

Private Equity Selection
An Empirical Analysis on Selecting Distressed Companies

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Abstract

Turbulent times, punctuated by a Credit Crisis, have persisted into the year 2013, causing a strong emergence of distressed firm investment opportunities. Through this rising opportunity, one is inclined to question the sourcing and selection process of these investments. Successful private equity exits have been researched to show criticality in ensuring striking returns in private equity. The importance of the exit of investment has been researched extensively by private equity researchers. However, the beginning, which consists of selecting the investment, has overlooked in on the wave of research into private equity. This study aims to provide a stepping stone into the starting stage of investing into distressed investments, through both theoretical and practical development, using the analysis of the selection criteria that private equity investors use to select distressed portfolio companies.

Fundamentally, this study develops the selection in two fold. Firstly a ranking of the criteria that have been identified to affect the selection of investments, using both interviews with experts in the field, and a questionnaire to survey industry practitioners. Through responses from over 40 private equity houses, the study finds nine main criteria that private equity practitioners find important in the selection of distressed portfolio companies. The analysis done in this study suggests that experience leads a private equity company to incur less write-offs and that suggests superiority in selecting investments. Secondly, a framework incorporating value creation attributors is created and tested using an exploratory research methodology. This enables an understanding of the essential criteria that affect the selection, as well as provide a uniform method in the selection process to allow the practitioner to to capitalize on this study, and incorporate the methods and framework into future distressed investment selection.

Through this study, there is an expansion on the work from early stage private equity, extended to late stage distressed investments. This work represents a starting step towards the consolidation of theory, and the development of a selection tool for private equity professionals.

Abstrakt

Bis einschliesslich 2013 herrschten turbulente Zeiten, die gezeichnet waren von einer Kreditkrise, vor. Diese Turbulenzen haben was jedoch neue Investmentmöglichkeiten für Firmen eröffnet. Gleichzeitig werfen jedoch diese neuentstandenen Möglichkeiten einige Fragen hinsichtlich des Auswahlprozesses von Investments auf. Experten haben erfolgreiche Private Equity Exits gefunden, die sehr hohe private Equity-Gewinne aufzeigen. Private Equity Experten haben mit detaillierter Recherche die Wichtigkeit der des Endes der Investitionen (Exit of Investment) unterstrichen. Der Prozess der Auswahl der Investitionen wurde jedoch anfänglich von Studien zu Private Equity übersehen. Die vorliegende Studie zielt daher darauf ab, einen tieferen Einblick in Distressed-Investment durch praktische und theoretische Erwägungen zu bieten. Hierbei werden die Auswahlkriterien analysiert, die Investoren von Private Equity benutzen, um Firmen mit Distressed-Portfolios auszuwählen.

Grundsätzlich betrachtet diese Studie den Auswahlprozess aus zwei Perspektiven. Zum einen konzentriert sich die Studie auf die Auflistung der Auswahlkriterien, die von Private Equity Experten identifiziert werden und die die Auswahl von Investments beeinflussen. Hierzu sind Experteninterviews verwendet worden sowie ein Fragebogen, der an Vertreter der spezifischen Industriebranchen verteilt wurde. Aus über 40 Antworten von Private Equity Häusern geht hervor, dass neun Auswahlkriterien verwendet werden zur Auswahl von Investments. Die Studie zeigt ausserdem, dass je höher die Erfahrung der Investoren ist, desto geringer fallen Investment write-offs aus. Zum anderen stellt die Studie ein Konzept vor, das value creation attributors nutzen, um Auswahlkriterien zu schaffen. Die Analyse dieses Konzepts soll das Verständnis für den Auswahlprozess von Kriterien verbessern.

Diese Studie soll darüber hinaus zu einer Vertiefung und Vergrösserung der Arbeit im Bereich Early Stage Private Equity beitragen und einen Einblick in Late Stage Distressed-Investments geben. Die Studie fasst wichtige Forschungsergebnisse in diesem Bereich zusammen und stellt die Entwicklungen der Auswahlkriterien der Experten des Private Equity vor.

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1. Introduction

As we exit from a large financial crisis that has crumbled financial institutions and other corporations, private equity has shown to be a focus of many investors and researchers alike. Especially in this crisis, the opportunity for investing in the increasing supply in distressed investments has come about. Gompers and Lerner (2001, 2004) have mentioned that the increased interest in Private Equity has led to a raise in number of academic literature studying fundraising, relationships between LPs and GPs, value creation, valuation and exits. While there has been a surge in the research sphere, there still exist many unanswered questions about Private Equity, especially with regard to the selection process and functions of a fund. In addition, as the complexity of firms has increased, this accordingly increases the costs of financial distress (Andrade and Kaplan, 1998).

Distressed Investments typically targets companies that are fundamentally sound, but are experiencing financial and/or operating stress which has depressed the value of their debt and equity securities. Successful distressed investors will have a deep understanding of business and market fundamentals, restructuring expertise and the ability to improve the finances and operations of companies. Given the large proportion of distressed companies coming into existence, the questions remain regarding the degree of standardization of corporate investment selection and to which methods Private Equity companies use in order to determine the feasibility of entering into an investment agreement.

Historically, distressed situations have been created through the existence lax lending practices, coupled with a period of both fundamental and psychological weakness, a period that we have faced since 2007. In light of this development, private equity firms have been targeting distressed investments, banking on chances to exit with high yield. Private-equity firms are even investing in banks that are still afloat after the crisis. With FDIC putting up obstacles to distressed investment purchase due to failed lenders piling up at the fastest rate in two decades, Private Equity investors like Gerald J. Ford, who amassed his fortune through the purchasing of distressed banks

during the 2002 crisis, are banking on turning their distressed debt investments around through a 180 degree transformation¹.

With the strong emergence of distressed firm investment opportunities, one is inclined to question the sourcing and selection process of investments. Successful exits have been researched to show criticality in ensuring striking returns in private equity (Lerner, Hardyman and Leamon, 2004; Neus and Walz, 2004). The importance of the exit of investment has instilled more interest in the research community, especially after Henry Kravis incited his now famous line in 1991:

*“Don’t congratulate us when we buy a company... congratulate me when we sell it.”*²

As of yet, papers that introduce investment selection as an important criteria have based their research on Venture Capital and Entrepreneurial studies. With this in mind, the missing criteria and framework for selection of Distressed Private Equity has yet to be explored. This presents an opportunity for research which is beneficial for both academics and practitioner to explore the investment procedures used by distressed private equity firms

Previous literature provides several sets of typical investment criteria (Bruno and Tybjee, 1984; Dixon, 1991; Hall and Hofer, 1993; Fried and Hisrich, 1994), though they have been directed exclusively to venture capital investments, identifying selection criteria as well as analysing the investment processes as single entity. Even with the theoretical criteria, there is no set framework to investment selection, as well as reasons for rejection or endorsement to investment. In practice, criterions of investment companies are in the minds of the investment managers, hence requiring exploratory research to uncover them. As well, each Private Equity company has different criterion, which also can be due to different mind-sets of investment managers towards selection of portfolio companies.

Past studies in the selection of distressed assets have shown few breakthroughs in security selection. One of the most significant works by Altman and Hotchkiss (2006) describes the use of Zeta scores in the selection of distressed securities, and is

¹ Source: Bloomberg, April 30, 2010

² Source: StreetStories.com, Interview with Henry Kravis, February 12, 1991

detailed in how to calculate and use Zeta scores. However, this is not known to be common practice in the field of private equity for valuation.

The study of selection criteria in the Private Equity sphere remains grossly under researched; leaving high dependence on the discretion of Private Equity managers to choose investments with what may be less than suitable criteria. This topic is of increasing importance for investors in distressed investments to understand the standards and governance of these highly risky but highly profitable investments. The investigation of this issue will form the core of this work.

1.1 Research Gap and Objectives

The world's premier private equity groups looking globally through the vast amount of investment ideas to intensify the number of products they can offer investors, and to potentially increase the size of their funds under management³. However, there is yet to exist a checklist or framework for the selection of distressed investments. As this is a growing trend in private equity investments, it presents a research gap that has yet to be explored. This paper seeks to address this gap and to help practitioners to improve their selection process. Hence, the scope of the study will cover all regions across investors in order to encompass all private equity companies that partake in distressed investments. Particularly, the relevance of this paper will be targeted at General Partners. The relevance of the criteria for selection can potentially be used across borders, and be mutually beneficial for the investment practitioner in the field to learn from research findings.

This paper will seek to investigate and to contribute scientifically to both the selection and evaluation methodology of general partners dealing with distressed companies. The analysis will encompass the factors that contribute to the selection process of distressed investments.

The theories and concepts that are derived in this paper will seek to unify the ideologies of research done on private equity, from early, to late stage studies. In addition, the author will seek to understand the relationship of the factors and the

³ Financial Times (2010): "KKR snaps up nine US Goldman traders". Published: 21.10.2010

emphasis on these factors on the choice for investment. These factors form the basis of the beginning stage of investment, which can potentially signify a successful, disastrous entry.

1.2 Aim of Research

This dissertation examines how Distressed Private Equity investors evaluate and select their investing companies through the exploration of the evaluation criteria adopted by Private Equity Investors during the selection process. Interest into the origination and how private equity companies choose investments has been slowly growing in the research space. While some attempts have been made to uncover the methodology of private equity selection, little interest has been emphasised on distressed private equity (Kucher and Meitner 2004; Krasoff and O'Neill 2006).

In the light of the importance of exits, little attention has been paid to sourcing and selection of entry into investments. However, the importance of the first step into successful investment entry cannot be ignored, especially since survivorship bias arises from the high failure rate of private equity investments (Cochrane, 2003). Phalippou and Gottschlag (2007) mentioned that *“the most important challenge going forward is... to refine our understanding of what works and what does not work in private equity”*.

Acharya, Hahn and Kehoe (2013) studied the use of EBITDA as a methodology used by private equity companies to select targets. However, they do not attempt to measure the broader criteria that can be used during the selection process. This leaves a gap that can be explored in order to investigate the full deal origination process in selecting distressed investments. In their study, they admit that banks have different criteria to private equity companies but are unable to provide clearer details.

Altman and Hotchkiss (2006) suggested the use of Zeta credit scores (Altman, Haldeman and Narayanan, 1977) to evaluate the investment potential of distressed securities. Due to the inevitability of default risk in the sphere of distressed investing, the study uses a sample of 310 firms in order to analyse the efficacy of Zeta credit scores. Zeta credit scores have been well established and combine the traditional financial measures, with multivariate analysis, together termed as discriminant

analysis. Effectively, the lower the Zeta score, the more in distress the portfolio company is deemed to be in. However, even though the Zeta score method was studied to show that it might be effective when combined with other types of analysis, it is relative to industry, and with the specific industry it was significant to being the manufacturing industry. Poston et. al. (2011) researched a sample of firms over the period of eight years focused on Altman's Zeta score model, which encompasses the usage of commonly used financial ratios which include working capital, retained earnings, EBITDA, Sales and equity debt ratios. Although the Z-score was able to predict distress of a company up to two years before its occurrence, this research found that the usage of these financial ratios have found to be insignificant in predicting a company's ability to be turned around, showing all companies that were in distress as failures. Through this research, there is an indication that a strong need to understand how Private Equity companies can select distressed companies based on criteria beyond financial ones.

Fang, Ivashina and Lerner (2010) also admit that while banks also participate in buyout transactions, they do not seem to have access to the best deals, even though they provide financing for transactions. Goldschmid (2005) also perpetuates that while we know that distressed investors are reducing the cost of the Chapter 11 process, we still do not know how these investors are conducting their selection of these investments. Through this, it leads to the first question of the thesis

1. What are the criteria that private equity firms use to evaluate an investment decision when selecting distressed investments?

The only way to understand the criteria used by the private equity companies to select distressed investments would be to approach their staff and to question their methodology and criteria used to select investments. From previous studies as quoted before, as there are differences in the criteria between banks and private equity companies, it would be prudent to approach the private equity themselves, rather than to approach investment banks. The attempt to answer this question will lie with interviews held with the professionals, and to as well conduct a survey with the larger community of private equity professionals to gain a deeper insight into what criteria they utilize. From there, we will be able to lend knowledge from various other studies

to determine hypotheses to analyse the importance of the individual criteria. This leads to the next research question:

2. What are the most important criteria used to evaluate an investment decision when selecting distressed investments?

As important as it is to glean insights from the broad criteria that are investigated through the first research question, it would be prudent to dig deeper in order to extract the exact criteria which provides value to the investor when doing selection of distressed investments. This would allow for a clearer methodology to assist professionals and future researchers in determining the efficacy and profitability of entering a distressed investment. It is expected that this kind of information is proprietary to each firm and would pose a general risk of disclosure and loss of advantage if revealed by the private equity professionals. Thus, this paper will employ a simplified questionnaire to lend itself as a basis to cover the general topics to allow a larger scope of private equity professionals to answer as compared to narrower questions which might compromise themselves.

However, even though after the second research question has been answered, we will only have a broad landscape of criteria used. This is where an exploratory research into value creation factors can dig into the veil of secrecy to not only simplify, but also create a statutory formula that can be used to swiftly evaluate a potential investment. Here, a breakdown of the value creation factors initially researched by Loos (2006) will have to be done in order to create new value creation factors that will fit investment selection. Through this, it leads on to the third research question:

3. Which value creation factors can be used to as criteria to evaluate an investment decision when selecting distressed investments?

Once the new value creation factors have been analysed, we then seek to create a framework/checklist of selection criteria that will guide in the selection of distressed buyouts. It is expected that this kind of information is proprietary to each firm and would pose a general risk of disclosure and loss of advantage if revealed by the private equity professionals. Hence, it would be prudent to explore these criteria through the use of cases where financial statements and industry insights exist, which

can help in creating a base for the framework in exploring the deeper criteria that is used by private equity professionals. This leads us to the last research question:

4. How can private equity professionals use these criteria as a framework to select profitable distressed investments?

While it is noted that the above questions appear to increase the practical efficacy of distressed investment selection, there lies academic advancement that adds on to the contribution of this study. Besides investigating the aims that the author seeks to address in this study, there are also two key point contributions to value-add to both academic and practical work:

1.2.1 Contributions to theoretical advancement

Present studies have focused academic papers on the selection process involved with venture capital (Bruno and Tybejee, 1984; Dixon, 1991; Hall and Hofer, 1993; Fried and Hisrich, 1994). Through this paper, the author will seek to close out a gap and seek to unify the literature regarding investment selections by investigating an area that has not been attempted by previous researchers. In order to magnify the depth of the criteria within this study, it will be important to explore the value creation attributors to the company. Through this, this study will be able to meld theoretical knowledge with practical understanding which will be dually beneficial to industry and academia alike, potentially opening up new avenues of research to be explored.

Gompers and Lerner (2004) have advised about the differences between mainstream buyouts and venture capital. Hence, it is important to distinguish this study from those that have been done previously by various authors. It is important to note that this research will open the avenue for future researchers to explore deeper into illiquid investment selection. The private equity industry is notoriously secretive about their inner workings, hence mystifying the asset class even more to research and public eyes. Through this study, future researchers can have an insight into the first steps taken into distressed investing, which is now an integral cog in the private equity machine.

In summary, the dearth of literature on the selection processes in distressed investments has left a gap in the literature which will be researched and documented in this research.

1.2.2 Contributions to practice

As the top quartile of investors seem to have the most efficient methods of investing (Swensen, 2000), this research will seek to uncover the methods and possibilities for future firms to be able to utilize the same, or similar methods in investment selection. This will in turn prevent an oligopoly of top quartile firms and institute a framework for which other firms can follow suit.

Having a well-grounded framework for investment selection can contribute to better corporate governance of private equity firms. With a standardised framework, authorities can have an easier time in auditing distressed investment firms. The independence of this framework from the selection process only seeks to complicate the already secretive industry and causes problems with assessing the risk taken by GPs.

The risk is passed on the LPs and public investors who will have a difficult task in evaluating their portfolios (Gompers and Lerner, 1997). In understanding the investment selection process, the clients of private equity firms can apply a standard valuation model which other asset classes, like bonds and equities already have, and understand exactly the risk and rewards that encompass the investments that they have placed their capital in.

As well, the creation of a selection formula can help with the minimization of adverse selection and aid in efficient capital deployment to top tiered investments. Essentially, the goal is to use the formula within the beginning due diligence stages to prevent resource wastage in over-analysis of investments.

In summary, the practical output of this research seeks to form a framework whereby investors, researchers, industry firms and the public can follow the selection of distressed investments in the private equity arena.

