financial ratios explanation[22]

[22] Definitions are taken from:
Alexander, D., Britton, A., & Jorisson, A. (2011). *International Financial Reporting and Analysis*. Singapore: Seng Lee Press.
http://www.investopedia.com/
http://www.bibf.be/page.aspx?pageid=1469&menuid=1197

2006-2009 analysis

I admit that carrying out an analysis for all the portfolio companies over a longer period (e.g. a five year time frame) would provide us with a deeper understanding of the performance of the portfolio companies in Belgium. However, due to confidentiality reasons, the information of when the portfolio companies were acquired was not always publicly available. That is why this sample includes the annual accounts of 46 portfolio companies[23].

The credit crunch has unquestionably affected the performance of most Belgian companies. The purpose of analyzing the annual accounts over a longer period helps us to verify in which magnitude the companies were affected before and during the buildup of the crisis. I used again the same revenue categories to compare. Nonetheless, I thought it would be an excellent idea to see whether portfolio companies backed by financial institutions[24] would react differently in terms of performance and buildup to the crisis. I compared the aforementioned set of portfolio companies with those backed by banks.

The reason behind this choice of contrasting financial institution-backed portfolio companies with all the other ones relates to what has been said in the literature review about the financial engineers and the interventionalists. Supposing that banks are merely financial engineers, I wanted to check whether these outperform the Belgian portfolio companies as a whole.

I developed three hypotheses:

Hypthesis I: government-backed portfolio companies outperform independent portfolio companies

Hypthesis II: private equity portfolio companies outperform all other Belgian companies

Hypthesis III: financial engineers have a lower performance compared to the portfolio companies as a whole

[23] 46 in 2006, 48 in 2007, 48 in 2008 & 49 in 2009 to be more precise.

[24] The majority being portfolio companies of BNP Paribas Fortis Private Equity and KBC Private Equity.

The three hypotheses were tested and evaluated according to three variables to assess the company's financial situation: liquidity, solvency and profitability. For each of the three variables I calculated two similar ratios for the purpose of improving the robustness of my research. In any case, the findings are all conditional on the data available.

Discussion

Hypthesis I: government-backed portfolio companies outperform independent portfolio companies

The first hypothesis is an example of my attempt to build theory. As far as I know, no one has ever analyzed the contrast between the performance of portfolio companies that are government-backed versus portfolio companies that are financially supported by independently owned private equity firms.

One would suppose that government-backed portfolio companies are more patient and less incentivized by the lure of short-term profits. Patience might be a good attribute, but at the same time it could undermine the speediness and low time to market values the present business world is requiring.

Due to short-term profit motives one might think that independent private equity firms are more eager to engage in risky activities, such as developing a new product, creating a rebranding strategy or providing resources for r&d where no clear objectives are established. However, government-backed private equity firms can afford better to engage in risky activities, as they are less prone to punishment by their investors in case of failure. A big part of their financial resources comes in the end from taxpayers' money[25].

[25] The wider public, commonly referred to as 'Average Joe', acts through collective investment vehicles (e.g pension funds and insurance companies) as indirect investors (Gilligan & Wright, 2008, p. 31).

Financial ratio	Government-backed (n=102)	Independent (n=305)
Current ratio	1,23	1,01
Liquidity ratio	1,08	0,86
Gearing ratio (%)	118,21	122,66
Solvency (%)	40,5	37,1
ROA (%)	-2,64	3,62
ROE (%)	-0,5	10,15
Profit margin (%)	-9,61	5,48

Table 6. Financial ratio comparison government-backed and independent portfolio companies (2009)

From looking at the liquidity ratios, it appears that the government-backed portfolio companies are more liquid than the independent ones. This implies that they are better able to pay off their short-term obligations.

Both the government-backed as the independent portfolio companies are considered in the same financial health when looking at the solvency ratio (exceeds 27,5%[26]).

Analyzing the three last ratios, one can tell that independent portfolio companies have a better performance overall.

We can conclude that, for the year 2009, government-backed portfolio companies are in a better position to pay their obligations, they are equally solvent, but the portfolio companies of independent PE firm clearly outperform the government-backed companies when looking at the profitability ratios. Hence, the first hypothesis can be rejected based on the figures for 2009.

As proposed, this hypothesis can be a new theoretical consideration. The numbers prove that government-supported private equity companies provide as a matter of fact less profitability and at the same time in a better liquidity position. The theory that can be built here can be phrased: "although independently-owned portfolio companies are in a less favorable liquidity position, they persistently outperform government-backed portfolio companies when taking into consideration their profitability". Nevertheless, one should note that this is the conclusion for a small set of companies constructed relying on the figures of one particular year (2009).

[26] http://www.bibf.be/page.aspx?pageid=1469&menuid=1197

Hypthesis II: private equity portfolio companies outperform all other Belgian companies

An important goal of this Master's Thesis is to see whether private equity adds value as a rule. By adding value I mean exhibiting higher performance criteria than companies not profiting from support of private equity firms. The hypothesis is an example of theory testing. Dozens of papers have been written about the added value of private equity[27]. The second hypothesis aims at testing the existing theory for the Belgian market.

The four tables below represent revenue categories for the year 2009. The subsequent tables analyze the financial ratios for each category during a particular year (2006-2009). They have a different layout as the previous tables, allowing for easy comparison between portfolio companies and Belgian companies within the different revenue categories. Table 15 shows the difference in percentage change over a 4-year period and acts as an examiner of the findings' truthfulness of the 2009 figures.

The revenue categories were carefully selected by the Bel-First software, based on the particularity of the Belgian market[28]. The sample of 34.995 companies as well as the 323 portfolio companies are sliced up into the same four revenue categories[29], which allows me to compare them at a more isolated level. Hence, I made a correction for the bias that otherwise would arise as each revenue category is distinct from the other one. As such, more relevant conclusions can be made.

The table with the 2006-2009 percentage change offers a complementary perspective to the four previous tables. The latter are based on the year 2009 and therefore they might be subject to prejudiced interpretations. This table gives the percentage change for each revenue category over the four years. Thus, I can check whether 2009 follows or deviates from the trend given by the four tables only depicting 2009

[27] See "Private Equity Performance" section in literature review
[28] Belgium is characterized by a lot of small and medium-sized enterprises. It is obvious that other revenu categories should be set in the case of e.g. United States or Hungary.
[29] I explained under the heading "2009 analysis" how these revenue categories are chosen.

figures. As mentioned before, due to a lack of information availability, this sample consists of 46 portfolio companies[30], which are split up in the four revenue categories.

2009 Annual revenue <1.000.000€		
Financial ratio	PE Portfolio (n=23)	Belgian Companies (n=23.070)
Current ratio	2,28	1,94
Liquidity ratio	2,27	1,92
Gearing ratio (%)	9,25	29,85
Solvency (%)	87,9	67,1
ROA (%)	-3,32	2,87
ROE (%)	-3,62	4,61
Profit margin (%)	-146[31]	110

Table 7. Financial ratio comparison for 2009 in the [<1000.000€]

For the smallest companies in terms of annual revenue, both Belgian and portfolio companies have a high index for both liquidity ratios, with the portfolio companies having a higher degree of liquidity.