1.3 Structure of this Paper

The structure of this paper is as follows:

- Chapter 1 has provided the introduction to the paper, touching on how this paper will contribute to both practice and academia. As well, the research objectives and aims have been outlined in the chapter.
- Chapter 2 brings the reader through the different definitions of the terms. In addition to this, this study will investigate a new alternative method of determining value creation for distressed buyouts, and delve into the role of external parties in identifying investments.
- Chapter 3 provides the theoretical foundation and literature review of the theories that encompass the research as well as analyses the studies on investment selection criterion set forth by previous research.
- Chapter 4 will go into the research methodology that will be undertaken by this paper. It will outline the methods of study used to enter into the research phase. As well, it will detail the research done through observation and induction, and will follow with the examination of the investment criteria importance, going into the details of the criteria on the investment criteria provided by interviewees and surveyors. Through this section, the study will be able to determine the most important factors in selecting distressed investments.
- Chapter 5 will develop the financial criteria further through using new value attributors to determine their importance, culminating with a framework to aid distressed investment selection. This section will be accompanied by case studies to aid the development of the importance of the new value attributors, and the ensuing developed framework for the selection of distressed investments.
- Chapter 6 will provide the recommendations, conclude the dissertation and discuss any limitations and future research ideas.

2. Background and Definitions

2.1 Investment Selection

2.1.1 Definition of Investment Selection

The theme of investment selection has been plagued by both economic and business researchers trying to find the optimal model to fit to asset classes. The key to its essence is to be able to *“measure a certain "benefit" (expressed through different units, presented either as absolute or relative values) for each investment item, and therefore choose that which earns more wealth for the shareholders”* (Aluja, 1996). The effect of this definition is to be able to break down an investment into its constituents and determine the overall benefit that it would be able to bestow upon the owner of the investment product.

With regards to private equity investment selection, there are few researchers that have insight into the key issues. Notably, Huntsman and Hoban (1980) have found that the high variability in returns as well as rate of failures in the venture capital industry, imply that the investment selection process presents too much inaccuracy. This can be further perpetuated by the differences between top quartile funds performances as compared to the performances of the other three quartiles, suggesting that the top quartile private equity companies are likely to have better selection processes. Additionally, Bruno and Tybjee (1984) provided a model of staging process to define the venture capitalist methodology of venture capital screening. Through a 5-step model, their reverse methodology, screening venture capitalists for entrepreneurs can be used as a basis for investment selection in private equity. However, as they noted, the model was not as rigorous as others and formed more as a frame towards future studies.

Research suggests that the during/before the initial phase for private equity firms to consider investing in a portfolio company, they have to execute a meticulously tiered selection process (Bruno and Tybjee, 1984; MacMillan, Zemmann and Subbanarasimha, 1987). During the initiation of this selection process, the private equity firm potentially can face a substantial unevenness of information flow as compared to what the management team of the portfolio company already knows. This can extend to the introducer, usually an investment bank, of the potential portfolio company. Hence, it is beneficial for the private equity firm to have professionals with

specialized knowledge into the technological aspects, operations, and business of the potential investment assists the PE firm to reduce the information gap. This is the key to distinguishing successful from unsuccessful portfolio company investments.

A deeper review of the literature on investment selection has come up with four main categories on which venture capitalists determine on the viability of a potential investment into a portfolio company. The four categories are summarized as (1) the entrepreneur/ management team capabilities to run the company, (2) the attractiveness of the product/service to customers, (3) the conditions of the market and how strong the competition in the industry is, and (4) how much potential returns from the portfolio can be reaped if a successful exit is completed. (Wells, 1974; Poindexter, 1976; Bruno and Tybjee 1984; MacMillan, Seigel, and Subba Narasimha, 1985; MacMillan, Zeman, and Subba Narasimha, 1987; Robinson, 1987; Timmons, Muzyka, Stevenson, and Bygrave, 1987).

A comparison of the models is as follow:

		Authors			
		Tybjee & Bruno (1984)	Hall (1989)	Fried & Hisrich (1994)	Boocock & Woods (1997)
Steps	1	Deal Origination	Generating a deal flow	Deal Origination	Generating a deal flow
	2	Screening	Proposal Screening	Firm-Specific Screen	Initial Screening
	3		Proposal Assessment	Generic Screen	First Meeting
	4	Evaluation	Project Evaluation	First Phase Evaluation	Second Meeting
	5				Board Presentation
	6		Due Diligence	Second Phase Evaluation	Due Diligence
	7	Deal Structuring	Deal Structuring	Closing	Deal Structuring
	8	Post Investment Activities	Venture Operations		Ongoing monitoring of Investment
	9		Cashing Out		Cashing Out

Fig. 1: Investment selection process

Source: Various

As private equity investments are highly risky and are of considerably poorer quality as compared to public market investments, the selection process employed by private

equity firms is vital to ensure that funds are pooled into a viable investment (Ick, 2005). As established in the Literature Review, the selection process for investing in firms follow a meticulous process that can vary amongst different private equity companies (Bruno and Tybjee 1984; MacMillan, Zemann and Subbanarasimha, 1987). However, the common trend that the author has noticed in the staging process is the common usage of a “Screening” phase⁴, whereby the private equity company evaluates the the firms that they would like to invest in. It is in this phase that the selection criteria is applied to the firms in order to weed out the “non-desirable” investments, from the “desirable” investments (Kaplan and Strömberg, 2001; Casamatta and Haritchabalet, 2007).

This process has been ported from the venture capital studies and hence used as a framework for the selection process employed by private equity firms. Interviewees declined to map out the process for their firms due to proprietary reasons, but were willing to confirm that the general overview provided by the authors was in the direction of what private equity firms employ.

From various different studies to do with selection process, the author and has come up with the following steps that show the overview of the investment selection process.

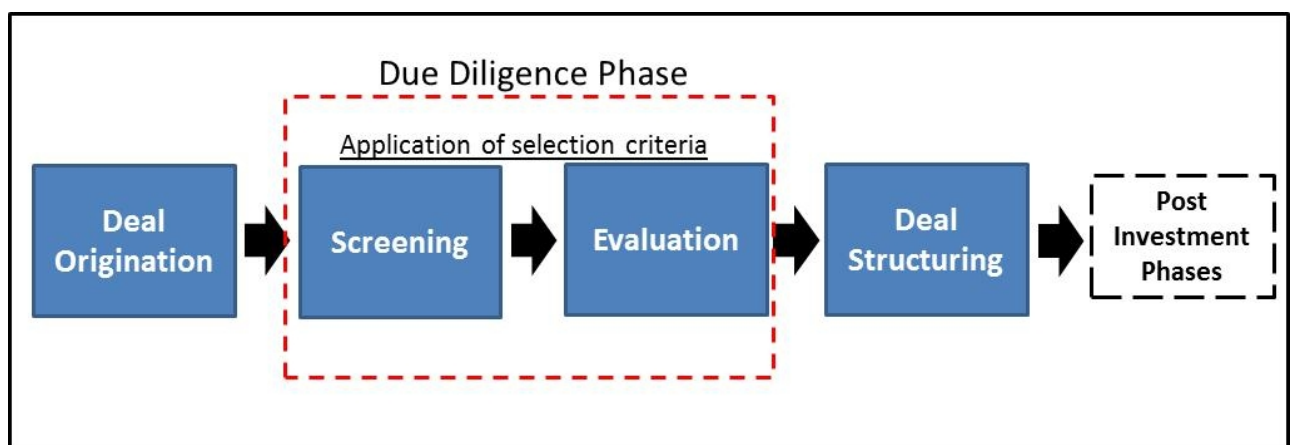


Fig. 2: Overview of Investment Selection phases

Source: Author’s adaptation from Bruno and Tybjee 1984; Hall, 1989; Fried and Hisrich, 1994; Boocock and Woods, 1997

⁴ See Section 2.3, Figure 5 for the selection process overview as documented by the author with a review of the relevant literature.

Step 1: Deal origination: Identifying the potential investment

Potential investments are usually not actively explored for by private equity or venture capital firms. Rather, these firms maintain close relationships with investment banks and companies that introduce investment opportunities to them (Fried and Hisrich, 1994). These sources are usually trusted sources by the private equity houses, which passes an initial level of screening, which is the barrier to reaching out to private equity firms. Sheng et al. (2003) found that half of all private equity transactions done in China were referred through third party referrals. Although this may be particular to the Chinese market, it still shows the importance of referral sources for private equity firms that would like to penetrate the emerging market.

Step 2: Screening: Getting rid of the weeds

Once having passed through the first phase, the investment is given a quick look through to see if it fits the general expectations of the private equity firm. It is in this phase where criteria for selection is applied and used to separate the potential investments into “good” or “bad” investments (Bruno and Tybjee, 1984; Fried and Hisrich, 1994; Boocock and Woods, 1997). The purpose of applying the criteria is to minimize the number of potential investments presented, into a pool of investments where the private equity firm can focus their energy and time on. The criteria would weed out the “bad” investments that do not fit into the private equity firm expectations and hence allow for the prevention of adverse selection. Two of the interviewees have suggested that the ability to weed out these investments come from a certain amount of experience in the industry. As one mentioned, *“having your hand burned once or twice”* makes the investor wary and careful of the way that investments are selected.

Casamatta and Harichabalet (2007) have found that experience of the venture capital company plays a major role in the screening process. In their study, they found inexperienced venture funds prefer to co-invest with more experienced funders due to the lack of expertise, the high cost of evaluation, and the lack of their accuracy in being able to evaluate the potential investment firm. This phenomenon could apply broadly to private equity investments due to the overlap of investing capabilities between venture capital funds, and private equity funds. In this assumption, it shows that a lack of preset selection criteria at this stage presents a roadblock to investors, as

they find a lack of direction to proceed in evaluating a potential investment. This is further perpetuated by the authors that the efficiency of being able to select profitable investments, determine not only how much the investor makes from the investment, but also how much value add to the investment firm itself. The involvement of the venture capital, or private equity firm, to high value projects then is based on their effectiveness of selecting investments that are worth their time and actually profitable.

The cost of co-investing with a more experienced investors causes costs for the inexperienced investor to be disproportionate as compared to value extracted from the investment (Hopp and Rieder, 2006; Das et al., 2011). From a study of 98,068 financing rounds of U.S. venture capital companies, Das et al. (2011) found that the selection effort done through co-invested venture companies are more rigorous. This is partially due to the effect of the co-investment of inexperienced venture companies, utilizing the selection efforts of experienced venture companies. This shows that the selection process of inexperienced companies are not efficient, causing them to rely on the selection process and criteria of experienced venture firms. This shows the divide between the two types of venture/private equity firms that do not follow standardized selection process. This could be due to the following:

1. During syndication/co-investment, inexperienced firms allow experienced firms allow for the experienced firms to take lead on the selection process, hence not adding value to the selection, nor having the expertise of contributing to the selection process.
2. After selection, the methodology of selecting investments is not shared between the experienced and inexperienced firms, allowing control of the investment by the experienced firm. This hence prevents competition in the selection of prime investments, encouraging inexperienced firms to rely on the expertise of experienced firms to conduct due diligence and selection of prime investments. In this case, inexperienced firms participate largely in the value addition of the investment, providing capital, and methods of turnaround which works towards the tail end of exiting the investment profitably (Lerner, 1994; Kaplan and Schoar, 2005; and Gompers et al., 2006, 2008, 2009). This coupled with allowing monitoring aspects to be shared by both venture capital

firms, allows for the experienced firm to concentrate on the selection process and exit process, whose difference distinguishes top firms from lower tier firms. Through this process, the venture capital firm can attract larger amounts of investment capital which in turn can be invested into identified investment opportunities. Private equity firms want to minimize the amount of time wasted on companies that they will not be investing in (Fried and Hisrich, 1994), and hence, this stage is a necessary part of the investment evaluation process.

Step 3: Evaluation: Sussing out the investment

Investments that pass through the screening phase are then given a deeper comb through to assess the initial stamp of approval from the private equity firm. Here is when the deeper research into the investment is explored into (Bruno and Tybjee 1984; Fried and Hisrich, 1994). This phase can consist of scheduled meetings with the potential investment firm, exploring the issues that the firm currently is facing. Hall and Hofer (1993) suggested that the criteria used in the previous screening phase are applied in this phase as well. However, the understanding from the study is that the evaluation criteria are in-depth analysis of the already selected investments (Riquelme and Rickards, 1992; Golis 1998), and hence this phase presents itself as an opportunity for private equity companies to confirm or reject their initial analysis done on the selected investments. The process of the deeper employment of selection criteria is termed as the due diligence performed on potential investments. The author finds that the case applied to the screening phase as well and hence terms both the screening and evaluation phase as the due diligence process.

Boocock and Woods (1997) explained that most potential investments are weeded out during the due diligence phase and gave an approximation of 80% of investments that were rejected at the screening phase, and 7.5% of investments that were rejected at the evaluation phase. Although the reasons for rejection were also named, these reasons were particular to venture capital investments and may not apply directly to distressed private equity investments. However, this shows the importance of the screening process which narrows down the work needed to be done during the evaluation phase.

Step 4: Deal Structuring: Closing out the deal

Once the investments have been selected and determined to be “desirable” investments, the next phase consists of the deal structuring. This phase culminates in what is to be an offer by the private equity firm to the potential investment firm. The structuring of contracting and negotiation for this phase is standardized and is put together to allow for terms and conditions, the level of involvement by the private equity firm, and the investment amounts to be indicated (Cumming and Johan, 2007).

The completion of this phase implies that a contract has been confirmed by both the private equity firm and the investment company. This also means that the private equity firm moves into its stated involvement with the firm, thus completing the aforementioned selection process.

Through these four steps, the private equity firm determines which potential companies to invest in. This is a simplification of the expanded steps of venture capital stages as shown in the Figure below, which includes the post structuring activities. Ick (2005) found that the quality of private equity investments are alarmingly skewed and emphasises the importance of the selection process. As the due diligence process is highly dictated by the criteria that have been pre-selected by private equity firms, it is then imperative to find out which criteria of selection are chosen for the process, and to what importance or ranking of each of the criteria represents.

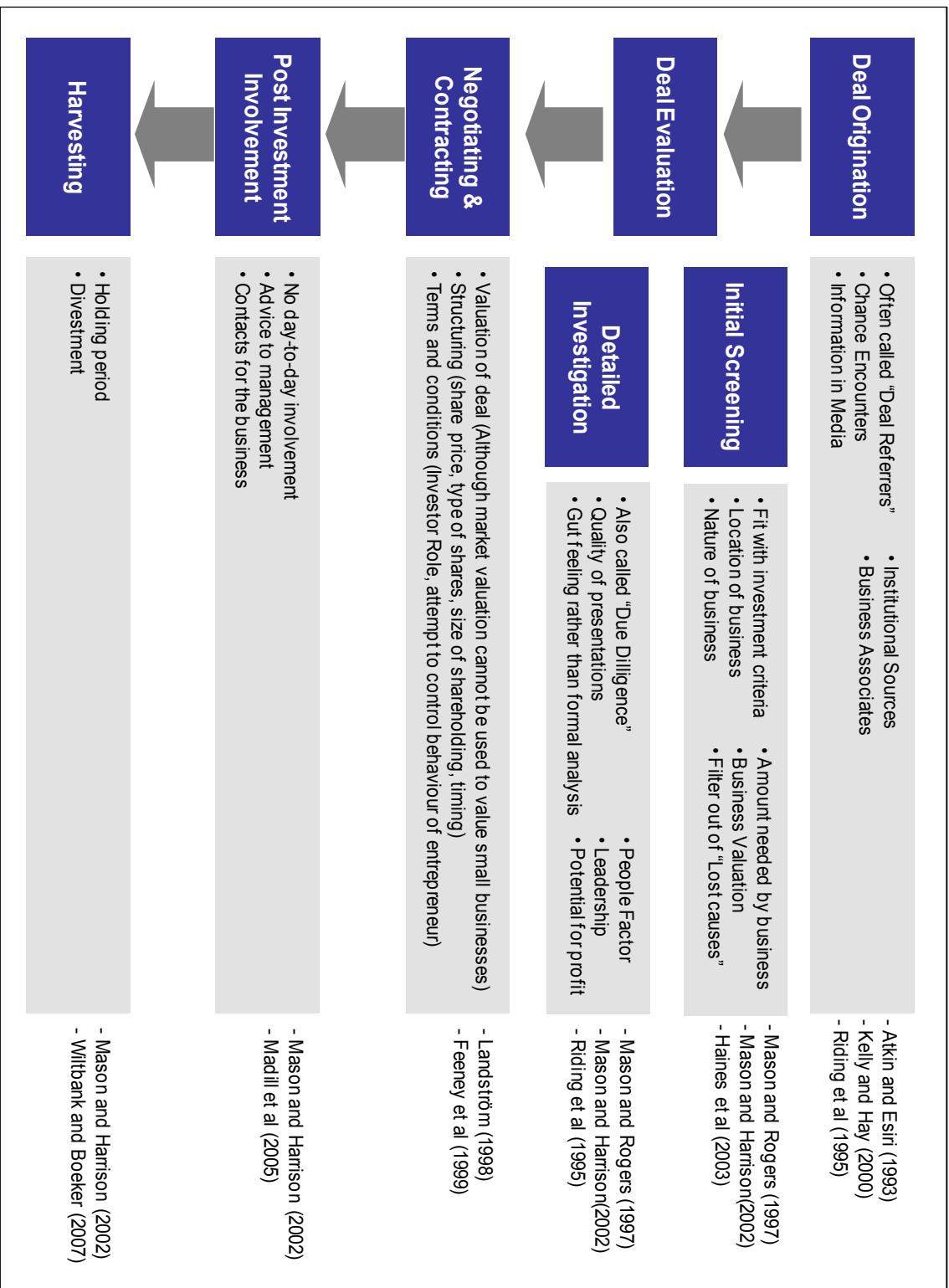


Fig. 3: Details and comments of investment phases
Source: Author's adaptation from various sources

2.1.2 Evaluation Criteria

Evaluation of a potential firm comes from having identified a set choice of criteria whereby firms can be equally evaluated upon. Gilson and Altman (2001) have studies what makes a distressed investor successful and have named three criteria which allow for the investor to evaluate and investment. The first is to be able to value the firm. This point has a clear overlap with the due diligence process and is key to understanding the business as a whole. The valuation of the current firm's status is as well made easier since the distressed company is usually sourcing for investors and provides information readily, allowing for typical valuation methods to evaluate the company (Brown et. al., 1993; Hotchkiss and Moorandian, 1997).