Belgian companies within this revenue category are more leveraged than the portfolio companies, which means they are more vulnerable to rising interest rates. At the same time, equity makes up a bigger part of total liabilities in the case of the portfolio companies. Yet, both the portfolio companies and all other Belgian companies are in a favorable solvency position.

The three profitability ratios are indisputably in favor of the Belgian companies in this revenue category. At this development stage, the profitability is still low as the company is growing. In the portfolio companies there is a negative profit generation, implying that these companies are still running toward their break-even point.

An explication for why the profitability ratios are higher in case of the Belgian companies might be the particularity of high-risk investments for the portfolio companies. These companies have a natural negative profit margin (e.g. biotechnology). The bulk of the Belgian companies sample within this smallest

[30] The 46 target companies are not necessarily part during 4 years of one and the same fund. The only requirement is that it is part of private equity. It happens that portfolio companies are acquired by another private equity player. As such, they remain part of private equity.
[31] I get a totally different picture when taking an average of the operatin profit/loss of the past four years. Using a mean for these companies rather than an aggregation would lead to a more truthful outcome.

revenue categories is made up of small, but profit-making businesses (e.g. corner food stones, bars).

2009 Annual revenue 1.000.000-5.000.000€		
Financial ratio	PE Portfolio (n=32)	Belgian Companies (n=5.107)
Current ratio	0,74	2,2
Liquidity ratio	0,69	2,16
Gearing ratio (%)	132,98	46,32
Solvency (%)	44,5	67,4
ROA (%)	-4,13	2,47
ROE (%)	-2,56	7,03
Profit margin (%)	-80,36[32]	41,3

Table 8. Financial ratio comparison for 2009 [1.000.000-5.000.000€]

The current and liquidity ratios of the portfolio companies are merely one third of the Belgian ones. They are below one, implying that the portfolio companies within this revenue category are less able to pay its current obligations.

Whereas in the previous revenue category Belgian companies were more geared than the portfolio companies, from the table above we can conclude it is the other way around. Portfolio companies are geared almost three times as much as the Belgian companies.

Looking at the profitability ratios, one can conclude that Belgian companies are better positioned than their portfolio counterparts. Reasoning the same as in the previous revenue category, portfolio companies are inherently riskier at an earlier stage.

This revenue category does not convey a positive image for the portfolio companies. On average, the Belgian companies have more healthy financial ratios compared to the portfolio companies within the 1000.000-5.000.000-revenue range.

[32] I get a totally different picture when taking an average of the operating profit/loss of the past four years. Using a mean for these companies rather than an aggregation would lead to a more truthful outcome.

2009 Annual revenue 5.000.000-12.000.000€		
Financial ratio	PE Portfolio (n=33)	Belgian Companies (n=2.595)
Current ratio	1,51	1,51
Liquidity ratio	1,38	1,42
Gearing ratio (%)	46,55	93,14
Solvency (%)	57,7	49,2
ROA (%)	-0,22	2,5
ROE (%)	1,84	7,96
Profit margin (%)	-0,73	7,59

Table 9. Financial ratio comparison for 2009 [5.000.000-12.000.000€]

Within the second-largest revenue category, both types of companies are in an equally beneficial position to meet their short-term obligations.

Belgian companies are leveraged twice as much as the portfolio companies in the same revenue category. The solvency ratio tells us that shareholders funds make up roughly half of the total liabilities, implying that the companies have a sufficient buffer to pay its creditors in case of liquidation (Vanstraelen, 2005, p. 136).

The profitability ratios show, in accordance with the previous revenue range, worse values for the portfolio companies. It seems that, even when having an annual revenue of more than €5 million, the portfolio companies are on average not capable of having a decent return on their investment. Yet, it should be noted that profitability ratios have gone up when comparing to the other revenue categories.

2009 Annual revenue >12.000.000€		
Financial ratio	PE Portfolio (na)	Belgian Companies (n=3.567)
Current ratio	1,01	1,36
Liquidity ratio	0,85	1,21
Gearing ratio (%)	169,73	110,32
Solvency (%)	na[33]	46,2
ROA (%)	4,47	4,25
ROE (%)	12,17	10,37
Profit margin (%)	5,72	6,95

Table 10. Financial ratio comparison for 2009 [>12.000.000€]

Table 10 depicts the biggest companies in terms of revenues. The Belgian companies are clearly more efficient at turning into cash what they produce.

Portfolio companies are relatively more leveraged, increasing their vulnerability to economic downturns. However, this is due to the essential features of private equity. As a matter of fact, PE firms are inherently riskier to make a company can grow faster, or become more profitable.

When considering the profitability ratios, one can conclude that the Belgian and portfolio companies are performing on an equal level, with the portfolio companies being more skilled at generating a return given the money invested by their shareholders (ROE) and the total assets (ROA).

Tables 11-15 examine whether the conclusions for 2009 hold true for 2006, 2007 and 2008, in order to strengthen the robustness of my results. Once again, the sample of portfolio companies consists of 46 companies of which I am completely sure they were part of private equity over this four-year period. Table 15 shows the change between the financial ratios in 2006 compared the same in 2009. The calculation for the figures in this table is a mere subtraction of the 2009 ratios minus the 2006 ratios.

[33] Data not available due to the misfortune of having a bug in the software. Nonetheless, this piece of data should not be at odds with what has been found before, i.e. the PE portfolio companies will have a solvency ratio higher than 27,5%.

Financial ratio	2006 revenue categories							
	Annual revenue <1.000.000		Annual revenue 1.000.000-5.000.000		Annual revenue 5.000.000-12.000.000		Annual revenue >12.000.000	
	Portfolio (n=4)	Belgian (n=18.625)	Portfolio (n=6)	Belgian (n=4.609)	Portfolio (n=11)	Belgian (n=2.498)	Portfolio (n=23)	Belgian (n=3.444)
Current ratio	2,15	1,76	0,32	1,89	2,24	1,51	0,6	1,34
Liquidity ratio	2,15	1,73	0,28	1,85	2,04	1,4	0,4	1,18
Gearing (%)	45,47	27,28	195,56	48,23	44,54	80,49	166,57	102,75
Solvency (%)	53,5	60,4	85,3	66	47	46,2	29,7	46,2
ROA (%)	2,27	1,57	2,76	1,36	1,85	2,45	3,66	2,15
ROE (%)	-6,67	7,99	7,88	8,74	-6,84	13,41	8,41	12,04
Profit Margin (%)	-278	110	12,29	52,97	-8,3	10,46	1,58	6,27

Table 11. Financial ratio comparison for 2006

In 2006, private equity portfolio companies are more liquid in the smallest and in the 5.000.000-12.000.000€ revenue category compared to the Belgian companies.

Portfolio companies are typically more geared, except for the 5.000.000-12.000.000€ revenue category. The solvency ratio shows that both types of companies are in a good financial health within each revenue category.

The ROA for portfolio companies is on average higher (i.e. in three revenue categories). Given their assets, portfolio companies are more capable of generating earnings compared to the other Belgian companies. However, in terms of ROE and profit margin, portfolio companies are less profitable than their Belgian peers.