The second quality is the ability to negotiate the terms of the deal to be made with the company. This is crucial to the investor as it also determines the amount of control, depending on the debt or equity terms agreed to, that the investor will be able to exert on the management team. As discount buyers, a distressed investor can make respectable gains on his investment as long as the purchase was made at a sufficiently depressed price, even if there is only partial gain in the recovery of the face value of the investment (Gilson and Altman, 2001). The third quality is for the client to understand the risks that come with the investment. This quality is linked to the first, as the evaluation of the company is important to the investor's knowledge of risk. Conversely, if the valuation of the company is made too hastily or not bearing all the risks involved, then the investor may not negotiate sufficient terms in the discount of the purchase.

Although set criteria of investment criteria for practitioners have yet to be explored, an insight into the criteria selection for an "ideal" buyout candidate was identified by Kohlberg Kravis Roberts, one of the pioneer private equity firms. Their aspects of suitable companies are separated into two different areas: (1) Financial criteria, and (2) Business criteria.

The Financial criterion is basic in its explanation that the portfolio company must demonstrate historical profitability and the ability to maintain these margins. As well, the cash flows of the company must be predictable and strong enough to be able to offset a portion of the acquisition costs. Lastly, they look for companies that have

units that can be potentially spun-off, and hence, the assets of the company must be able to be readily separated.

The Business aspect covers the management team, which must be able and capable, with the company having competitive advantage in their industry in order to maintain its market position. The growth potential of the company must be justified through the brand penetration of their products, as well as the product sustainability in the light of technological advancement. The criteria are rounded off by the final one, which is that the company must not be subject to cyclical swings in their profits.

	Financial	Business
Criteria	History of demonstrated profitability and the ability to maintain above average profit margins	A strong management team
	Strong, predictable cash flows to service the financing cost related to the acquisition	Products with well known brand names and strong market position
	Readily separable assets or businesses which could be available for sale, if necessary	Status as a low cost producer within an industry, thereby creating competitive advantage
		Potential for real growth in the future
		Not subject to prolonged cyclical swings in profitability
		Products which are not subject to technological change

Fig. 4: Characteristics of the ideal buyout candidate

Source: KKR, 1989

Although this serves as a starting point for research, it allows for little guidance to practice. Cumming and Johan (2007) further perpetuate the elusiveness of investment criteria in the public domain. The notorious secrecy of private equity firms regarding their investment selection criteria perpetuates the need to study them. Moreover, the investment selection criteria for venture capitalists form only a basis of the start of the private equity cycle. Since investment selection has been argued to be one of the more important activities for the private equity professionals (Zider, 1998), and can lead to the improvement of exit opportunities (Sorensen, 2007), the factors that underlie the process have to be determined to future research and practice advancement in the field.

Batjargal and Liu (2004) studied the social phenomenon of “*Guanxi*” in China, meaning close relations between people, and its effect of the funding choices of private equity companies. In their study of 160 domestic venture capital firms in China, they found that third party referrals were often the source of portfolio companies to venture capital firms. This phenomenon of “*Guanxi*” is largely confined to Eastern Chinese cultures as according to their study. What this could signify is that sourcing is usually not done directly by private equity firms, and that they may frequent the use of third parties like investment banks.

Through a study of 16,000 transactions, Borell, Tykvova and Schmitt (2009) found that industry fragmentation increases the rate of investment of private equity companies. This could stem from the presence of smaller competitors which could lead to a consolidation by much larger companies in the same industry. As well, they found statistical significance in key financial ratios when private equity companies select a portfolio company to invest in. This further reinforces the theory that debt is preferred as a financing tool, following the pecking order to equity as least preferred. Acharya, Hahn and Kehoe (2009) found through a study of 94 large buyouts that private equity firms choose companies that have stability in profits. This is naturally important as shown through the KKR criteria that excess cash flows are used to fund acquisitions and to offset acquisition costs.

Generally, it is found that financial valuation factors and risk variables could potentially be important criteria as highlighted by the literature. However, the specific criteria within these two scopes have to be explored. Although social capital and risk measures have been shown to be potential criteria towards portfolio company selection, there is but little evidence that these factors lead to successful portfolio selection, or the degree to which private equity companies are influenced by these criteria.

Hege, Palomino and Schwienbacher (2003) suggest that the European private equity investors are less successful to their United States counterparts. They suggest as well that this is largely due to the screening capabilities that the United States private equity companies have developed, are far more refined, and hence have more stringent weeding out capabilities of potentially bad investments. Their study points

to the importance of understanding the key investment criteria, which basically is the backbone of the screening process.

The implications that are outlined in these studies show that little depth has gone into the study of variables that are integral to the evaluation and selection process of private equity portfolio companies. Literature on evaluation has shown a rough process outline that applies to the study of venture capital firms. However, the lack of evaluation criteria for private equity firms, especially those in the distressed arena, exists and hence need to be evaluated through this study.

2.2 Private equity

Private equity studies have been relatively young, with the bulk interest in the asset class starting to publish in the 1980s. Up to now, the research regarding private equity has still been inconsistent and has provided little unification in its theory. In itself, private equity is one of a part of the universe of investment products, which include foreign exchange, public market equity and debt, just to name a few (Bance, 2004). Gilligan and Wright (2008) have attempted to demystify the young asset class through their definition of private equity:

“Private equity is risk capital provided in a wide variety of situations, ranging from finance provided to business start-ups to the purchase of large, mature quoted companies, and everything in between. Buy-outs are examples of private equity investments in which investors and a management team pool their own money, usually together with borrowed money (in which case they are called ‘leveraged’ buy-outs or LBOs), to buy the shares in a business from its current owners.”

Through this definition, they have defined private equity to cover the spectrum of Venture Capital, to include the different categories of buyouts. With these two categories, there come the different stages as to when a company requires financing and may seek to receive it from a PE company. The larger proportion of deals as seen during the latest period of 2008-2009 has been in the buyout arena. Due to strategic or resource related reasons, buyouts provide acquiring entities a fully functional company with already working divisions. This is essential to allow private equity companies to exert their control on the portfolio companies, basically working as

operational optimizers to work either a turnaround of the portfolio company, or a leaning of the portfolio company's dynamic capabilities (Baker and Montgomery, 1994; Kester and Luehrman, 1995).

Essentially, a private equity fund provides a means and vehicle for investors to pool their capital in order to invest in a variety of portfolio companies and strategies. The investment is done by the private equity firm, termed as the General Partner, while the investors into the funds are termed as Limited Partners. Limited Partners are contractually not allowed to influence or meddle with the operations of the fund. Failure of which to comply can risk the loss of their limited liability status.

The Limited Partners are contracted to the General Partners to fund the investments that they have contractually agreed to. The committed capital by the Limited Partners is usually never all called at once. The General Partner, who would have made a selection of companies to invest in, would then explicitly instruct Limited Partners to provide capital in order to start investment. These are called capital calls, which usually span the first half of the life of the fund.

The General Partner, or private equity firm, is entrusted to realise the investments in portfolio companies within the fund. This usually is contracted into the agreement signed with the Limited Partners that the General Partners will harvest the liquidity of the portfolio companies, usually after the capital call stage, through exiting the investments.

The opposite side of the deal is called the divestment phase. This period usually encompasses the exits of the fund from the portfolio companies. The exits can be done in various formats, which can encompass and are not limited to Initial Public Offerings, mergers and acquisitions, an outright sale to a strategic buyer, so on and so forth (Anson, 2004). As such, private equity investments are a long term deal, often spanning from ten years and onward.

On top of the investment, a management fee is charged to the investors. This can range from 1%-2.5% of the committed funds to the fund. The management fee can be subjected to a hurdle rate, performance of the fund must be above this rate for higher management fee to be taken, which in turn acts as an incentive for the private equity

managers to produce a higher return on funds. This in turn affects the return on the fund, but is necessary to provide for directorship fees, transactions costs and payment for services for the private equity professionals.

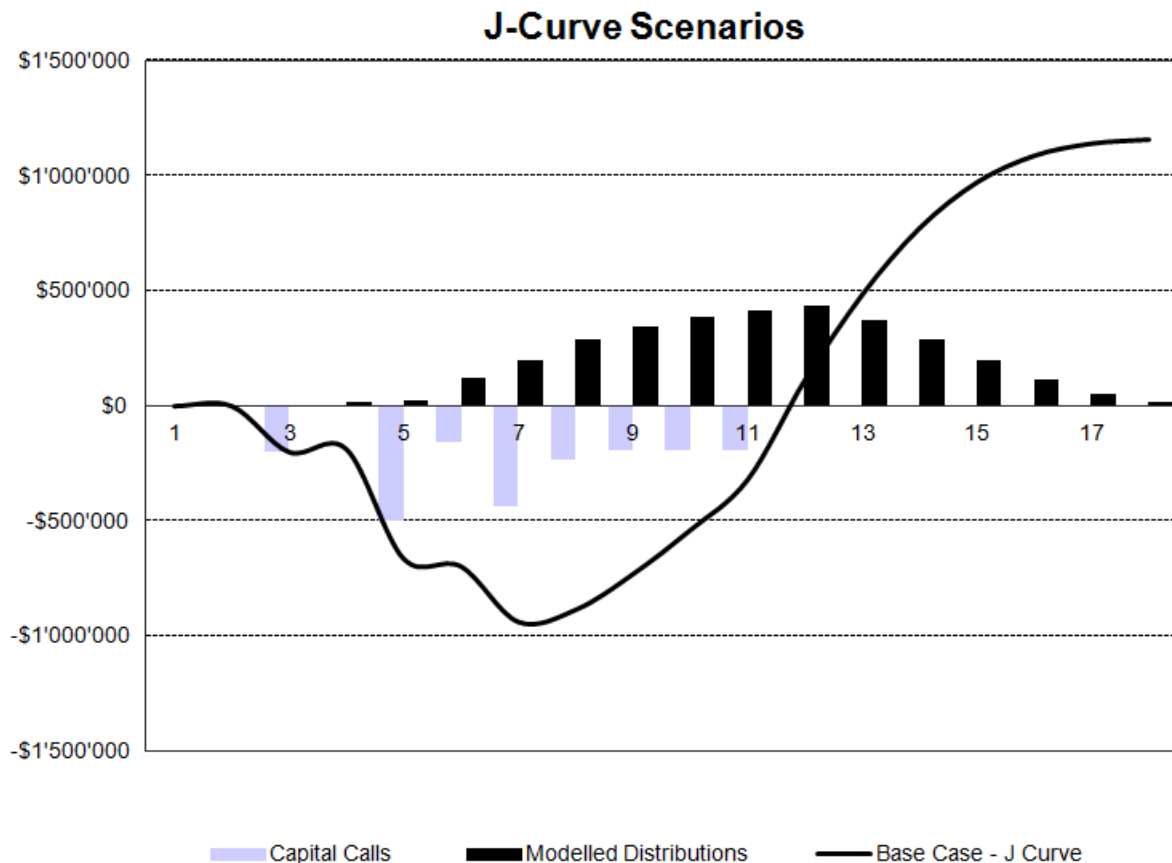


Fig. 5: J curve simulation of private equity investment

Source: Author’s own

Capital calls usually occur in the first half of the investment period of the fund and shown by the J curve simulation in Figure 2. The private equity investment period span includes distributions that can offset the capital investment amount that the investor will have to provide. The ‘classical’ performance J Curve is mainly caused by the uncertainty in valuation of private equity investments. This allows for fund managers to revalue upwards toward the end of the fund’s lifetime which anticipates the exits of the portfolio companies within the fund (Meyer, 2011). As a result, private equity funds tend to show a decline in value during the early years of its investment life due to the calling of capital from investors, also known as the ‘valley of tears’. As the fund returns exit proceeds to investors, the curve moves upwards, showing the positive returns as the fund matures. The J curve can also simulate the return of a private equity fund through stress tests of delayed distributions. This will

allow the investor to understand the payoff of the fund should the afore-mentioned situation occur. Typically delays result in an extended run of the fund, which can be due to unrealized portfolio companies within the fund.

2.2.1 History of Private Equity

Most agreement in previous literature is that private equity started in the United States of America when the American Research and Development Corporation (ARDC) and the J.H. Whitney Company were created in the 1940s, following up to the end of World War II (Wilson, 1985). President Dwight Eisenhower initiated the creation of the ARDC through the creation of the Small Business Administration. The administration was officially created by the Small Business Act of 1953 to “aid, counsel, assist, and protect, insofar as is possible, the interests of small business concerns.”. During the period when large corporations were not the norm, the ARDC was created to manage wealthy Americans’ fortunes, primarily being a funding source for new investments. At that point of time, the ARDC annual funding capital was less than a few hundred million dollars, which was a potentially massive sum for the 1940s. The J.H. Whitney Company, on the other hand was founded by a pair of investors that been investing since the earlier 1930. The most well-known transaction by the company was the Minute Maid orange juice sale to the Coca Cola Company, though the company still is active in the leveraged buyout arena.

However, the stock market slump of the 1970s brought about the largest blow to the private equity industry as private equity firms were unable to realize the returns that they had promised investors. In the past before the slump, Initial Public Offerings were the norms for portfolio company exits. However, with the low valuations and lack of liquidity of the market, private equity firms found it difficult to match the valuations that they had projected. To add another blow to the industry, United States Congress initiated the Employee Retirement Income Security Act (ERISA) in 1974. The purpose of ERISA was to reign in pension management and funding. Unfortunately, the side effect of this Act caused pension fund managers to pull back from what was deemed as “high risk” investments. As private equity was deemed as one, the dry powder and funding flow for investments quickly dried up, leaving just US\$10 million funds raised for the VC industry in 1975. However, the late 1970s brought about a revival of Initial Public Offerings with the likes of technology

companies, like Apple Inc. and FEDEX. This mini boom period then encouraged institutional investors like sovereign wealth funds and money managers to spur interest in the private equity asset class as an act of diversifying their portfolios. The movement into the early 1980s were then dominated by Leveraged Buyouts (LBOs) engineered by private equity firms, like Kohlberg Kravis Roberts and Company's acquisition of RJR Nabisco, surged passed the past popularity of Venture Capital. This renewed interest coupled with the rise of junk bonds, fuelled by Michael Milken, brought about the rise of the Leveraged Buyout. However, as buyouts started to comprise of over 95% debt, many investors and companies started to worry if the private equity industry was running rampant without any control.

The change in United States investment and tax laws during the Jimmy Carter Presidential term led to the boom of private equity in the 1980s. With the stock market rising during that period, the private equity industry was fuelled by profitable exits and was further perpetuated by the media attention given the acquisition of Gibson Greetings through an almost 99% loan leveraged buyout⁵. Soon, some of the largest buyouts were to be created, along with some of the most famous private equity companies that we know of today, those of the likes of Bain Capital, The Blackstone Group and The Carlyle Group. That specific period will also be remembered for when some of the most famous companies were to be born through venture capital funding. Apple Computer Inc. is one of the most famous stories to come from that period through an initial funding of \$250,000. When Apple decided to go public, the IPO instantly created more millionaires than any company ever recorded.

Drexel Burnham Lambert's indictment of insider trading and the subsequent collapse of the junk bond market⁶ led to the fallout of the buyout industry, especially with the ruling that Savings and loans could no longer be invested in bonds rated below investment grade. With this new ruling, Savings and loans had to be withdrawn from junk assets by 1993, leading to the oversupply of low grade assets, culminating with the collapse of the junk bond market (Altman, 1992). Following the resurging boom, the private equity market began to cool during the Internet Bubble burst in 2000. The

⁵ The article was published in TIMES magazine first on 16th Jul. 1984, by Alexander L. Taylor called "Buyout Binge"; Later referenced in "King of Capital: The Remarkable Rise, Fall, and Rise Again of Steve Schwarzman and Blackstone" by David Carey and John E. Morris, Crown Business, 2010.

⁶ Drexel Burnham Lambert was the largest underwriter of junk bonds before their collapse in 1990.

stagflation was quickly turned around thanks to information technology buyouts with Skype being bought by eBay and successful IPOs from companies like Google.com helped to kindle the Golden Age of private equity during the 2003-2007 period. This resurgence showed the tenacity of the private equity industry which started to move eastwards, targeting European markets and slowing emerging in the Middle East and Asia. This would be the period known as the mega buyouts. However, this resurgence period quickly came to an end with the Credit Crisis of 2008. The wearing down of credit markets cut into the leveraged finance and high-yield debt markets, starkly reducing the amount of credit available in the market. Leading this change was the Obama administration's incorporation of the financial services regulatory reform legislation now known as the Dodd-Frank Bill. The Bill made specific changes to the financial regulatory system through the provisions for monitoring and reducing systemic risk, creating more effective retail consumer protection against products and services, forcing liquidity requirements that would not allow leverage to do most of the investment work. The collapse of credit in the markets and liquidity rule changes would bring about a precedent amount of bankruptcies that would be the opportunistic point for key investors to invest in these ailing businesses, what we know as Distressed Private Equity.

2.2.2 Private Equity market structure

The exclusivity of being able to invest in private equity has long been alluring to private investors. Investors advanced approximately USD 5 billion into private equity investments in the early eighties. This figure increased exponentially by 2004, reaching nearly USD 300 billion by the end of the year (Lerner, Hardyman and Leamon, 2004). Lured by the high returns in investment, high net worth investors have been drawn to these investment opportunities, with private equity being a core investment category for most private banks.

There exist different kinds of markets for private equity, of which 2 will be described, the formally organized market, and the Angel Capital market. The formally organized private equity market consists of managed investments consisting of both equity and debt investments as unregistered securities of both private and public companies (Fenn et al., 1997). The management of these securities are provided by specialized intermediaries and, can extend to institutional investors. Through taking ownership

positions in companies, private equity firms can take on a direct role in the portfolio companies through the actions of operational monitoring, having managers sit on board positions, or through active advisory of the companies.

Rule 144A was adopted in 1990 by the Securities and Exchange Commission. The adoption of this Rule forms the third market for private equity (Prowse, 1998; Fenn et al., 1997). It basically sets the rules and regulations by which private securities can change hands amongst select institutional investors. Hence, the allowance of this rule has created a market for underwritten private equity offerings which are mostly bought by the public trading desks of institutional investors (Prowse, 1998). Most public firms that resort to this rule are trying to avoid the hassles which can include delays, administration and so forth when doing a registered offering, instead, they can use the form of deposit receipts, which raise new capital using a private placement (Miller, 1999). This market is setup similarly like the public trading market as the trading of deposit receipts can be done.

2.2.3 Performance of private equity as an asset class

Performance of private equity funds can be hard to figure out with the secretive nature of the industry. Kaplan and Schoar (2005) studied the performance of private equity funds and found them to perform only as well as the S&P500 did, which was after taking off the fees. This would mean that private equity firms could only perform as well as the market was performing.

However, more recent research from Harris, Jenkinson, and Kaplan (2012) found that private equity funds outperformed the S&P 500 by over 20% over the course of the fund operation, which calculated to over 3% per annum. These findings highlight the difficulty that academics and market practitioners alike have had in trying to determine the efficacy or performance of private equity firms. Cumming and Walz (2009) studied the disclosure of performance to institutional clients by private equity funds, finding that there were discrepancies in how performance was revealed to the investors. However, they found that when operating in a stricter accounting environment, these discrepancies could be reduced.

Kaplan and Schoar's (2005) found that the returns based on vintage could vary widely. This case puts forth a case that experienced private equity investors would have had exposure to downturn and upturn years, understanding the mechanics as to how the market affects their investments, and how to correct for them in times of downturn. Their research also emphasised on the larger funds raised by newer private equity firms which had entered the industry during an upturn market. However, there was no indication whether these firms performed better, on par, or worse off as compared to their peers for those vintage years.

Another interesting aspect that affects the performance of funds is the diversification effect. However, it was found that diversification be beneficial if it is done across various industry groups, rather than diversifying over different kinds of private equity stages (Lossen, 2006). In this sense, it is essential to note that specialized firms should perform better than overly diversified firms across stages. Additionally, the same study found that geographic diversification does not add value to the performance of private equity firms. This suggests that concentrating investment activities in home countries, where base operations are held would be beneficial to private equity companies.

Overall, performance metrics and measurements are varied across different academic studies. This once again presents itself as an issue in the study of private equity which can be negated by increased disclosure and openness of private equity firms. Swensen (2000) has put forth that only by having a strong exposure to private equity exposure, can one achieve a superior portfolio performance. It is then understandable that many endowment funds, institutions, and high-net-worth investors agree with this premise, funding nearly \$1 trillion in private equity assets over the past twenty years. Other authors have criticized this ideology, stating that private equity returns are lower than those of public equity, bringing up the question if anyone should invest in private equity at all (Zhu, Davis, Kinniry, and Wicas, 2004).

Preqin data has indicated that from the period of 2005-2010, USD 150.4 billion has been raised by distressed private equity funds globally. Of this figure, 85 distressed debt vehicles raised an aggregate USD 119 billion. Special situation funds collected USD 21.3 billion in capital commitments from 2005 to present and turnaround private equity funds gathered USD 10 billion in funding in the same period.

From 2006 to 2008, investors committed to distressed debt funds increasingly and private equity companies substantially raised their fund commitments from USD 11.4 billion in 2006, to USD 43.1 billion in 2008. With the onset of the financial crisis, funds raised by distressed debt funds decreased, with only USD 5.2 billion in capital raised in 2009. A similar trend occurred within the special situation funds market, which peaked in 2007 at USD 7.8 billion and reached a low of USD 2.1 billion in 2009. In the year to date, 15 distressed debt, special situation and turnaround funds have closed receiving a total of USD 14.7 billion in capital commitments.

Currently, there exist 57 distressed private equity vehicles on the road seeking an aggregate USD 40.1 billion in capital. Distressed debt funds are seeking the largest proportion of investor commitments, with 28 funds in the market looking to raise USD 27.4 billion. Turnaround and special situation vehicles are seeking an aggregate USD 6.8 billion and USD 5.8 billion respectively. With this increased investor fund raising activity in distressed investments, academia has been active in analysing the performance afforded by this class of private equity investments. Gompers and Lerner (2001) have suggested that due to the relative youth of the research in private equity, much is yet to be understood in the areas of risk and return, basically “what we don’t know about venture capital,” which stands true for buyout investments as well. Recent research has reported that private equity funds have shown a relatively low performance pre 2007 crisis. For example, Kaplan and Schoar (2005) have suggested in their study of private equity funds that their performance tends to that of the performance of the Standard and Poor 500. The study does admit that the performance of the funds may be complicated to measure due to the lack of transparency in fund reporting to the public.

However, Phalippou and Zollo (2005) studied the drivers of private equity fund performances and found that fund performance co-varies positively with business cycles and stock-market cycles. This is an unfavourable finding due to the exposure to tail risk, which is characteristic of hedge fund investments as well. However, the finding of low performance was documented to be concentrated amongst the small and inexperienced fund managers. Their dataset comprised of 700 private equity funds of both US and EU private equity funds. To date, their study uses the most comprehensive dataset, inclusive of the linkage between fund cash flows and fund investments, similar to the study by Ljungqvist and Richardson (2003a). The study is

unique due to the focus on macroeconomic perspective which narrowed in on the market conditions that influence performance and to show evidence of nonlinear risk factors.

Most importantly, the study by Phalippou and Zollo (2005), found that there exist six determinants of performance for a private equity fund. These variables are the return of the public stock-market during the life of investments, the length of investments (between start and exit of the fund), the size of the fund and the experience of the fund family. Although these six variables can account for 11% of the variation in private equity fund performance, this is not as statistically robust as we would expect to determine the entire fund performance.

Hege, Palomino and Schwienbacher (2003) surmised that the performance difference could be accounted by the difference in markets. The United States, which is deemed a matured venture capital and private equity market, and the European Union, deemed as a relatively new market, have different contractual relationships between the Venture Capitalist, and the start-up entrepreneur. Their study confirmed that the United States performed significantly better than the European Union both in terms of exit and rate of return. This difference could be attributable to the better screening processes that the US Venture Capitalists enforced to weed out the companies that they did not want to invest in, the reservation of control rights in case of poor performance, and active monitoring, all points that were missing from the EU Venture Capitalists. This study shows the importance of control rights on a company as a private equity investor could quickly take over the management of the firm when needed.

2.2.4 Diversification effects on performance of private equity

The other aspect that can affect private equity fund performance is the diversification characteristics of the fund. In Lossen (2006) pioneering study of diversification in private equity funds, he compiled information related to 100 PE funds. The data contained the details of the studied 2,871 portfolio companies, which encompassed cash flow histories between the portfolio companies and their funds. This data approach allowed for a very precise evaluation of the diversification of private equity funds. From his study, he suggested that there are five areas of diversification that a

private equity company can engage in. Firstly, private equity firms can utilize simple diversification across the number of portfolio companies. This simply suggests that the number of portfolio companies is increased to allow for diversification of “failure” risk. Secondly, private equity firms can dynamically diversify their investments across time. This would mean investing in portfolio companies across different “vintages” allowing for the control of market risk that Phalippou and Zollo (2005) suggested in their study.

The last three diversifications are systematic, which would take into account the characteristics of the portfolio firms. The financing stages could be diversified through the investment of investments in different areas of private equity. This would mean investing across the venture capital and private equity frame, which include buyouts, bridge financing and mezzanine financing. A fund could also account for the industries across portfolios. This would diversify the risk taken upon the fund through minimizing the single industry risk by investing across multiple industries. Lastly, the country risk of the fund can be minimized by investing across a variety of not only developed, but developing countries as well. This could potentially allow for the fund to have potential gains safeguarded from any political or economic risks that could affect a single country.

Diversification was noted to have a muted effect on the performance of a private equity fund, with no return premium to diversified funds across industries or countries. The author suggests two explanations for this observation. Firstly, knowhow of industry not essentially important as it can be is obtained outside of the private equity firm. Secondly, private equity professionals are already specialized in different industries, hence being able to overcome information asymmetry and the principal agent problem. Even though there is no premium tag on simple and systematic diversification, it is still notably important though managing the economic changes across the life of a fund.

Cressy, Munari and Malipiero (2007) found evidence in their study that private equity fund performance can be attributed to specialization in the private equity industry. In their study of 122 buyouts in the United Kingdom, they found that industry specialization of PE firms adds 8.5% to the payoff premium of funds, which confirms the “industry-specialization” hypothesis. Most interestingly, they found that

profitability of the private equity backed portfolio company in the year that it is bought out, had a key effect of the payoff post-buyout. This would in turn suggest that skill in investment selection and financial engineering were more important than the incentives placed on managers to raise performance. Subsequently, this refutes the “Jensen” hypothesis that attributes performance to an improvement in governance structure.

2.2.5 Stages of investment

Private equity investments follow different stages of investment, ranging from the ever exciting infancy of a company called the “Start-up”, to the declining and maturing industries that are past their glory days. As the Figure below shows, there are many types of private equity investment stages. While the author will explain the different types briefly, the focus of this study is on the distressed buyouts.

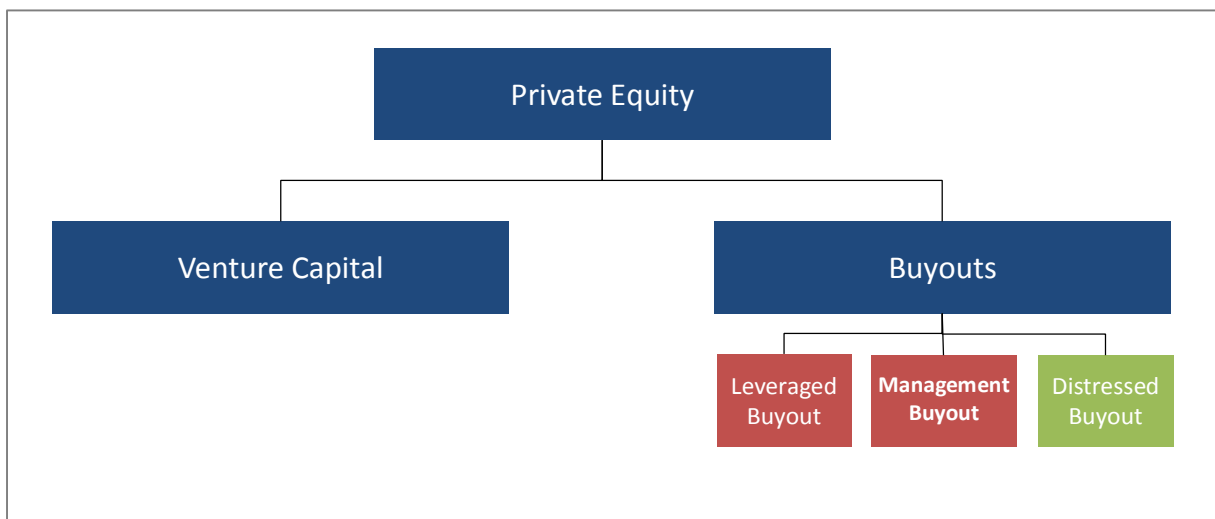


Fig. 6: Types of Private Equity Investments

Source: Author’s own

1) Venture Capital

This stage usually comprises of the “Seed”, “Start-up” and the “First Stage”. The “Seed” stage is when the company in its absolute infancy, requiring capital to start the company up and running, hence the term “seed capital”. The “Start-up” is a company already set up and requires the capital for product development and the initial marketing phases for the product lines. The “First Stage” refers to companies that already have product lines set up, but require expansion of sales and manufacturing portions of the company.

2) Buyouts

Buyouts refer to mature businesses that are being taken over through management buyouts, or through external acquisition of the company. The buyout as well encompasses the investment in distressed companies that are in need of capital for restructuring plans to bring them out of bankruptcy. Various forms of the buyout can be performed which have been segregated through the Figure above. The first form of buyout is the leveraged buyout, which describes the purchase of a company through funds raised by the acquiring private equity firm. The funds that are acquired are usually through the form of debt, traditionally funded with the cooperation of investment banks.

The second form described is the management buyout, where the management of the target business acquires the business or product line, and equity funding which can be used in expanding the business even more, or to acquire the business (Sudarsanam, Wright, and Huang, 2011). Through this form, the management represent a co-investor into the business. The third form is the distressed buyout, which is the focus of this study. Distressed buyouts are similar to the leveraged buyout in the sense that the company is bought over through the use of funds acquired as a form of debt. However, the focus of the investment is clearly on distressed companies that particularly require a turnaround of the business, and a specialized understanding of laws that govern bankruptcy, due to the higher risk entailed by investing in these kind of companies. Following this description, deeper analysis into the distressed sphere continues in the following chapter.

Both Kraft (2001) and Bierman (2011) have provided key similarities in the buying stages as compared with Fenn et al. (1997), showing that the categorization of investment is dependent on which stage the company is in. Clearly, the buyout phase contributes to more than 80% of funds raised, showing that the lucrative investment in buyouts has been the focus of the larger private equity funds that attract large limited partner funding, and leverage opportunities.

2.2.6 Distressed Buyout

The word “Distressed” grew even scarier to become the norm following the Credit Crisis. The large amount of companies that began falling and defaulting from debt

grew substantially through September 2009, where the Standard and Poor reports showed a quadruple increase of defaults from the year before. According to Preqin, the private equity database provider, the distressed private equity funds raised approximately \$92 billion funds during the 2007-2008 period alone, proving further evidence that the focus of investors had increased dramatically in the distressed investing sphere.