Financial ratio	2007 revenue categories							
	Annual revenue <1.000.000		Annual revenue 1.000.000-5.000.000		Annual revenue 5.000.000-12.000.000		Annual revenue >12.000.000	
	Portfolio (n=6)	Belgian (n=20.037)	Portfolio (n=6)	Belgian (n=4.795)	Portfolio (n=11)	Belgian (n=2.530)	Portfolio (n=23)	Belgian (n=3.490)
Current ratio	11,66	1,92	5,15	1,85	2,89	1,61	0,89	1,38
Liquidity ratio	11,65	1,9	5	1,82	2,71	1,5	0,63	1,22
Gearing (%)	9,56	30,8	123,64	57,75	32,18	73,64	158,59	107,73
Solvency (%)	86,2	62,7	79,3	63,9	56,8	49,4	30,3	43,9
ROA (%)	0,67	1,72	2,54	1,87	1,97	2,53	3,58	2,41
ROE (%)	-3,25	8,2	195,92	10,98	-4,82	11,19	5,9	12,55
Profit Margin (%)	-273	159	766	63,7	-10,1	9,14	0,04	6,72

Table 12. Financial ratio comparison for 2007

In 2007, the portfolio companies are better positioned to pay their short-term liabilities with their short-term assets for the first three revenue categories. In the >12.000.000 revenue category, the portfolio companies are exhibiting a ratio below 1, implying they can have difficulties paying their obligations.

Portfolio companies are more leveraged in the 1.000.000-5.000.000€ and >12.000.000 revenue categories according to the gearing ratio. The solvency ratio, showing the relation between shareholders funds and total liabilities shows a slightly different picture. Portfolio companies are more solvent than the Belgian companies (except for the last revenue category) and you can see that a higher revenue category goes along with a lower portion of shareholders funds as compared to total liabilities.

The profitability ratios cannot draw a clear picture as different ratios give other outcomes for the various revenue categories. It can hardly be concluded whether the

portfolio companies or the Belgian companies are the ones that add more value. As one can conclude from the figures the numbers are subject to bias[34].

Unfortunately, due to outliers and the fact that the 46 companies in my sample do not give statistical significance, 2007 gives some misrepresentation in the data[35]. Especially the first two revenue categories the sample is too small and therefore subject to a biased observation. It is a well-known rule of thumb in econometric that a sample should include a minimum of 50 observations (Wörtche & Nguyen, 2011).

Financial ratio	2008 revenue categories							
	Annual revenue <1.000.000		Annual revenue 1.000.000-5.000.000		Annual revenue 5.000.000-12.000.000		Annual revenue >12.000.000	
	Portfolio (n=7)	Belgian (n=21.456)	Portfolio (n=6)	Belgian (n=4.956)	Portfolio (n=11)	Belgian (n=2.573)	Portfolio (n=23)	Belgian (n=3.510)
Current ratio	7,47	1,77	5,06	1,8	2,23	1,49	0,77	1,28
Liquidity ratio	7,43	1,75	4,87	1,76	2,06	1,4	0,54	1,12
Gearing (%)	6,57	26,12	99,11	61,13	29	84,76	224,91	115,38
Solvency (%)	89	64,4	76,2	62,3	55,1	47,4	24,1	44,4
ROA (%)	0,38	1,49	1,72	2,18	2,93	2,25	3	2,36
ROE (%)	-1,57	14,9	24,87	10,98	-6,68	11,85	4,77	10,49
Profit Margin (%)	-504	641	73,89	56,94	-13,9	10,08	0,2	5,63

Table 13. Financial ratio comparison for 2008

In analogy with 2007, the portfolio companies are in a better liquidity position, with the exception of the highest revenue category.

[34] When recalculating the ratios, it would be a better idea to focus on the mean of the annual accounts instead of a mere aggregation as a basis for calculating the profitability ratios (W. Jaworski, personal communication, July 15, 2011).
[35] The figures that are subject to inconsistency are underlined.

The amount of gearing of the portfolio companies and the relative difference with the Belgian companies is varies along the different revenue categories. The evolution of the solvency ratio is similar to the one observed in 2007. The ratio decreases as we move to a higher revenue category and only in the >12.000.000€ category Belgian companies are more solvent.

The return on assets for the portfolio companies is lower in the lowest revenue categories. Return on equity is lower in three revenue categories and even negative in two of them. The only category where the portfolio companies have a better figure, is in the 1.000.000-5.000.000€ category. The profit margin follows the same track as the ROE.

Financial ratio	2009 revenue categories							
	Annual revenue <1.000.000		Annual revenue 1.000.000-5.000.000		Annual revenue 5.000.000-12.000.000		Annual revenue >12.000.000	
	Portfolio (n=7)	Belgian (n=23.078)	Portfolio (n=6)	Belgian (n=5.107)	Portfolio (n=11)	Belgian (n=2.595)	Portfolio (n=23)	Belgian (n=3.567)
Current ratio	4,05	1,94	6,35	2,2	1,96	1,51	0,77	1,36
Liquidity ratio	4,01	1,92	6,16	2,16	1,85	1,42	0,48	1,21
Gearing (%)	11,3	29,85	62,45	46,32	31,01	93,14	227,34	110,32
Solvency (%)	86,8	67,1	26,4	67,4	50,6	49,2	24,5	45,1
ROA (%)	0,36	1,09	1,66	1,42	1,61	1,58	2,95	1,76
ROE (%)	-5,19	4,61	27,59	7,03	-0,48	7,96	4,67	10,37
Profit Margin (%)	-216	232	72,35	41,3	-2,99	7,59	1,02	6,95

Table 14. Financial ratio comparison for 2009

The liquidity ratios for 2009 follow the same pattern as in the two previous years. As in 2008, the solvency ratios show no clear pattern.

The first profitability ratio, ROA, shows a higher percentage for the Belgian companies in the lowest category whereas the portfolio companies give a better return

on investment in all the other revenue categories. It is the other way around for the return on equity. The latter is higher for the Belgian companies in three revenue categories. The profit margin confirms the ROE, where portfolio companies show only in the second revenue category a superior performance.

Financial ratio	2006-2009 change within revenue categories							
	Annual revenue <1.000.000		Annual revenue 1.000.000-5.000.000		Annual revenue 5.000.000-12.000.000		Annual revenue >12.000.000	
	Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian
Current ratio	1,9	0,18	6,03	0,31	-0,28	0	0,17	0,02
Liquidity ratio	1,86	0,19	5,88	0,31	-0,19	0,02	0,08	0,03
Gearing (%)	-34,17	2,57	-133,11	-1,91	-13,53	12,65	60,77	7,57
Solvency (%)	33,3	6,7	-58,9	1,4	3,6	3	-5,2	-1,1
ROA (%)	-1,91	-0,48	-1,1	0,06	-0,24	-0,87	-0,71	-0,39
ROE (%)	1,48	-3,38	19,71	-1,71	6,36	-5,45	-3,74	-1,67
Profit Margin (%)	62	-122	60,06	-11,67	5,31	-2,87	-0,56	0,68

Table 15. Financial ratio's change over 2006-2009 period (set of 46 portfolio companies)

The table gives the evolution of the current ratio, liquidity ratio, the amount of gearing, solvency ROA, ROE and profit margin over a 4-year period. It allows us to see the general evolution of the financial ratios from the first table (2006) until the last one (2009). Moreover, the advantage is that we can see the evolution of both types of firms without having to focus on one specific year.