Indeed it is more of a hedge fund manager's field to invest in distressed investments, seeing that they invest across all levels of a company's' capital structure. However, private equity companies still continuously source for these companies as a form of turnaround investment, encroaching on being equity, or control investor, rather than a debt investor. Direct investment in equity of distressed firms has been a relatively young occurrence that has since preceded "Vulture Capital" – the investing of debt in companies considered in distressed state⁷

The author finds that there is no straightforward definition of distressed private equity in previous literature. The definitions are often skirted across without being directly addressed by other authors. Stockham (2003) describes the lucrative prospects of the turnaround industry without clearly stating if the turnaround industry specifically is distressed.

However, a visit to the site of the Turnaround Management Association has allowed for a start in the definition process. The Association mentions that a turnaround is in effect a corporate renewal of a firm that has entered or is entering a period of financial distress.⁸ The definition of financial distress is then taken to be the risk of a company becoming bankrupt according to the accounting principles that are governed by the country of the company's' existence (Sudarsanam and Lai, 2001). Hotchkiss and Mooradian (1997) mention the "vulture investors" influence the restructuring and control in the distressed firms. Combined with the definition of private equity, we could come to the definition that:

"Distressed Private Equity is risk capital and expertise provided to revitalize an operational or financially distressed company through privatised means."

⁷ The term "Vulture Capital" was coined as a Venture Capitalist term for private equity companies that waited for a company to go into distress before accumulating its debt (Hedgeworld News, Feb. 2008)

⁸ Taken as translation from the articles of the Turnaround Management Association (www.turnaround.org)

2.2.7 Distinction of Distressed Buyouts

Like all key asset investing, successful investing in Distressed Private Equity calls for purchase below the intrinsic value⁹. During the period of the crisis, corporations in the United States were slated to default on their debt¹⁰. Standard and Poor announced a 7.6% default rate at the end of 2009 which was the highest rate since 2003 of debt default seen on the open market. In a study done by, Altman and Hotchkiss (2006), they have found that the market for distressed debt securities has expanded explosively by five times from the period of 1995 - 2005.

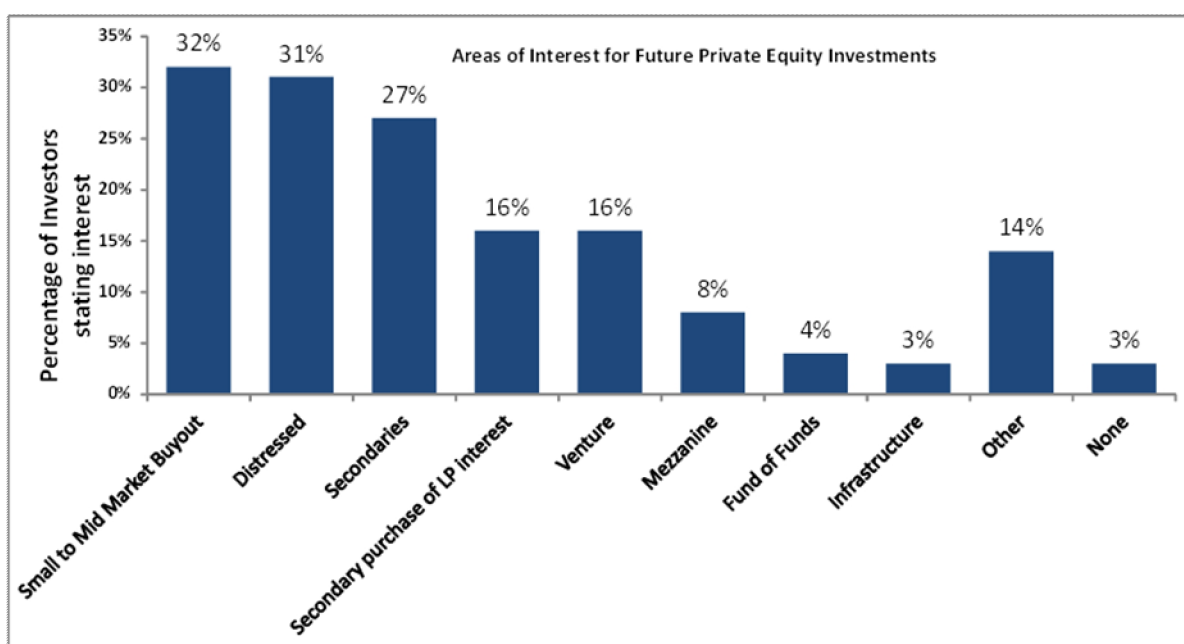


Fig. 7: Investors Survey on areas of Interest

Source: Preqin, Private Equity Investor Survey August 2009

Interest in distressed private equity investing has increased tremendously with a survey by Preqin finding that 31% of investors into private equity funds indicated interest in distressed private equity late 2009. In the midst of a credit crunch, this displays the opportunities of growth areas that investors are interested in, with distressed private equity out shining venture capital interest by twofold.

⁹ Howard S. Marks, Chairman, Oaktree Capital Management, in a Private Equity International Talk, 2007

¹⁰ Moody's Investors Service, December Default Report, January 13, 2009

In addition, with the lack of credit available in the market place due to strong intervention of central banks, which resulted from the credit crisis of 2007-2009¹¹, it left room for distressed private equity firms to invest in quality companies and to provide management assistance. This shows as well that vice-versa, distressed debt investing encompasses a lucrative opportunity for healthy companies unable to obtain funding due to the credit crisis attempting to reorganize their capital structure.

Brown et al (1992, 1993) found that the private equity lenders have an inappropriate amount of extra information about a restructuring company as compared to a public lender. In this situation, it appears that the private equity companies always have larger appropriation to the portfolio company information as compared to the public lender.

As such, distressed funds were raising capital actively in the United States private markets for funds, significantly increasing both invested capital in portfolio companies and liquidity pool of capital raised. Across 13 funds in 2008, distressed investors pooled \$37.8 billion across 18 funds, lying in the wait for bargains in the market to show up. The largest distressed fund ever raised, by Oaktree Capital Management, saw a \$10.6 billion liquidity pool for the year 2008. Globally, we would see the trend was a mimic of the United States activity, with over \$43 billion raised. This showed that public investors were geared for basement bargain investment opportunities that were to be raised during the crisis period, namely financially burdened companies that would not be able to gain public leverage, having to resort instead to private capital injection.

¹¹ Source: Hedgeweek, February 25, 2010.

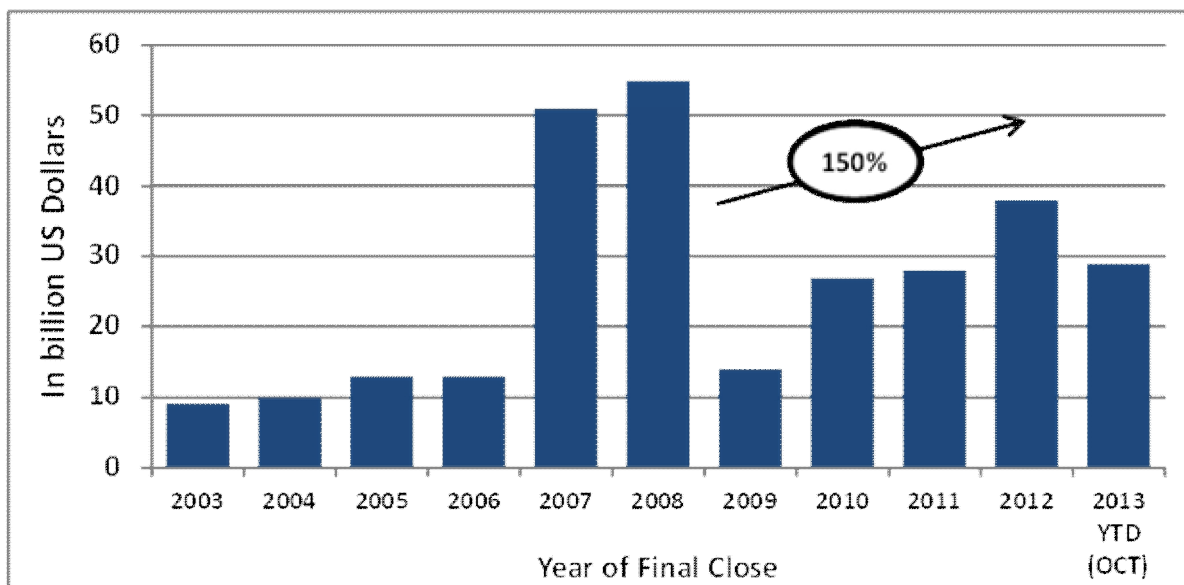


Fig. 8: Distressed fund raising (2003-2013) showing increases during financial crisis
Source: Private Equity Intelligence, Database

Recent transactions in the distressed investment field include Apollo Investment Management investing in the debt of cable operator Charter Communications Holdings¹². As a private equity investment company, Apollo Investment management has been an investor in distressed debt and buyouts since 1990. Previously, they have invested in Communications Corporation of America, Cablecom and Spectrasite Communications, had grounded their experience in the cable and communications industry. With these successful transactions completed, Apollo's control stake in Charter was no surprise which allows Apollo to convert the debt to equity, giving them majority stake ownership.

The State Street Private Equity Index posted on 31st December 2009, that for the period of 2008 to 2009, every single private equity strategy had been shown to have a 15.0% one-year end-to-end return. This increase in return, which came after five consecutive quarters of negative returns, showed a notably marked increase in investment funding as well. Most interestingly, Mezzanine and Distressed Debt were the top performers, posting a high 35.3% return for that one-year investment time period¹³.

¹² Transaction was first announced by Bloomberg News on 20 March 2009:

<http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aXiJFk7fCs34&refer=us>

¹³ State Street Investment Analytics publishes index returns quarterly for 1,717 private equity partnerships:

<http://www.statestreet.com>

LoPucki and Whitford (1993), Hotchkiss (1995), Gilson and Altman (2001), Hotchkiss and Mooradian (1997), and Surendranath and Madura (2010) have implied the firms that enter into Chapter 11 are more likely to underperform as compared to their peers on the public market. This poses a great opportunity for distressed private equity to be able to impose onto investors that firms chosen for distressed funds may be close to Chapter 11, but not in entirety yet. Distressed funds may be able to convince shareholders to relinquish control of the portfolio companies to private equity companies with the knowledge that if the company were to go into bankruptcy, there would be little chance for shareholders to take restructuring effects or a profit from their investments.

Hotchkiss, Smith and Strömberg (2011) found that the private equity backed companies were much better off, compared to their peers who were not backed. They took less time to effect a turnaround of the business, to change the circumstances of distress, and also more likely to be continuing operations. This shows that private equity companies add positive value to the firms that they invest in, keeping them in operation, and also keeping the people in the firm employed. More importantly, they appear to be better equipped to take their portfolio companies out of distress as compared to the firm attempting to do it without the funding and assistance.

Firms that are in distress usually have executives that take control over the firm. However, this has shown to have higher turnover rates during the restructuring period (Jostarndt and Sautner, 2008). As well, executives are less keen to take on a higher equity compensation stake once the company is in duress, and companies have a hard time trying to replace non performing managers (Fama and Jensen, 1983; Franks and Mayer, 2001). Private equity companies are able to attract top talent into their organization with the sole purpose of restructuring organizations in duress¹⁴. This follows Jensen (1989b) hypothesis that private equity is able to improve the operations of acquired firms. Hence, portfolio companies in distressed funds would have the dedicated services of the private equity company to lead the restructuring process.

¹⁴ Harvard Business Publishing March 31, 2008 mentions that Private Equity firms not only attracts but retains the top talent through the offer of huge potential awards, both financially and intrinsically.

Types of Distressed investor: Spin-off or Turnaround

Private equity investors are essentially interested in the turnaround of the company. Distressed investors are no different, expecting quick turnaround of the portfolio company. Private equity companies like Texas Pacific Group can exit a company as early as five years after investment¹⁵. However, a full turnaround of a company is not the only opportunity in distressed private equity, which can go extensively beyond labour intensive bankruptcy turnaround. Burbank (2005) elaborated on the five steps of restructuring and starting the turnaround of a company¹⁶ as depicted by the diagram below. This illustrates the difficulty, complexity, time consuming, and high costs of trying to turnaround a distressed company.

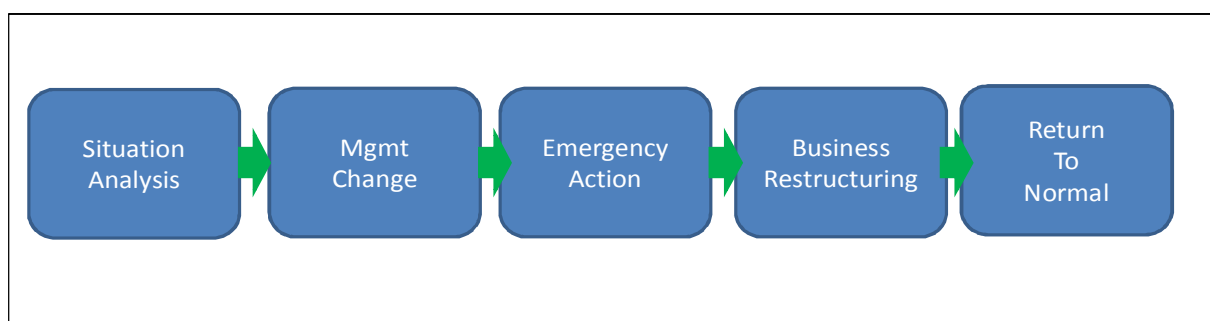


Fig. 9: The Classic Five Step Turnaround process

Source: Burbank (2005)

Another strategy deals with company spin-offs. This can entail often healthy companies within larger corporations that are not aligned with the strategy and goals of their parent, hence, a reason for a subsidiary to be created. Although the term is relatively loosely used, it generally means that a person, or persons, leaves the company with either intellectual or technological property rights, in order to start a new company (Helfat and Lieberman 2002). Further reasons for spin-offs can include the reasoning of focusing on the core business and increasing of shareholder value. A core example would be Hewlett-Packard's spin-off of their personal computer business. This would create a "\$40bn start-up" which would be the world's biggest seller of Windows PCs in its own right. This would in turn allow for Hewlett-Packard to concentrate on their core business of business to business computing needs.

¹⁵ Rogers, Holland and Hass (2002) gives an example of the exit of Paradyne, telecommunications arm of Lucent Technologies.

¹⁶ First described by Donald Bibeault in his book "Corporate turnaround: how managers turn losers into winners!" latest version 1998.

2.2.8 Core investment strategies in distressed debt

There are essentially three main “pure strategies” which are the common ground for private equity companies, Distressed Debt Trading, Non-control, and Control strategies. These encompass a range of portfolio firm control mechanisms through the investment in securities. However, it is noted that private equity companies utilize a combination of these strategies when investing, hence allowing for the management of control of a portfolio firm when required.

Debt Trading	<p>Aim: Invest in undervalued distressed securities looking for rebound in value due to mispricing. Control: No active participation in board and management Strategy: Trading / speculative oriented which suits hedge funds Holding Period: 6 - 12 months Target Return: 12% - 20%</p>
Active or Non-Control	<p>Aim: Gain a influence position through investment of senior secured and senior unsecured debt claims. Control: Active participation during restructuring Strategy: To turnaround the company and exit Holding Period: 1- 2 years Target Return: 15% - 20%</p>
Control	<p>Aim: Acquire substantial ownership of debt/fulcrum security (30% - 50%) (typically via reorganization or bankruptcy) in order to operationally fix and profit from an eventual exit. Control: Active participation, seat in board and management Strategy: Additional equity infusion, Rehabilitate company, Exit Holding Period: 2 - 3 years Target Return: 20% - 25%</p>

Fig. 10: Investment strategies in Distress investments

Source: Altman and Hotchkiss (2006, pp .189) and The Guide to Distressed Debt and Turnaround Investing – Published by Private Equity International, London

Distressed Debt Trading

Distressed Debt Trading is defined as the trading of the debt obligations of the portfolio company which is trading at a subpar distressed level, which is usually a low percentage as compared to the par value. The lucrative part of the transaction is to sell off these obligations at a higher level, thus generating a profit of a short period if possible. This is termed an arbitrage play, where by the traders capitalise on the opportunity of mis-priced securities that will recover in value (Krasoff and O’Neill, 2006). As can be expected, this investment strategy is often applied by hedge funds, as the liquidity for this strategy is highest amongst the trading strategies. As well, the capacity for control over the firm is diminutive due to the short holding period of the positions.

Distressed Debt: Active/Non-Control

The goal of active or non-control debt strategies is to be able to accumulate major positions in the company, especially one that is expected to go into the bankruptcy process (Altman and Hotchkiss, 2006). This strategy stems from building up a relatively large position in order to have a say in the restructuring process of the company after it has undergone bankruptcy proceedings. In this case, the acquiring investor looks to invest in senior secured and unsecured debt in order to ensure priority during the payback process. Through this, they can gain a seat on the board as well. This strategy would of course entail a much larger holding as compare to the trading strategy. The holdings of the company would have to much larger as well.

Distressed Debt: Control

The third strategy would entail the investor gaining substantial control over the portfolio company. The private equity firm would invest significantly into the distressed portfolio company undergoing bankruptcy proceeding, which would effectively entail gaining control (Altman and Hotchkiss, 2006). With this strategy, the private equity firm is looking to gain sufficient control in order to dictate the turnaround of the company, then effect an exit which would provide the profits to the private equity firm. This is effectively a longer process which can entail the use of fulcrum securities¹⁷ and taking on a longer holding period due to the restructuring of the portfolio company.

Restructuring or turnaround

The private equity companies can effectively plan a restructuring or turnaround through the purchase of equity of a company. Through this method, the private equity company can initiate a purchase before an expected bankruptcy, or any other time in the bankruptcy process. This objective of this process is similar to the control strategy, which is to going control over the firm through complete equity purchase at a distressed price (Anson, 2004). Ideally, the professionals that are involved with these

¹⁷ Fulcrum securities are the key to owning equity in the firm, which follows the loan to own model. It is the point whereby the enterprise value cannot fully cover the claim in the capital structure. Source: http://www.eurekahedge.com/news/07_july_Kellner_Dileo_Distressed_Investing_Markets_Trends_and_Outlook.asp

specific kinds of takeovers are very well educated in the laws of bankruptcy. This method is not always considered a pure strategy as it can often use a mix of the three pure strategies to attain the goal of control.

There would be few private equity companies that would pursue these strategies purely. The reason behind that is that the investment strategies of private equity firms are often fluid and subject to change (Altman and Hotchkiss, 2006). For example, a private equity firm could utilize a small position to trade the debt of the company. Afterwards, upon determining the viability of investment in the company, the firm could take upon a larger control stake through fulcrum security purchases, or trade away the debt to focus on other distressed opportunities. Another example would be the case of a syndicate purchase, where two or more firms have purchased into the debt of the company. One party can decide to divest their proportion of investment to the rest of the parties if they decide to concentrate on other distressed investments, or similarly, one party can decide to purchase over the stakes of the syndicate to take over the whole position. The jostling of lead position on the syndicate can lead to a bidding war between private equity firms, with smaller firms often not able to provide financing and being forced to own a smaller position or out of the deal completely. This can also be lucrative for debt traders who may manage to take advantage of the situation to exit their position at a higher price than if they were to divest on the market.

The stages that have been described differ in the amount of due diligence that is required to be done before investing in them. As depicted by the diagram above, due to the large commitment of manpower, time and expense for restructuring, the amount of time taken to analyse these choices of investments would be substantially more as compared to non-control investors.

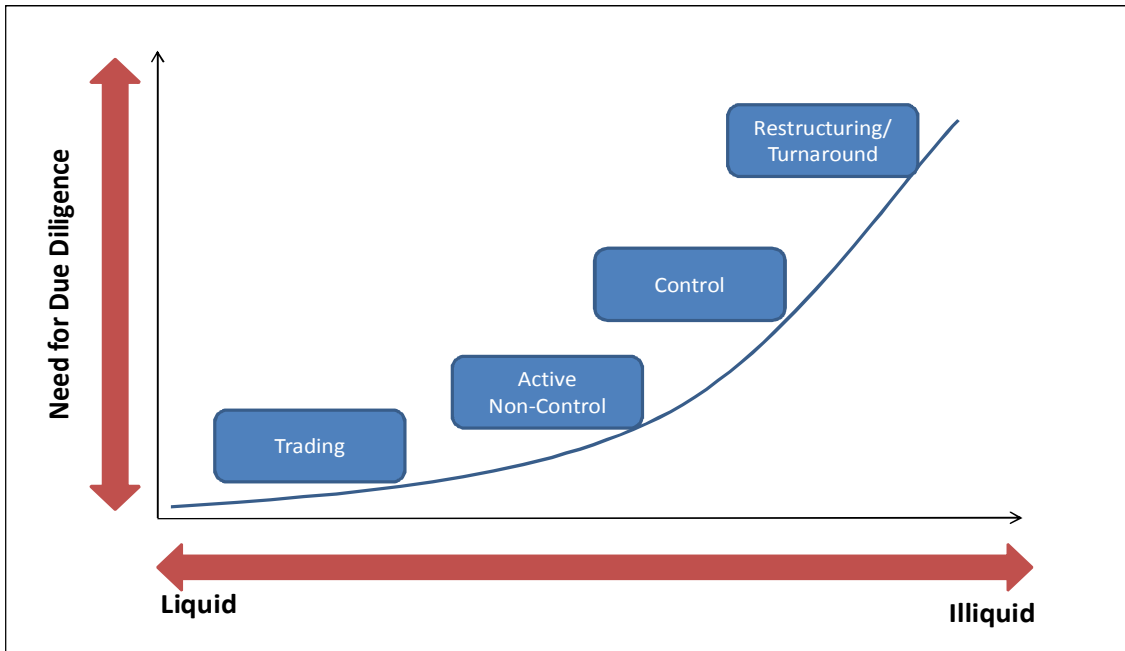


Fig. 11: Due diligence increases with amount of control

Source: PriceWaterHouse Coopers - ts insights - Volume 5 no.2 October 1, 2008

2.2.9 Value Creation in Distressed Companies

The forms of value creation can be broken down into two different areas of improvement to the company as according to Berg and Gottschalg (2005): (1) Primary levers, and (2) Secondary Levers. Primary levers consist of improvements to valuation of the portfolio firm through the deal making capabilities of the private equity firm, and the improvement of operational performance, and / or strategic distinctiveness of the portfolio firm. Secondary levers on the other hand refer to the reduction of agency costs through the use of leverage to reduce non-utilization of Free Cash Flow, and the alignment of interest of management to shareholder's interest through improved or increased supervision.

Various support to Berg and Gottschalg's (2005) study has emerged in the academic field, further adding support to their findings. Kaplan and Schoar's (2005) reported that private equity investors do add value to portfolio companies. His study showed that public companies that were in the process of management buyout increased their operational performance significantly. Thus, the value creation in portfolio companies are expected out of private equity investors. Through the value added investor and management capabilities of private equity firms, distressed companies

are able to raise funds, ensure company and investor fit, and turnaround when usually not possible under public market conditions.

Moon (2006) has suggested that the private equity market runs in complete difference from public markets. His research shows that private equity investors are able to provide capital to portfolio companies in all market conditions, having the ability to raise funds from both private and institutional investors. This unique capability coupled with the enhancement of both governance and operations of the portfolio company, allow for higher valuations placed on the equity based on faith in private equity investors. Through this, the private equity investors are generally expected to enhance the performance of the portfolio companies (Hsu, 2004). Lerner, Sorensen, and Strömberg (2011) further increase the conviction of value creation through their study of 495 firms and their patent filing behaviour during private equity investment. Their findings show that firms that have private equity investment

Private equity firms have the ability to work the balance sheet of the portfolio company through aggressive management of the physical capital in the portfolio company (Rogers, Holland and Hass, 2002). More often than not, changes in operational management and the layoff of redundant employees create value in the company, leaning out the balance sheet and operational lines. A key example of reworking the balance sheet would be the buyout of Debenhams in United Kingdom. The company, which was brought private in 2003, was laden with property assets, which were re-mortgaged or sold and re-leased instead. With the separation from the operational balance sheet, and refinancing, the exit of the company was achieved, while returning £1.2 billion to the private equity firms¹⁸.

Leslie and Oyer (2009) studied the incentives provided to management of portfolio companies by private equity firms. Their findings from studying 144 reverse-LBOs between the period of 1996 and 2005, found that the incentives for management pushed them towards the success of the portfolio companies while under private equity company investment. The CEO of the portfolio company would own as much as twice as much equity in the firm, as compared to one in a public company. This indicated that the compensation of the CEO was highly dependent on the success of the portfolio company itself. In fact, having the CEO with vested interest in the

¹⁸ Jonathan Braude, 'Debenhams to make debut' TheDeal.com, 21 April 2006.

portfolio company encourages the sharing of information with the private equity professionals (Lazear, 2005). With the addition to a lower fixed salary and higher cash bonus for performance, this exposure to downside risk for the manager allows for them to work for the upside potential in improving the performance of the portfolio company. This incentive is noted to disappear relatively quickly once the company is brought public or exited, hence showing the incentive is dependent on the investment of the private equity companies.

With this support of value creation in buyouts, the next step is to investigate the operationalization of value creation. Damodaran (2012) put forth that there are four methods by which an action can add value: *“(1) through increasing cash flows generated by assets in place currently, (2) by increasing the expected growth rate in earnings, (3) by increasing the length of the high growth period, and (4) through the reduction of cost of capital that is applied to discount the cash flows.”* Out of the four ways of creating value, the high growth period may not be in the control of practitioners, hence, leaving us with three potential methods of value creation.

There have been two keen studies on value creation driver operationalization for buyouts which have had a lasting impact on the academic circle. Loos (2006) broke down the Dupont formula to analyse the key drivers of value creation in a buyout. In his study, he described the four levers to be the Revenue Growth effect, the expansion of EBITDA margin effect, the Multiple Expansion effect, and the De-leveraging effect. Subsequently, his study was incorporated into various other studies (Pindur, 2007; Brigl et. al. 2008; Achleitner et. al., 2010) of which Achleitner et. al. (2010), which included Free Cash Flow as a value driver, postulated that EBITDA Growth, EBITDA Multiple, and De-leveraging effects are the basics of value creation. While the two studies have deep relevance for leveraged buyouts, the importance of operational efficiency has not been fully analysed. Operational Efficiency in a distressed buyout would in this case measure how improved use of the asset base has led to value creation. This would also be a form of measurement of management competency in being able to capture value from inefficiencies of asset use. With this in mind, it is then imperative to further explore the value drivers for distressed buyouts.

In order to analyse the value added components of the distressed buyout, this study will use the Return on Equity Dupont formula as described by Loos (2006) combined

with the variables suggested by Altman and Hotchkiss (2006) for the Z-score which measures bankruptcy likelihood. Through this decomposition of the Dupont formula combined with Z-score variables, the value attributors can be determined for distressed buyouts. This study will take a modified approach to adapt the drivers to a distressed buyout situation instead.

The Z-score formula was introduced by Altman in 1968 and has been used for measurement of bankruptcy risk of a company ever since, with reporting of over 81% in accuracy of prediction of bankruptcy in various markets (Bhatt, 2012). The formula is as follows:

$$\text{Z- Score} = 0.012 \frac{\text{WC}}{\text{TA}} + 0.014 \frac{\text{RE}}{\text{TA}} + 0.033 \frac{\text{EBITDA}}{\text{TA}} + 0.006 \frac{\text{E}}{\text{TD}} + 0.999 \frac{\text{REV}}{\text{TA}}$$

Where WC = Working Capital
 TA = Total Assets
 RE = Retained Earnings
 EBIT = Earnings before Interest and Taxes
 E = Shareholder's Equity
 TD = Total Liabilities
 Rev = Revenues from sales

Each of the ratios is used to measure different areas which could potential affect the continued operation of a company. The first ratio $\frac{\text{WC}}{\text{TA}}$ is a measure of short term liquidity. Altman and Hotchkiss (2006) found this ratio to be the most useful out of the liquidity ratios, incorporating Working Capital instead of Total Debt when measuring short term liquidity. $\frac{\text{RE}}{\text{TA}}$ is a measurement of surplus earnings over the total assets. For a distressed firm, it will be assumed that the Retained Earnings will all be used to cover debt obligations and interest expense. Altman and Hotchkiss (2006) also admitted that Retained Earnings is an area that can be “manipulated” by management, and hence will not be included in this study due to the mentioned reasons. $\frac{\text{EBITDA}}{\text{TA}}$ is a measure of productivity of the firm as a measure of earnings over total assets. $\frac{\text{E}}{\text{TD}}$ is a measurement of the leverage incorporated in the firm. Lastly,

$\frac{REV}{TA}$ is the measure of the sales generation ability of the firm, basically revenue efficiency based on Total Assets.

There is expected debt servicing and requirements for existing debt held by the portfolio company. As buyouts typically employ raised debt for the transaction, it would be expected that the pay down of this debt would take first priority to maximise shareholder value (Loos, 2006). With that in mind, this study will assume that Net Debt = Total Debt as all cash equivalents and cash flows will be channelled to reducing the raised debt amount during the holding period. As the holding period of an investment is on average 6 years (Kaplan and Strömberg, 2008), it is assumed that the complete raised debt pay down has been completed by then, representing full payment to the private equity company upon exit.

From Loos (2006) we have the decomposition of the Dupont formula as following:

$$\begin{aligned} \text{Return On Equity} &= \\ &= \left(\frac{\text{Net Income}}{\text{Revenue from Sales}} \right) \left(\frac{\text{Revenue from Sales}}{\text{Total Assets}} \right) \left(\frac{\text{Total Assets}}{\text{Shareholders Equity}} \right) \end{aligned}$$

Hence through the removal of net income from both sides, and using the reciprocal, we come to,

$$E = \text{Rev} \left(\frac{TA}{\text{Rev}} \right) \left(\frac{E}{TA} \right)$$

Where,
 E = Shareholders Equity
 TA = Total Assets
 Rev = Revenue from Sales

We then substitute Assets with Enterprise Value where,

$$\begin{aligned} \text{Assets} &= \text{Liabilities} + \text{Equity} \\ \text{Enterprise Value (EV)} &= \text{Shareholders Equity (E)} + \text{Total Debt (TD)} \end{aligned}$$

$$E = \text{Rev} \left(\frac{EV}{\text{Rev}} \right) \left(\frac{E}{EV} \right)$$

We then add in Earnings before Interest, Depreciation and Amortization (EBITDA) as a measure of operational performance measure. This is a common measure that has been used by value creation studies and measures in corporate finance (Achleitner et. al., 2010). Followings Loos (2006), Hence:

$$E=(Rev) \left(\frac{EBITDA}{REV}\right) \left(\frac{EV}{EBITDA}\right) \left(\frac{E}{EV}\right)$$

The above formula consists of the measurements of value creation that have been incorporated in the works of Loos (2006) and Achleitner (2010) as notable studies. To adjust the value drivers to suit the distressed buyout, we include the Working Capital into the equation, arriving to the following.

$$E=(WC) \left(\frac{EBITDA}{REV}\right) \left(\frac{REV}{WC}\right) \left(\frac{EV}{EBITDA}\right) \left(\frac{E}{EV}\right)$$

Where, WC = Working Capital

The next step is to measure the Compounded Annual Growth (CAGR) rate for each of the above value attributors, adding 1 to both sides so that the attribution to the growth (loss) rate of equity. In addition, the natural logarithm (ln) is used to map the equation from multiplication to addition. This would allow for an addition of value factors as described in Loos (2006: pg. 54). Further Dividing each side by 1+CAGR(E), we have:

$$1 = \left[\frac{\ln(1+CAGR(WC))}{\ln(1+CAGR(E))} \right] + \left[\frac{\ln\left(1+CAGR\left(\frac{EBITDA}{REV}\right)\right)}{\ln(1+CAGR(E))} \right] \\ + \left[\frac{\ln\left(1+CAGR\left(\frac{REV}{WC}\right)\right)}{\ln(1+CAGR(E))} \right] + \left[\frac{\ln\left(1+CAGR\left(\frac{EV}{EBITDA}\right)\right)}{\ln(1+CAGR(E))} \right] + \left[\frac{\ln\left(1+CAGR\left(\frac{E}{EV}\right)\right)}{\ln(1+CAGR(E))} \right]$$

Lastly, the IRR of Equity is multiplied to both sides to arrive with the following formula:

$$\begin{aligned}
\text{IRR(E)} = & \text{IRR(E)} \left[\frac{\ln(1+\text{CAGR(WC)})}{\ln(1+\text{CAGR(E)})} \right] + \text{IRR(E)} \left[\frac{\ln \left(1 + \text{CAGR} \left(\frac{\text{EBITDA}}{\text{REV}} \right) \right)}{\ln(1+\text{CAGR(E)})} \right] \\
& + \text{IRR(E)} \left[\frac{\ln \left(1 + \text{CAGR} \left(\frac{\text{REV}}{\text{WC}} \right) \right)}{\ln(1+\text{CAGR(E)})} \right] + \text{IRR(E)} \left[\frac{\ln \left(1 + \text{CAGR} \left(\frac{\text{EV}}{\text{EBITDA}} \right) \right)}{\ln(1+\text{CAGR(E)})} \right] \\
& + \text{IRR(E)} \left[\frac{\ln \left(1 + \text{CAGR} \left(\frac{\text{E}}{\text{EV}} \right) \right)}{\ln(1+\text{CAGR(E)})} \right]
\end{aligned}$$

Through this formula, we come to the following value attributors which contribute to equity value growth:

$$\text{Operating Liquidity} = \text{IRR(E)} \left[\frac{\ln(1+\text{CAGR(WC)})}{\ln(1+\text{CAGR(E)})} \right]$$

$$\text{EBITDA Margin} = \text{IRR(E)} \left[\frac{\ln \left(1 + \text{CAGR} \left(\frac{\text{EBITDA}}{\text{REV}} \right) \right)}{\ln(1+\text{CAGR(E)})} \right]$$

$$\text{Revenue Efficiency} = \text{IRR(E)} \left[\frac{\ln \left(1 + \text{CAGR} \left(\frac{\text{REV}}{\text{WC}} \right) \right)}{\ln(1+\text{CAGR(E)})} \right]$$

$$\text{Multiple Expansion} = \text{IRR(E)} \left[\frac{\ln \left(1 + \text{CAGR} \left(\frac{\text{EV}}{\text{EBITDA}} \right) \right)}{\ln(1+\text{CAGR(E)})} \right]$$

$$\text{Leverage} = \text{IRR}(E) \left[\frac{\ln \left(1 + \text{CAGR} \left(\frac{E}{EV} \right) \right)}{\ln(1 + \text{CAGR}(E))} \right]$$

The above attributors allow this study to determine each factor's attribution, also referred to as absolute contribution, to the equity value growth, which would be calculated as a portion of equity growth, and the contribution of each factor, which would be calculated as a percentage of equity value growth.