Liquidity has gone up in most revenue categories. In the 5.000.000-12.000.000€ category portfolio companies were more liquid in 2006 than they were in 2009.

The gearing ratio shows us that portfolio companies are subject to a bigger change in their capital structure. The same is true for the solvency ratio. The movements in the ratio are more volatile for the portfolio companies, reflecting the dynamics of growing

a portfolio company. The is most striking in the two smallest revenue categories, with a big increase for the smallest portfolio companies, followed by an even sharper decrease in the next revenue category.

The credit crunch might provide a valid explanation for high number of negative ratios for the profitability ratios. Recall that the way these numbers are calculated is a mere subtraction of 2009 with 2006. As such, negative numbers mean that the ratio was higher in 2006 than in 2009.

Imagine that you are a shareholder in a portfolio company. According to the ROE ratio, you are on average better off if you had invested your money in 2006 as opposed to the Belgian companies. The profit margin follows the same pattern as the ROE, where in three out of the four revenue categories an increase can be noticed. The difference in terms of ROA seems less obvious.

Conditional on the data available, my conclusion would be that Belgian companies have higher profitability ratios than the portfolio companies, thus rejecting the hypothesis.

Hypthesis III: financial engineers have a lower performance compared to the portfolio companies as a whole

This third and last hypothesis builds upon what has been advanced in the literature review, namely financial engineers providing less value than the other private equity firms. Using solely the set of 46 portfolio companies of which I am completely sure they were part of private equity during the 2006-2009 period, I tested the third hypothesis.

The first table shows the same financial ratios as in the second hypothesis. The table is drawn in such a way that one can easily compare the performance of the financial engineers against the other portfolio companies. The second table gives the evolution of the ratios from the previous table over the 4 years.

Financial ratio	2006		2007		2008		2009	
	Financial engineers (n=9)	Portfolio companies (n=46)	Financial engineers (n=9)	Portfolio companies (n=48)	Financial engineers (n=9)	Portfolio companies (n=48)	Financial engineers (n=9)	Portfolio companies (n=49)
Current ratio	2,31	0,95	2,65	1,07	2,74	0,93	2,74	1,03
Liquidity ratio	1,82	0,83	2,08	0,92	1,95	0,8	2,3	0,88
Gearing (%)	36,16	101,39	40,35	99,33	41,78	112,22	37,87	121,82
Solvency (%)	57,5	32,3	51	38,2	49,2	31,3	52,5	31,3
ROA (%)	0,09	3,47	-0,31	3,21	-2,06	2,8	-3,83	2,68
ROE (%)	1,83	6,14	1,91	7,69	-0,27	3,09	-1,45	3,82
Profit margin (%)	0,13	4,78	-0,5	8,2	-2,83	5,95	-7,59	4,36

Table 16. Financial ratio comparison of financial engineers and portfolio companies

In every single year, the portfolio companies backed by financial engineers show a higher degree of liquidity. On top of that, both the current ratio and liquidity ratio are twice as high as the liquidity ratios of the other portfolio companies.

The portion of equity in relation to total liabilities for the portfolio companies backed by financial engineers is at every time higher when it is contrasted with the other portfolio companies, reflecting that banks are better able to provide equity. The gearing ratio confirms this reasoning.

The picture of financial engineers being less skillful at operational improvements as advanced in the literature review, is confirmed by the figures for the profitability ratios. Here, the portfolio companies never show a negative figure, whereas in 2007, 2008 and 2009 the private equity companies of financial institutions have a negative ROA.

Financial ratio	2006-2009 change	
	Financial engineers	Portfolio companies
Current ratio	0,43	0,08
Liquidity ratio	0,48	0,05
Gearing (%)	1,71	20,43
Solvency (%)	-5	-1
ROA (%)	-3,92	-0,79
ROE (%)	-3,28	-2,32
Profit margin (%)	-7,72	-0,42

Table 17. Financial ratio change over 2006-2009 for financial engineers and portfolio companies

Table 17 represents the change of each ratio between 2006 and 2009. It is calculated in the same way as table 15.

The financial engineers have improved the liquidity position of their portfolio companies. This is in contrast with the other portfolio companies, which remain in a status quo position.

Portfolio companies have experienced a 20% increase over four year in their amount of gearing. This implies they have become more vulnerable to interest swings.

As stated in the literature, financial engineers are not as good in adding value compared to their peers, which are supposed to go further than just financial engineering. The negative numbers reflect the impact of the crisis and the numbers prove that the financial engineers are more affected by the crunch.

The third hypothesis can be accepted. Financial engineers do not augment the value of their portfolio companies to the same extent as the other Belgian portfolio companies. However, it should be mentioned that financial engineers are particularly proficient at keeping their portfolio companies liquid. This is due to the very nature of these PE companies, i.e. banks.

Conclusions and directions for future research

Private equity is an asset class characterized by illiquidity. Whereas in the past, PE managers were just financial engineers, nowadays there is a stronger focus on operational improvements, partly influences by higher competition and troubled debt markets.

Eight factors influence private equity performance: supervising activities, incentive alignment through higher remuneration to the portfolio companies' executives, its role as an intermediate and market maker, reliance on an extensive network of service providers, the skills of the general partners, growth pace, size of the fund and its innovative capabilities.

The dynamics behind the valuation of the target company is largely a function of the PE company's size and reputation. Another set of dynamics PE are information asymmetry dynamics. Private equity can provide solutions to problems such as agency costs and adverse selection due to its unique governance structure.

Adversaries of private equity question the amount of job losses and the activities PE pursues in order to create a maximum amount of cash flow in order to repay the debt.

The research for the Belgian PE market has shown that government-backed portfolio companies have lower profitability ratios compared to the independent portfolio companies. Financial engineers, an additional type of PE firm, as defined by their passive management style, have less lucrative portfolio companies than all other portfolio companies. Conditional on the data I obtained, I carefully conclude that Belgian companies are more profitable than their private equity-backed peers.

Although the results flowing from the first and last hypotheses are promising, I recognize several limitations. The data to my disposal was less than perfect. I drew the best possible conclusions taking into account the information sources I had access to. Due to the rather small scope of private equity in Belgium compared to more mature markets such as the United States, the amount of data was fairly limited. I

propose two directions for future research: test the three hypotheses with a larger amount of data and expand the scope through developing new hypotheses.

In the best possible scenario, one gathers the annual accounts of every single portfolio company in Belgium, specifying from which year to which year the examined portfolio companies were part of private equity. Ideally, the sample of portfolio companies could be split up in categories while maintaining statistical significance. At the same time, the analysis can be extended to earlier than 2006. The ultimate goal is to have enough data so that the outliers do not bias the results. Dealing with smaller samples as I did in this thesis, it would be wise having a look at the mean rather than merely aggregating the accounts so as to limit the magnitude of the bias.