While there are three effects, EBITDA Margin, Multiple Expansion, and Leverage, that have been covered by value creation studies, the others are unique to distressed buyouts. Due to the concerns of solvency of the company, it is prudent to include Working Capital as a value driver for distressed buyouts.

The key to management of working capital is decided by a balancing of current assets which in turn create risk and liquidity equilibrium (Nazir and Afza, 2009; Garcia, Martins and Brandão, 2011). While private equity disclosure on working capital is sparse (Loos, 2006), prior data is available for publically traded companies. In addition, the inclusion of working capital aids private equity professionals in the selection process by allowing them to simulate a future target, and to analyse if this target is achievable. The measurement of Operating Liquidity has been largely neglected in private equity literature. While there is a focus on long term effects value drivers on the equity growth, there has been a lack of attention paid to short term effects which drive equity performance. The inclusion of working capital as a measurement of operating liquidity and revenue efficiency resolves this issue and gives a broader measurement of effects of value drivers on the equity expansion. The effective management of working capital has been shown to have positively affects profitability of companies in numerous countries (Smith, 1980; Deloof, 2003; Eljelly, 2004; Lazaridis and Tryfonidis, 2006; Raheman, and Nasr, 2007; Eda, 2009; Gill, Biger and Mathur, 2010; Garcia, Martins and Brandão, 2011; etc.). Through these studies, there is a strong implication of the importance of the relationship between working capital and increasing both profitability of the company, resulting in enhanced shareholder's value.

Revenue efficiency is adds a different dimension which measures that effective use of working capital to drive revenue growth. This attributor indicates the ability of companies to use working capital to drive revenue growth, and is synonymous with the term Working Capital Turnover. It is clear that the maximization of this variable will result in reduced potential of growth and operating income, especially for companies that require inventory like manufacturing companies (Damodaran, 2012). Hence, the postulation here is that there must be a balance between liquidity and profitability (Chatterjee, 2010), which would signify a balance between value added through Working Capital and Revenue Efficiency.

This study differs from the typical value creation studies done by previous academics. Previous studies have concentrated on the use of value drivers to determine the actual added value through the buyout. This study will focus on using the value attributors as a framework model to aid in investment selection, and to forecast how the private equity company can get to the best possible exit. While Revenue Growth has been omitted from the distressed buyout value attribution analysis, it is a key component of the Revenue Efficiency metrics. It can be suggested that while revenue growth is omitted, it can be argued that the underlying performance of revenue metrics is affected by operational inefficiencies within the firm, and hence the measurement of revenue change will not actually measure the underlying root issue. Hence, it is essential to measure root metrics as compared to solely revenue growth. Although revenue growth can be an essential post-exit value creation factor, it would not provide sensible data in the pre-selection phase. Inclusive of that, while Free Cash Flows are not included in the measurements, it can be argued that the distressed situation forces management to maximise utilization of the company's asset base which prevents slack in the cash flows as well due to repayment of debt and interest expense incurred. Also, it can be argued that while free cash flow is a forward looking measure, creditors can limit payback time of debt, and hence cripple a company if there is insufficient working capital. Hence, the inclusion of Working Capital in to the value metrics adds an efficiency measure which is not covered in previous value creation studies. This is further illustrated in the diagram below.

This form of analysis also has its limitations. This is a point to point study which analyses the pre-buyout and pre-selection stage, hence neglecting the periods between the two. In addition, financial companies can lack a working capital essentiality,

whereby the drivers depicted by Loos (2006) would be a better measure of the value creation / destruction effects. However, this represents the first known method of distressed buyout selection through the use of value drivers and serves as a seminal piece on selection criteria for distressed buyouts through the combination of the Altman Z- score formula, and the Dupont Formula.

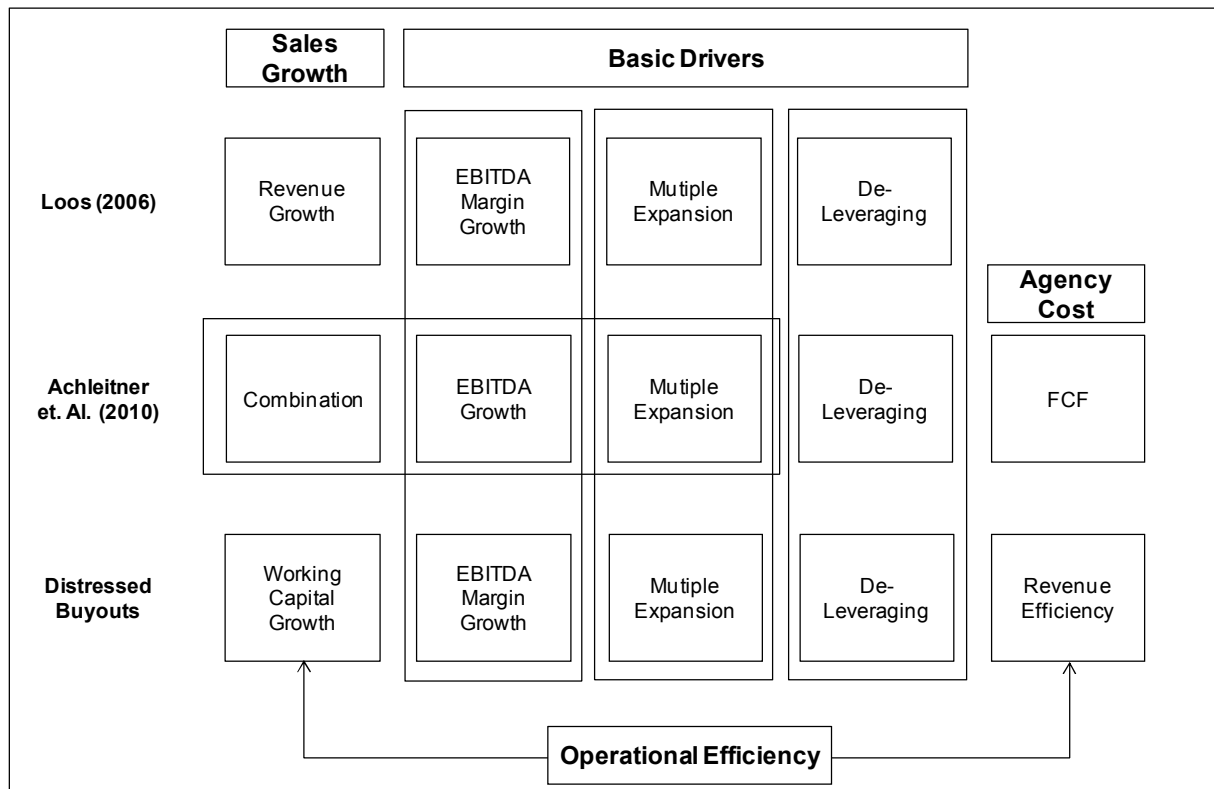


Fig. 12: Value creation attributors comparison

Sources: Loos (2006; Achleitner et. al., 2010; Own metrics created)

To initially test this theory, we attempt to use a case study example to analyse the effects of using the formula on a company and to simulate how the formula can be used as an analysis tool for the later portion of this work. In this case, we take the example of a manufacturer that has taken a financial hit, which then requires a turnaround effort as described further below.

Case Study Example: Switz Chocolate Limited

Incorporated in 1989, Switz Chocolate Limited is known for their fine chocolate selection which is renowned worldwide. After their Initial Public Offering in 1995, the company had a decade long of success before producing a loss 2 years in a row which caused a steep drop in the equity value. As covenants were broken, a portion of their debt holders were converted to equity holders, which further deteriorated the value of the company.

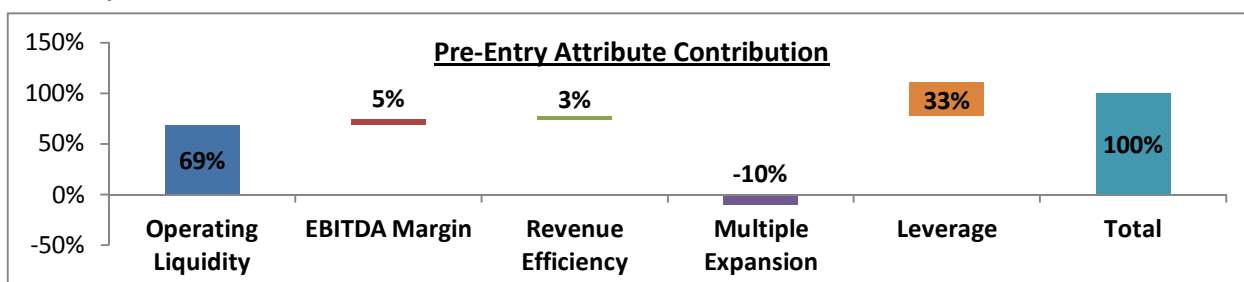
BX PE Partners decided to take the company private in 2008 with a full buyout of the equity holders and remaining debt holders. In a turnaround effort that lasted till early 2014, BX PE Partners were able to sell Switz Chocolate Limited in a trade sale to a large Swiss conglomerate.

Financial Analysis

	Date	Historical 31.12.2003	Pre-Entry 31.12.2007	Entry 01.02.2008	Desired Exit 01.02.2014
Financials*	Equity Value	360	110	150	350
	Revenues	200	85	85	135
	EBITDA	50	20	20	35
	Total Debt	150	120	100	119
	WC	35	15	15	20
	Enterprise Value	510	230	250	469
	WC/E	0.10x	0.14x	0.10x	0.06x

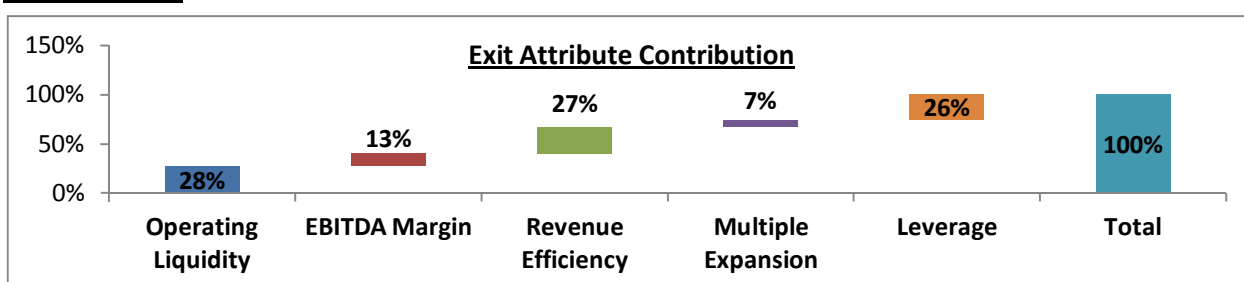
In a value attributor analysis, BX PE Partners found the following value contributions for the company:

Pre-buyout



It is shown that the excess in Operational Liquidity and low Revenue Efficiency contribution had created an operational distressed situation which further deteriorated into a financial distressed situation. Effectually, BX PE Partners would have to do an operational overhaul in order to return profitability to the company.

Post-buyout



Through the post-buyout analysis, it is shown that BX PE Partners had done a successful turnaround of the company. Operating Liquidity and Revenue Efficiency were balanced out in their contribution to Equity growth. This balance signifies the optimization of working capital management to drive growth in profitability, and to minimize liquidity risk. In addition, the almost doubled the EBITDA Margin contribution to Equity growth signifies a large extent of cost management that was instituted into the company. Multiple Expansion contribution, to the increased value on the company, further increases credence to the Operational Liquidity, Revenue Efficiency, and de-leveraging theory, as focus on the three factors yield much higher benefits as compared to Multiple Expansion.

Comparison with Loos (2006)

Value Attribution Analysis

Value Attributors	Current Model			Loos (2006)	
	Absolute Contribution	% Contribution		Absolute Contribution	% Contribution
Operating Liquidity	4%	28%	Revenue Growth	8%	54%
EBITDA Margin	2%	13%	EBITDA Margin	2%	13%
Revenue Efficiency	4%	27%	-	-	-
Multiple Expansion	1%	7%	Multiple Expan	1%	7%
Leverage	4%	26%	Leverage Effect	4%	26%

In the comparison of the model that was instituted by Loos (2006), the main differentiator is the Revenue Growth contribution to Equity growth. While it accounts for the highest amount of contribution, it cannot be ascertained to which factors this growth has been achieved. Also, it cannot be ascertained if this growth is artificial at the cost of short term liquidity. With the new model, the operational turnaround can be viewed as a success which stabilises the company. This stabilization factor can be viewed as an essentiality to distressed buyouts, as it signals (1) General Partner value generation ability through genuine operational means, and (2) Portfolio company that can be bought out and run without excessive operational or financial engineering.

2.2.10 Role of Investment Banks

Investment banks have multiple roles that they can play to assist private equity companies in their transactions. They can provide advisory roles that can enhance the collection of information, leverage on existing client relationships as referrals to private equity companies, and play a pivotal role in restricting of a company through asset or debt restructuring (Iannotta, 2010).

For distressed companies, the roles of investment banks play a pivotal role in the restructurings of the company, and future return to normalcy. In this case, they take on the role of asset managers. For the distressed company, they can restructure debt under Section 3(a)(9) of the U.S. Security Act utilizing unregistered securities, or take advantage of investment-bank-managed exchange offers. (Mooradian and Ryan, 2005; Iannotta, 2010). While the first option of unregistered securities might be more cost effective, the use of investment-bank-managed exchange offers has been shown to be able to lower debt much more efficiently, and help to position the distressed company's operating performance much better (Mooradian and Ryan, 2005). The caveat in this case is that the investment bank will be able to seek tenders for the registered securities, and seek a fee through their advisory and restricting services.

Private equity companies have become important clients of investment banks. Investment Banks interest in private equity transactions can yield benefits in two folds. Firstly, through their involvement in financing for transactions, they stand to increase the chance of being chosen again for future financing opportunities. For the private equity company, this is beneficial to work with the investment banks which provide funding lines to increase the availability of dry powder that can be utilized for further investment. Secondly, investment banks can act as intermediaries by sourcing opportunities and doing due diligence for potential targets for private equity transactions (Fang, Ivashina and Lerner, 2010; Iannotta, 2010; Wang, 2012). In fact, it is commonly known that private equity companies hire professionals from investment banks over into their companies frequently. It was even found that if a private equity professional, as a former employer of the investment bank, was involved in a deal with the said bank, they stood a much higher chance of winning the deal (Siming, 2011).

Funding for private equity transactions has traditionally come from financing houses like banks. However, funding sources are increasingly moving away from investment banks into different avenues like Pension funds, which dominate the top funders of private equity in the United States (Kaplan and Strömberg, 2008). However, it is clear that investment banks are still imperative in helping private equity companies fund transactions, especially through building relationships with private equity companies and providing favoured loan rates (Ivashina and Kovner, 2011). It is imperative to note that while the previous funding of transactions have been largely leverage driven,

with increasingly unfavourable debt rates, private equity firms move away from using leverage to fund transactions. With distressed buyouts, the use of leverage may even decrease the payout to stakeholders due to necessary interest payments on leverage. It becomes evident that operational turnaround and value creation through minimal leverage will become the new sustainable model (Kaplan and Strömberg, 2008).