Another way to assure the rigorousness of the comparisons is to focus on the industry level and do the same exercise for a couple of industries[36]. By doing so, one can correct the findings for sector, holding period, and other variables. By way of illustration, compare the annual account and the belonging financial ratios of a confectionary company financed by a private equity firm to an annual account cluster of other Belgian confectionary companies not backed by PE financing. Financial ratios can be compared over the years to check whether the portfolio company is the superior performer.

New hypotheses can be developed with the purpose of expanding the scope of the research. For conclusions and findings from empirical studies in more grown-up PE markets it can be verified whether the same holds true for Belgium.

Some proposals can be an analysis of the PE influence on the job market. Are jobs created or destroyed in the short term? Is the same trend continuing on the medium term[37]? On the portfolio company level, ratios such as profit per employee or total

[36] The current ratio offers some examples that demonstrate the need for analysis per industry: retailers will generally have current ratio around 0.7-0.8, but a real estate operator (e.g. Cofinimmo) closer to 0.1-0.2 and pharmaceutical companies well over 1.0, often even above 2.0, simply because this is what their business model requires them to do. It has nothing to do with ownership structure (W. Jaworski, personal communication, July 15, 2011).

[37] See "Private Equity Controversy" in literature review.

assets per employee can be calculated to compare with other types of PE firms or benchmarked with non-private equity financed companies.

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Table of Figures

Sample Distribution

Portfolio companies 2006			Portfolio companies 2007			Portfolio companies 2008			Portfolio companies 2009		
Size of company	Amount of companies	% of sample	Size of company	Amount of companies	% of sample	Size of company	Amount of companies	% of sample	Size of company	Amount of companies	% of sample
<1000K	55	17,03%	<1000K	67	20,74%	<1000K	83	25,70%	<1000K	79	24,46%
1000-5000K	56	17,34%	1000-5000K	66	20,43%	1000-5000K	64	19,81%	1000-5000K	75	23,22%
5000-12000K	35	10,84%	5000-12000K	47	14,55%	5000-12000K	46	14,24%	5000-12000K	48	14,86%
>12000K	86	26,63%	>12000K	92	28,48%	>12000K	101	31,27%	>12000K	99	30,65%
NA	91	28,17%	NA	51	15,79%	NA	29	8,98%	NA	22	6,81%
Total	323	100,00%	Total	323	100,00%	Total	323	100,00%	Total	323	100,00%

Portfolio companies 2006			Portfolio companies 2007			Portfolio companies 2008			Portfolio companies 2009		
Type of private equity	Amount of companies	% of sample	Type of private equity	Amount of companies	% of sample	Type of private equity	Amount of companies	% of sample	Type of private equity	Amount of companies	% of sample
Privately-owned	170	69,39%	Privately-owned	189	67,99%	Privately-owned	197	66,11%	Privately-owned	203	66,56%
Government-backed	75	30,61%	Government-backed	89	32,01%	Government-backed	101	33,89%	Government-backed	102	33,44%
Total	245	100,00%	Total	278	100,00%	Total	298	100,00%	Total	305	100,00%

Belgian companies 2006			Belgian companies 2007			Belgian companies 2008			Belgian companies 2009		
Size of company	Amount of companies	% of sample	Size of company	Amount of companies	% of sample	Size of company	Amount of companies	% of sample	Size of company	Amount of companies	% of sample
<1000K	18625	63,84%	<1000K	20037	64,94%	<1000K	21456	66,03%	<1000K	23078	67,19%
1000-5000K	4606	15,79%	1000-5000K	4797	15,55%	1000-5000K	4956	15,25%	1000-5000K	5107	14,87%
5000-12000K	2498	8,56%	5000-12000K	2530	8,20%	5000-12000K	2573	7,92%	5000-12000K	2595	7,56%
>12000K	3444	11,81%	>12000K	3490	11,31%	>12000K	3510	10,80%	>12000K	3567	10,39%
Total	29173	100,00%	Total	30854	100,00%	Total	32495	1	Total	34347	100,00%

Portfolio Companies 2009 Financial Ratios

ALL PORTFOLIO COMPANIES (2009)							
Current ratio	Gearing (%)	Return on total assets (%)	Return on capital employed (%)	Liquity ratio	Profit margin (%)	ROA (net) (%)	Solvency (%)
1,03	121,82	2,61	7,87	0,88	4,36	na	na

PRIVATELY-OWNED PORTFOLIO COMPANIES (2009)							
Current ratio	Gearing (%)	Return on total assets (%)	Return on capital employed (%)	Liquity ratio	Profit margin (%)	ROA (net) (%)	Solvency (%)
1,01	122,66	3,62	10,15	0,86	5,48	2,96	37,1

GOVERNMENT-BACKED PORTFOLIO COMPANIES (2009)							
Current ratio	Gearing (%)	Return on total assets (%)	Return on capital employed (%)	Liquity ratio	Profit margin (%)	ROA (net) (%)	Solvency (%)
1,23	118,21	-2,64	-0,5	1,08	-9,61	2,55	40,5

Portfolio Versus Belgian Companies 2009 by Revenue Financial Ratios

<1000K (2009)															
Current ratio		Gearing (%)		Return on total assets (%)		Return on capital employed (%)		Liquity ratio		Profit margin (%)		ROA (net) (%)		Solvency (%)	
Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian
2,28	1,94	9,25	29,85	-3,32	2,87	-3,62	4,61	2,27	1,92	-146	110	0,56	1,09	87,9	67,1

1000-5000K (2009)															
Current ratio		Gearing		Return on total assets		Return on capital employed		Liquity ratio		Profit margin		ROA (net)		Solvency (%)	
Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian
0,74	2,2	132,98	46,32	-4,13	2,47	-2,56	7,03	0,69	2,16	-80,36	41,3	2,94	1,42	44,5	67,4

5000-12000K (2009)															
Current ratio		Gearing		Return on total assets		Return on capital employed		Liquity ratio		Profit margin		ROA (net)		Solvency (%)	
Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian
1,51	1,51	46,55	93,14	-0,22	2,5	1,84	7,96	1,38	1,42	-0,73	7,59	1,96	1,58	57,7	49,2

>12000K (2009)															
Current ratio		Gearing		Return on total assets		Return on capital employed		Liquity ratio		Profit margin		ROA (net)		Solvency (%)	
Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian	Portfolio	Belgian
1,01	1,36	169,73	110,32	4,47	4,25	12,17	10,37	0,85	1,21	5,72	6,95	na	1,76	na	46,2

Portfolio Versus Belgian Companies 2006-2009 by Revenue Financial Ratios (portfolio)

Portfolio companies <1000K				
Ratio	Year			
	2006	**2007**	**2008**	**2009**
Current ratio	2,15	11,66	7,47	4,05
Liquidity ratio	2,15	11,65	7,43	4,01
Gearing (%)	45,47	9,56	6,57	11,3
Solvency (%)	53,5	86,2	89	86,8
ROE (%)	-6,67	-3,25	-1,57	-5,19
ROA (%)	2,27	0,67	0,38	0,36
Profit margin (%)	-278	-273	-504	-216

Portfolio companies 1000-5000K				
Ratio	Year			
	2006	**2007**	**2008**	**2009**
Current ratio	0,32	5,15	5,06	6,35
Liquidity ratio	0,28	5	4,87	6,16
Gearing (%)	195,56	123,64	99,11	62,45
Solvency (%)	85,3	79,3	76,2	26,4
ROE (%)	7,88	195,92	24,87	27,59
ROA (%)	2,76	2,54	1,72	1,66
Profit margin (%)	12,29	766	73,89	72,35

Portfolio companies 5000-12000K				
Ratio	Year			
	2006	**2007**	**2008**	**2009**
Current ratio	2,24	2,89	2,23	1,96
Liquidity ratio	2,04	2,71	2,06	1,85
Gearing (%)	44,54	32,18	29	31,01
Solvency (%)	47	56,8	55,1	50,6
ROE (%)	-6,84	-4,82	-6,68	-0,48
ROA (%)	1,85	1,97	2,93	1,61
Profit margin (%)	-8,3	-10,1	-13,9	-2,99

Portfolio companies >12000K				
Ratio	Year			
	2006	**2007**	**2008**	**2009**
Current ratio	0,6	0,89	0,77	0,77
Liquidity ratio	0,4	0,63	0,54	0,48
Gearing (%)	166,57	158,59	224,91	227,34
Solvency (%)	29,7	30,3	24,1	24,5
ROE (%)	8,41	5,9	4,77	4,67
ROA (%)	3,66	3,58	3	2,95
Profit margin (%)	1,58	0,04	0,2	1,02

Portfolio Versus Belgian Companies 2006-2009 by Revenue Financial Ratios (Belgian)

Belgian companies <1000K				
Ratio	Year			
	2006	**2007**	**2008**	**2009**
Current ratio	1,76	1,92	1,77	1,94
Liquidity ratio	1,73	1,9	1,75	1,92
Gearing (%)	27,28	30,8	26,12	29,85
Solvency (%)	60,4	62,7	64,4	67,1
ROE (%)	7,99	8,2	14,9	4,61
ROA (%)	1,57	1,72	1,49	1,09
Profit margin (%)	110	159	641	232

Belgian companies 1000-5000K				
Ratio	Year			
	2006	**2007**	**2008**	**2009**
Current Ratio	1,89	1,85	1,8	2,2
Liquidity ratio	1,85	1,82	1,76	2,16
Gearing (%)	48,23	57,75	61,13	46,32
Solvency (%)	66	63,9	62,3	67,4
ROE (%)	8,74	10,98	10,98	7,03
ROA (%)	1,36	1,87	2,18	1,42
Profit margin (%)	52,97	63,7	56,94	41,3

Belgian companies 5000-12000K				
Ratio	Year			
	2006	**2007**	**2008**	**2009**
Current ratio	1,51	1,61	1,49	1,51
Liquidity ratio	1,4	1,5	1,4	1,42
Gearing (%)	80,49	73,64	84,76	93,14
Solvency (%)	46,2	49,4	47,4	49,2
ROE (%)	13,41	11,19	11,85	7,96
ROA (%)	2,45	2,53	2,25	1,58
Profit margin (%)	10,46	9,14	10,08	7,59

Belgian companies >12000K				
Ratio	Year			
	2006	**2007**	**2008**	**2009**
Current ratio	1,34	1,38	1,28	1,36
Liquidity ratio	1,18	1,22	1,12	1,21
Gearing (%)	102,75	107,73	115,38	110,32
Solvency (%)	46,2	43,9	44,4	45,1
ROE (%)	12,04	12,55	10,49	10,37
ROA (%)	2,15	2,41	2,36	1,76
Profit margin (%)	6,27	6,72	5,63	6,95

Portfolio Versus Belgian Companies 2006-2009 by Revenue Financial Ratios (change)

change 2006-2009								
Ratio	<1000K		1000-5000K		5000-12000K		>12000K	
	Portfolio	**Belgian**	**Portfolio**	**Belgian**	**Portfolio**	**Belgian**	**Portfolio**	**Belgian**
Current ratio	1,9	0,18	6,03	0,31	-0,28	0	0,17	0,02
Liquidity ratio	1,86	0,19	5,88	0,31	-0,19	0,02	0,08	0,03
Gearing (%)	-34,17	2,57	-133,11	-1,91	-13,53	12,65	60,77	7,57
Solvency (%)	33,3	6,7	-58,9	1,4	3,6	3	-5,2	-1,1
ROE (%)	1,48	-3,38	19,71	-1,71	6,36	-5,45	-3,74	-1,67
ROA (%)	-1,91	-0,48	-1,1	0,06	-0,24	-0,87	-0,71	-0,39
Profit margin (%)	62	122	60,06	-11,67	5,31	-2,87	-0,56	0,68

Portfolio Versus Financial Engineers 2006-2009 Financial Ratios

Portfolio companies				
Ratio	Year			
	2006	**2007**	**2008**	**2009**
Current ratio	0,95	1,07	0,93	1,03
Liquidity ratio	0,83	0,92	0,8	0,88
Gearing (%)	101,39	99,33	112,22	121,82
Solvency (%)	32,3	38,2	31,3	31,3
ROE (%)	6,14	7,69	3,09	3,82
ROA (%)	3,47	3,21	2,8	2,68
Profit margin (%)	4,78	8,2	5,95	4,36

Portfolio companies financial institutions				
Ratio	Year			
	2006	**2007**	**2008**	**2009**
Current ratio	2,31	2,65	2,74	2,74
Liquidity ratio	1,82	2,08	1,95	2,3
Gearing (%)	36,16	40,35	41,78	37,87
Solvency (%)	57,5	51	49,2	52,5
ROE (%)	1,83	1,91	-0,27	-1,45
ROA (%)	0,09	-0,31	-2,06	-3,83
Profit margin (%)	0,13	-0,5	-2,83	-7,59

change 2006-2009		
Ratio	Portfolio companies	Portfolio companies financial institutions
Current ratio	0,08	0,43
Liquidity ratio	0,05	0,48
Gearing (%)	20,43	1,71
Solvency (%)	-1	-5
ROE (%)	-2,32	-3,28
ROA (%)	-0,79	-3,92
Profit margin (%)	-0,42	-7,72

Belgian Portfolio Companies (2009)

Portfolio Company	Private Equity Player
Aspel	3D Participaties
Audioprof	3D Participaties
Emerson & Cuming	3D Participaties
Plastiflex	3D Participaties
Aviapartner	3i
Electrawinds	3i
@mire	Allegro Investment Fund
Econcore	Allegro Investment Fund
Elytra	Allegro Investment Fund
Eqcologic	Allegro Investment Fund
Formac Pharmaceuticals	Allegro Investment Fund
Icsense	Allegro Investment Fund
Leuven Air Bearings	Allegro Investment Fund
Mephisto Design Automation	Allegro Investment Fund
PharmaDiagnostics	Allegro Investment Fund
Quick Sensor	Allegro Investment Fund
Rmoni Wireless	Allegro Investment Fund
Silicos	Allegro Investment Fund
Triphase	Allegro Investment Fund
Vision ++	Allegro Investment Fund
Visys	Allegro Investment Fund
Zenso	Allegro Investment Fund
Primus	Andlinger & Company
Afra	Atlantic Capital
Esko	Axcel Industriinvestor
Agriphar	Bank Degroof
Cartamundi Turnhout	Bank Degroof
Desmet Ballestra Group	Barclays Private Equity
Bureau Van Dijk Electronic Publishing	BC Partners
Bopack Labels	Becap
Europe Unlimited	Becap
Baert	Bencis Capital
Meneba	Bencis Capital
Neroc	Bencis Capital
Quaron	Bencis Capital
Verelst	Bencis Capital
Walkro	Bencis Capital
Winsol	Bencis Capital
Avenue Louise Hotel Partners	Blackstone Group
Vanerum	Buysse & Partners
Vivaldi	Buysse & Partners
Guillaume-Téco	BV Capital Partners
Ontex	Candover Investments PLC
Bechet Materiaux	Capital et Croissance
Vegepack	Capital et Croissance
Boondoggle	Capricorn Venture Partners

Devgen	Capricorn Venture Partners
EcoPhos	Capricorn Venture Partners
Enfocus Software	Capricorn Venture Partners
Innogenetics	Capricorn Venture Partners
Punch Powertrain	Capricorn Venture Partners
TiGenix	Capricorn Venture Partners
Carmeuse	Cobepa
Carrières du Hainaut	Cobepa
Zetes	Cobepa
Galactic	Compagnie du Bois Sauvage
Neuhaus	Compagnie du Bois Sauvage
Beullinger Butterei	Creafund
Distrac	Creafund
Exmore	Creafund
Explio	Creafund
Herbafrost	Creafund
Luxauto	Creafund
Spekindustrie Van Maele	Creafund
The Sniffers International	Creafund
Veldeman Bedding	Creafund
Betafence	CVC Capital Partners
De Weide Blik	CVC Capital Partners
Taminco	CVC Capital Partners
Fraikin Belgium Truck Renting	CVC Nominees Limited
La Poste	CVC Nominees Limited
Speos Belgium	CVC Nominees Limited
Stoneman	Distributie Investeringsmaatschappij
Topcom Europe	Distributie Investeringsmaatschappij
Erard	Distrifund
Maiski	Dossche Invest
Balta	Doughty Hanson
Coin Vert	E-Capital
ETC Belgium	E-Capital
Euroglas De Landtsheer	E-Capital
Global Impact	E-Capital
Goldie	E-Capital
Hobby Garden	E-Capital
Mostra	E-Capital
Safetyglass	E-Capital
Sings & Facades	E-Capital
MdxHealth	Edmond de Rothshild Investment Partners
Ben-Air Flight Academy	Fin.Co
Ideal Systems	Fin.Co
Noordzee Helicopter Vlaanderen	Fin.Co
Plouvier Transport	Fin.Co
Sealease	Fin.Co
Xemex	Fin.Co
ABX Logistics	Fortis PE
Algonomics	Fortis PE
Antilope	Fortis PE
Arets Graphics	Fortis PE
Artstone	Fortis PE

Callatäy & Wouters	Fortis PE
Colfridis invest	Fortis PE
Haco	Fortis PE
MIR	Fortis PE
Novy	Fortis PE
Outside Broadcast	Fortis PE
Packing Creative Systems	Fortis PE
Penne International	Fortis PE
Studio 100	Fortis PE
TiGenix	Fortis PE
Ultragenda	Fortis PE
Velleman	Fortis PE
Xenics	Fortis PE
Algonomics	Gemma Frisius Fonds
AnSem	Gemma Frisius Fonds
Aristo Music	Gemma Frisius Fonds
D square	Gemma Frisius Fonds
EconCore	Gemma Frisius Fonds
Elytra	Gemma Frisius Fonds
Formac Pharmaceuticals	Gemma Frisius Fonds
Fugeia	Gemma Frisius Fonds
Icsense	Gemma Frisius Fonds
Indie Group	Gemma Frisius Fonds
Layerwise	Gemma Frisius Fonds
Luciad	Gemma Frisius Fonds
Mephisto Design Automation	Gemma Frisius Fonds
Metis Instruments and Equipment	Gemma Frisius Fonds
Microwave Energy Applications Company	Gemma Frisius Fonds
Okapi Sciences	Gemma Frisius Fonds
reMYND	Gemma Frisius Fonds
Silicos	Gemma Frisius Fonds
TiGenix	Gemma Frisius Fonds
TriPhase	Gemma Frisius Fonds
Betafence	Gilde
Ablynx	GIMV
ACCENT Jobs For People	GIMV
Acertys	GIMV
ActoGeniX	GIMV
Alfacam Group	GIMV
Amphion	GIMV
Applied Development	GIMV
Bananas Activating Brands	GIMV
Barco	GIMV
Bioro	GIMV
Demonstrate	GIMV
EBT	GIMV
Electrawinds	GIMV
Grandeco	GIMV
Impression	GIMV
Impression Belgium	GIMV
Lintor-Verbinnen	GIMV
LUMA International	GIMV

Maes Compressoren	GIMV
Microtherm Engineered Solutions	GIMV
Nomadesk	GIMV
NovoPolymers	GIMV
OTN Systems	GIMV
PDC Brush	GIMV
Polymer Insulation Products	GIMV
Pronota	GIMV
Punch Powertrain	GIMV
Salsa	GIMV
Scana Noliko	GIMV
Tops Foods	GIMV
Vandemoortele	GIMV
VCST Industrial Products	GIMV
Vectis Participaties	GIMV
Verhaeren	GIMV
XDC	GIMV
Lunch Garden	H2 Equity Partners
Diversification et Communication	HOCCINVEST
Cardio3 Biosciences	Hunza Management
Formac Pharmaceuticals	Hunza Management
ThromboGenics	Hunza Management
Unibioscreen	Hunza Management
Magotteaux	IK Investment Partners
BULO KANTOORMEUBELEN	Indesa Holding
Van Vaek Meubelen	Indesa Holding
Actief Interim	Indufin
Alphamin	Indufin
Preflexibel	Indufin
Velleman	Indufin
Waterleau Group	Indufin
Encore Audio Media Group	IT - Partners
Septentrio	IT - Partners
Actief	KBC Private Equity
Actief Interim	KBC Private Equity
Allbox	KBC Private Equity
Dynaco	KBC Private Equity
Egemin	KBC Private Equity
Entropia Networks	KBC Private Equity
Ipcos	KBC Private Equity
Lunch Garden	KBC Private Equity
Materialise	KBC Private Equity
Microtherm Engineered Solutions	KBC Private Equity
Top Brands	KBC Private Equity
Wever & Ducre (2B delighted)	KBC Private Equity
ActoGeniX	Life Sciences Partners
MdxHealth	Life Sciences Partners
AS Adventure	Lion Capital
3DDD Pharma	LRM
A & L JEUBIS	LRM
Alro holdings	LRM
Aristo Music	LRM

ASAP.BE	LRM
Becona	LRM
Brouwerij Martens	LRM
Cegeka	LRM
Clavis Media	LRM
Connect Group	LRM
De Barrier	LRM
Delicatesse Catering	LRM
Dewalque-Marchal	LRM
Different Hotel Group	LRM
Diresco NV	LRM
Doxis Lightning Factory	LRM
Drukkerij Bosmans	LRM
Elan languages	LRM
Entelec Control Systems	LRM
Flanders Quality Plant	LRM
Genano Benelux	LRM
Hengelhoef Concrete Joints Manufacturing	LRM
Johan Nicolai	LRM
Kaasbrik	LRM
Nascom	LRM
Option	LRM
Prato Services	LRM
Punch Powertrain	LRM
Rmoni Wireless	LRM
Scana Noliko Holding	LRM
SEPS Pharma	LRM
Silicos	LRM
Spaas	LRM
Syntegro	LRM
TiGenix	LRM
Value Retail Management Belgium	LRM
VCST	LRM
Visys	LRM
Zappware	LRM
Aviacom	Nivelinvest
Babelway	Nivelinvest
Belrobotics	Nivelinvest
Capsave	Nivelinvest
Flexcipio	Nivelinvest
Greenwatt	Nivelinvest
Intopix	Nivelinvest
Ipex	Nivelinvest
Mecelfin	Nivelinvest
Melimedias	Nivelinvest
New Foundation	Nivelinvest
Oleo	Nivelinvest
Orfival	Nivelinvest
Promothera Biosciences	Nivelinvest
Spechimfin	Nivelinvest
Telemis	Nivelinvest
Vives	Nivelinvest

Belgian Icecream Group	NPM / CNP
Distripar	NPM / CNP
Planet Parfum (part of Distripar)	NPM / CNP
Trasys	NPM / CNP
Borit	OCAS Ventures
Elytra	OCAS Ventures
Belgian Glass Technology	OSTBELGIENINVEST
WESA	OSTBELGIENINVEST
Bricsys	Partners@Venture
Materialise	Partners@Venture
Piton	Partners@Venture
TiGenix	Partners@Venture
XDC	Partners@Venture
B.E.S.T. (Belgian Electronic Sorting Technology)	Pentahold
Ecuphar	Pentahold
Hobby Garden	Pentahold
Shadow	Pentahold
Vergokan	Pentahold
3b the fibreglass company	Platinum Equity
3 win	PMV
Amakem	PMV
Apitope	PMV
Becona	PMV
Brocap/Regenius	PMV
Caliopa	PMV
Cartagenia	PMV
Cmosis	PMV
Complix	PMV
D square	PMV
Energy Products Group	PMV
Excico	PMV
Formac Pharmaceuticals	PMV
Layerwise	PMV
LUMA International	PMV
Mostforwater	PMV
NMDG ENGINEERING	PMV
Okapi Sciences	PMV
Oxynade	PMV
PharmaDiagnostics	PMV
REVERSE LOGISTICS EUROPE	PMV
Sbae industries	PMV
Silicos	PMV
UL POWER AERO ENGINES	PMV
Visys	PMV
Bricscad	Privast
Ecomaster	Privast
Eurogentec	Privast
Metris International Holding	Privast
Nanocyl	Privast
Octalis	Privast
Clear2pay	Quest for Growth

Magwel	Quest for Growth
Pronota	Quest for Growth
Altachem	Saffelberg Investments
CDM	Saffelberg Investments
Mercator Press Sales	Saffelberg Investments
Porthus	Saffelberg Investments
Belgium's Best	Société de Développement et de Participation du Brabant-Wallon
Telemis	Société de Développement et de Participation du Brabant-Wallon
Abelag	Sofindev
Cassis	Sofindev
Fixolite Usines	Sofindev
Hedgren	Sofindev
Microtherm Engineered Solutions	Sofindev
Tissage De Kalken	Sofindev
Corelio	Sofinim
Manuchar	Sofinim
NMC	Sofinim
Alural	Sofinim (via GIB)
AR Metallizing	Sofinim (via GIB)
Egemin	Sofinim (via GIB)
Spanogroup	Sofinim (via GIB)
Alterface	Sopartec
Brucells	Sopartec
Cissoid	Sopartec
FEMAGSoft	Sopartec
GreenWatt	Sopartec
Intopix	Sopartec
It4ip	Sopartec
After	SRIB/GIMB
Ambu 90	SRIB/GIMB
Amster Group	SRIB/GIMB
Artexis Group	SRIB/GIMB
Attentio	SRIB/GIMB
Biotech Tools	SRIB/GIMB
BMVO	SRIB/GIMB
Borderlinx Group	SRIB/GIMB
Brucall	SRIB/GIMB
Brucells	SRIB/GIMB
Bruservices	SRIB/GIMB
Bruxelles Gourmand	SRIB/GIMB
Bruxelles-Midi	SRIB/GIMB
Cerix	SRIB/GIMB
Citeo	SRIB/GIMB
Deficom Group	SRIB/GIMB
E-capital	SRIB/GIMB
Europe Unlimited Holding	SRIB/GIMB
Galia Venture	SRIB/GIMB
I-Propeller	SRIB/GIMB
Icoms Detections	SRIB/GIMB
ILPA	SRIB/GIMB

John Robert	SRIB/GIMB
Karpimos	SRIB/GIMB
Maille France	SRIB/GIMB
MDG	SRIB/GIMB
Memnon Archiving Services	SRIB/GIMB
Mmmmh!	SRIB/GIMB
Museumfood	SRIB/GIMB
National Control Systems	SRIB/GIMB
Numeca International	SRIB/GIMB
Ovizio	SRIB/GIMB
Polygone International	SRIB/GIMB
Primo Group	SRIB/GIMB
Produits de l'année benelux	SRIB/GIMB
Quality Lease	SRIB/GIMB
Renewable Energy Construct Arlon 67	SRIB/GIMB
Renove Electric	SRIB/GIMB
SDT International	SRIB/GIMB
SN Airholding	SRIB/GIMB
Telematics Services	SRIB/GIMB
Theodorus II	SRIB/GIMB
Unibioscreen	SRIB/GIMB
Wetterenoise	SRIB/GIMB
BartheL Pauls	SRIW
Belrobotics	SRIW
Bone Therapeutics	SRIW
Carmeuse	SRIW
Faymonville Holding	SRIW
Magotteaux	SRIW
MCP/SIDECH	SRIW
Nanocyl	SRIW
Pairi Daiza	SRIW
Promethera Biosciences	SRIW
Ter Beke	SRIW
Vandeputte	SRIW
Viridaxis	SRIW
XDC	SRIW
Xylowatt	SRIW
D soft	StoneFund
Aluci	Stroke Fund II
Ogone	Summit Partners
Food Safety Consult	Synapsis
Quality Partner	Synapsis
Impression	Syntegra Capital
Segers Group	Syntegra Capital
Taminco	Taros Capital
Pack2pack Group	TowerBrook Capital Partners
Cassis	Vendis Capital
Fun	Vendis Capital
ZEB (Wamo)	Vendis Capital
Armonea	Verlinvest
Carrières du Hainaut	Verlinvest
Trinean	Vesalius Biocapital

Arseus Medical	Waterland
Enfinity	Waterland
Indicator	Waterland
Senior Living Group	Waterland