While the above points direct us to a positive relationship between banks and private equity companies, the truth can be far from that. Investment banks as well have internal asset management interests, often having bank affiliated private equity units within its entity. Fang, Ivashina and Lerner (2010) did a pivotal study on in-house private equity units and found three interesting points. Firstly, in-house units accounted for over 25% of private equity transactions over a 25 year period ending 2009. While important, this clearly shows that independent private equity companies still account for the majority of transactions that are being performed. Secondly, bank affiliated private equity units perform worse at exit of the investment. This point is supported by Wang (2012) who found that these affiliated units underperform independent private equity companies due to distortions in selecting investments. Thirdly, in-house private equity units were simply worse off at selecting investments. The reasoning provided by the study shows that investment banks mostly do not partake in improving operations of the target companies. As well, in-house unit transactions were particularly prone to become distressed when invested at or near the top of the markets. These points clearly show that investment banks and independent private equity companies have different selection criteria when investing in target companies. While some criteria may overlap, it is clear that the selecting prowess of private equity companies exceed those of investment banks. This finding is mirrored by Acharya, Hahn, and Kehoe (2009) who explicitly state that investment banks and private equity companies have different selection criteria.

The motivation for each party as well varies between investment banks and private equity companies. For the investment banks, there are essentially four motivations when introducing an investment to the private equity company. Firstly, the investment bank wants to increase its reputation in the market place. Secondly, the investment bank wants to maximise its chances of being the financier of the transaction and future transactions. Thirdly, the investment bank wants to maximise

the margin on the financing it provides to private equity companies. Fourthly, maximise transaction price.

Private Equity Company		Investment Banks
Increase Reputation	Complimentary Complimentary Conflict Conflict	Increase Reputation
Look for best Financing (Relationship Building)		Maximise chance to be financier (Relationship Building)
Minimise margins on financing		Maximise margins on financing
Minimise transaction price		Maximise transaction price

Fig. 13: Motivations of parties for transactions

Source: Author’s Own

The motivation of the private equity company is to firstly minimise the price of the transaction. Secondly increase reputation of the firm. Thirdly minimise margins on financing received from investors. This presents as a conflict between parties which has to be resolved before the transaction. Most importantly, the main conflict is derived from the transaction price. Private equity companies would want to minimize the transaction price as far as possible. This equates lower financing requirements, potentially lower equity injection, and higher multiples upon exit. The investment banks on the other hand would aim to maximize the transaction price in order to increase the potential fees from financing. This is linked to the margins on financing for the transaction as well, creating a bi-motivational conflict.

With the existence of these conflicts, and through the understanding of the relationship between investment banks and private equity companies, it becomes clear that there exist key differences between both motives, and the methods each employs to select investments. Through this discovery, it is then important to approach pure private equity companies, in order to determine their selection criteria.

3. Theoretical Foundation

This study will utilize well established theories to analyse the costs involved as well in distressed private equity transactions. However, it is important to distinguish that the focus on this study is on the maximizing of the return to the General Partner through optimized selection of investments. It is proposed that through this optimization, the “trickle down” effect to Limited Partners should follow, which depend on the contractual terms agreed upon by both parties.

In order to capture the current understanding of investment selection within the private equity world, we first have to explore the theories that fit into this categorization. The most common approach that has been taken by private equity researchers has been to use Agency theory as an underpinning theory (Fried et. al, 1998; Kunz and Pfaff, 2002; Meuleman et. al, 2009; etc) to explain phenomenon within the industry. This study will take on a similar approach, using both Agency theory, with the addition of Signalling theory to develop the ideas of investment selection for distressed buyouts and to use the selected theories to solidify the process and criteria. The addition of Signalling theory adds on a new dimension which categorises how signals from the distressed companies are identified and interpreted to assess the value investing in the company. Through this methodology, this study will also understand how the associated costs within the theories can be reduced through the efficiency of employing strong and proper criteria to selecting investments.

3.1 Theoretical views on cost

3.1.1 Agency Theory View

The underlying proposition of Agency theory is that there are two separate parties labelled the “Agent”, and the “Principal”, and looks to analyse the conflicts of interests by being in this relationship (Jensen, 1986; Eisenhardt, 1989). The theory provides the assumptions that the “*agent possesses private information, e.g. about his effort level, the state of nature etc. that is not costlessly available to the principal. It is supposed that the agent chooses actions to maximize his utility*” (Kunz and Pfaff,

2002: 277). While there are methods to control and monitor the agent's efforts, this can generate costs which are known as Agency costs (Jensen, 1986).

Through this theory, we learn that there are two concepts of actions of an agent that can cause conflicts of interest, (1) through "Moral Hazard" and, (2) through "Adverse Selection". Moral Hazard can be described as a conflict doing the right thing, and maximising returns, when one party is responsible for the interests of the other. This also can be further elaborated through excessive risk taking by one party if it is viewed to be favourable to itself. Moral Hazard costs usually occur post purchase and are associated with monitoring costs. These costs are concerning for target companies especially during the investment period and after exit from the private equity company. For example, private equity companies may take higher risk decisions during the investment phase to boost the exit multiple of the target company. However post exit, the private equity company essentially "washes its hands" off the target company, which may be left to manage the risks previously taken.

"Adverse Selection" can describe a misrepresentation by the agent, which the principal may have difficulty authenticating (Eisenhardt, 1989: 61). For example, a company could understate its debt through various accounting measures, or not fully disclose all important details that are required by the investor. This behaviour can be detrimental to the investor and cause huge conflicts between the two parties when discovered. This form of cost is highly associated with the selection of target companies and will be further explored in the ensuing sections.

The motivation of the private equity company is to minimise these hazards, and the costs that are associated to them when making a selection. Typical private equity transactions can and will deal with multiple parties, which exponentially increases the risks that are associated with these hazards.

3.1.2 Signalling Theory View

Signalling theory was first introduced by Spence (1973), describing how behaviour of a worker acts as a sign to employers about the person. Essentially, the theory seeks to explain how a party (agent) can send signals to another party (principal) to distinguish themselves. This action is a form of information that the principal has to decipher, in order to understand what it means. Hence an agent should send clear

signals in order to avoid adverse selection on the part of the principal (Connelly et. al., 2011).

Besides sending clear signals, there can be a cost attached to sending these signals as well. Preparation of financial statements can take some time to prepare, and if not fully done correctly, may have to be restated. This would be a form of a costly signal which can also vice versa be costly for the receiver of the signal (principal), as they would have to decipher the signal that has been broadcast to them (Durcikova and Gray, 2009). In addition, signals can take on the form of honest and dishonest signals. Dishonest signals could come in the form overstating assets, which can adversely affect the balance sheet. Both dishonest and costly signals create information asymmetry between the agent and principal, adding up to the costs of deciphering which has to be taken upon by the principal.

Signalling theory can provide an insight into how Private Equity companies decipher which companies to invest in the distressed sphere. Some ground has been broken in that respect with past academics attempting to determine which signals can provide a form of prediction of distress, and ability to turnaround. It is proposed that the distressed company can send signals as to the state of the company through different mechanisms as shown in the diagram below. These signals can be grouped into two different categories that the interested Private Equity Company can pick up on, internal deciphered signals, and external deciphered signals.

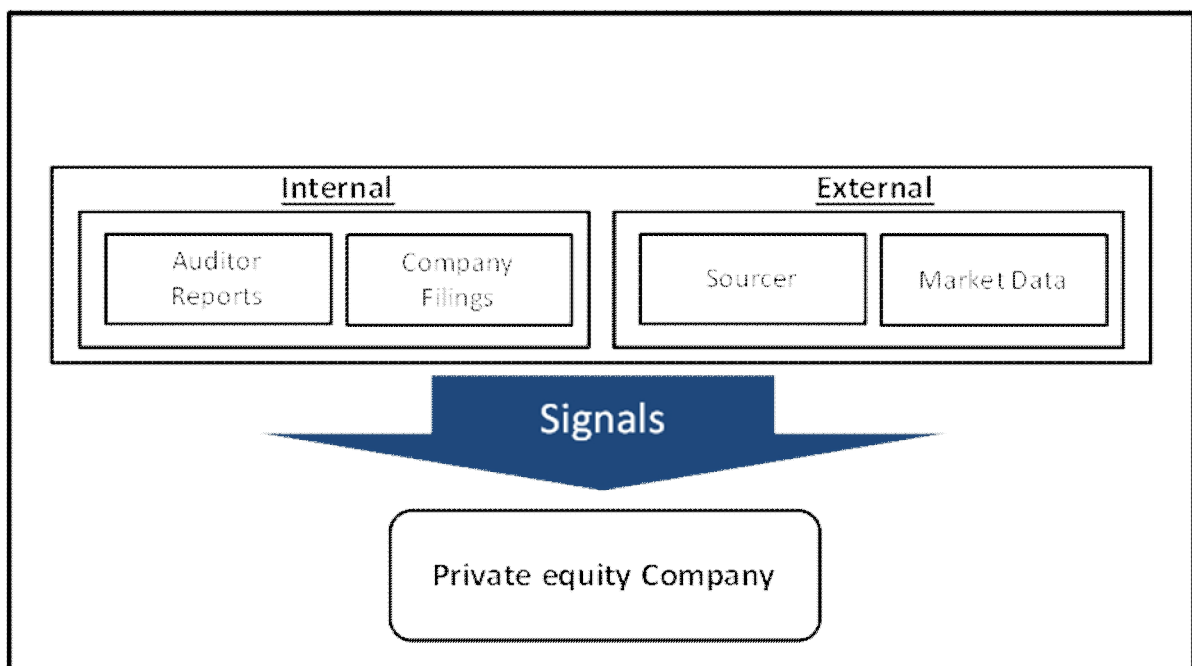


Fig. 14: Sources of signals to private equity companies

Source: Author's own

Internal signals can be described as indicators that the private equity company deciphers internally. This would mean having an internal team within the private equity company that deciphers the signals and information that originate from the distressed company. Largely, these would come in the form of Auditor reports or Company financial filings. The difference between the two forms of reporting has to deal with the inherent information in the reports. Auditor reports usually contain detailed information and internal workings about the company. Company filings on the other hand are largely financial and have to be filed with the regulators ongoing and in a timely fashion. These filings provide private equity companies with the key numbers that they require to determine if the distressed company will be a good or bad investment. As hinted by the kind of reporting, these internal reports usually are handled by an auditing firm, largely external audit firms that create the necessary reports on behalf of the company. Through their appointment, the audit firms have full access to the company resources in order to produce the necessary reports. It is proposed that through these reports, private equity companies can decipher the signals that a distressed company is able to turnaround with the right injection of funds, and key personnel. For example, a debt laden company could have areas to increase free cash flow which have not been explored. Through the identifying of these areas, private equity companies can capitalize by taking over the distressed company, add guidance through the use of expert personnel, and exploit these avenues to turnaround the company for a profit.

External sources are sourcers who act as intermediaries to provide information to the private equity company on companies that are worth investing in. Sourcing can be done through various identified units: Investment Banks, Audit Companies, Consulting companies, and Specialized Sourcing Companies. These companies would take on the work of the internal unit, doing core analysis on the distressed company. The benefit of using an external sourcer is that the ground work is covered by these firms, allowing for most details to be covered beforehand, with a recommendation to invest being handed over to the private equity company. In addition, this allows for a larger “fishing net” to be cast, allowing for a leverage on relationships that the sourcers may have, as well as increasing the exposure of distressed companies that can be analysed for investment. The case for using investment banks is particularly strong, as funding can as well be procured from the same bank that does the initial sourcing or recommendation.

However, it is imperative to note that there are disadvantages as well to using each method for deal origination. While internal sourcing is an added competitive advantage to a firm (Teten and Farmer, 2010), the workload and dedicated staff that are needed to perform deal sourcing can be tedious and over whelming. On the other hand, external sources come tagged with a cost that has to be budgeted for, which can further eat into funds of the private equity company. In addition, it is important that a relationship of trust has been built between the external sourcer and the private equity company. This would reduce the dishonest signalling costs from the relaying of information. However, it can also be argued that most external sourcers are large firms that have a reputation to uphold, and to be able to rely on the relationships for future business as well. This still will not eliminate the costs that the private equity company has to bear by using external sourcers rather than relying on an internal sourcing team. Pappas, Allen, and Schalock (2009) found that private equity companies have started to restructure themselves to increase their sourcing teams internally. This indicates a shift of external reliance, to one of internal reliance for deal sourcing. As well, relying on internal teams means that the private equity company manage criteria internally and not have it revealed to external sources which can replicate their strategy. Hence, internal teams represent a methodology that private equity companies can rely on to manage both agency and signalling costs.

3.1.3 Bankruptcy Filing as a Signal

As mentioned previously, the knowledge of bankruptcy law is essential to the success of investments in the distressed company field (Altman and Hotchkiss, 2006). Trading in bankrupt firms can even be seen as a form of gambling if one is not educated in the process and proceedings of the law governing it (Ravi Kumar and Ravi, 2007). In addition, the laws that govern bankruptcy can differ depending on which country the firm is listed or operates in.

The cost of bankruptcy has been estimated to be of the region of 30% - 50% of the firm value (Altman and Hotchkiss, 2006). Many studies have studied the fall in the price of stock before and at the date of bankruptcy filing (Clark and Weinstein ,1983), Lang and Stulz, (1992), Datta and Iskandar-Datta (1995), and Dawkins et al, (2007). Dawkins et al (2007) decided to study the effects of bankruptcy on the stock after the filing date. Their contention was that prior to 1980s, companies were delisted during the process of bankruptcy and hence there was little research on the performance of

firms after the filings. From their study of 272 firms from the period of 1993 – 2003, they found that the steeper the plunge in stock price during the filing of bankruptcy, the stronger the return after the filing. The study as well attributed the cause to trading by large proprietary firms. Hence, this shows that large firms form an interest around distressed companies after the filing of bankruptcy. These firms would of course have the capability in hiring professionals with knowledge and experience in bankruptcy proceedings and law.

The governing law of concern to restructuring and distressed investment is the Chapter 11 law of the United States bankruptcy code, put in place in 1978. The idea behind the law was to place the importance on restructuring or reorganization of the company, over the actual liquidation of the company. Unlike Chapter 7, where companies have to cease operations and liquidate the company, Chapter 11 states that the debtors of the company take control as a debtor in possession, usually still with the oversight of the United States Court.¹⁹ The purpose of the law basically places debtors in a position to restructure with both company employees and supplier impact lessened. Through restructuring, the debtor can recuperate his loss or potentially effect a gain, instead of having defaulted debt or lower recuperation if the company were to go into liquidation. The European Union is continually increasing the advancement of bankruptcy codes in accordance with those in the United States. However, due to the fragmentation of countries within the Union, there still exist specific differences between laws of the different countries.

Through these bankruptcy codes in developed countries, it is hinted that the debtor has an advantage and security from the courts to enforce restructuring efforts at a discount. Due to the lack of credit available on the market, it is prudent for bankrupt companies to turn to private equity companies for financing in order to repay debtors, and to fulfil obligations to stakeholders and shareholders alike (Altman, 1998). However, it is imperative that assets of the firm have not been depleted to a stage where investment in the distressed company will be exponential as compared to the reward. Through this understanding, an early bankruptcy filing can send a positive signal to private equity companies of an investment opportunity in the distressed companies (Armour and Cumming, 2006).

¹⁹ Data from the Legislative branch of the United States code. Source: <http://frwebgate.access.gpo.gov/cgi-bin/usc.cgi?ACTION=BROWSEandtitle=11usc>

3.2 Associated Theory Cost: Intertwining of Agency and Signalling Costs

While each theory has its unique associated costs, it is imperative to analyse them together as these costs intertwine themselves within the selection phase of a distressed target company. When identifying these costs, it is essential to understand that this study focuses on the agency and signalling costs that arise between the private equity company, the target companies, and the sourcers used by the private equity companies.

Due to the precarious state of the companies being invested into, therein lies several risks in investing in distressed companies. Gilson (1995) commented that the risks involved in the investment of distressed investments could be mitigated through a strong due diligence process and through clear planned management of various risks involved.

1. Title Claim risk (Agency Risk: Adverse Selection)

One of the risks mentioned is the risk of title claim. Companies that are bankrupt have to follow the procedure meted out in Chapter 11 filings which are regulated by the Federal Bankruptcy Rule 3001(e)²⁰. Further details into the procedure of filing claims have to be adhered to in order to be the true claimant of the title deeds. This is relevant for companies undergoing Chapter 11, but may not be relevant to investments made in other countries. However, this risk clearly must be monitored by the private equity company when making investments in distressed companies.

2. Risk of buying “lemons” (Agency Risk: Adverse Selection)

The risk of investing in substandard investments is a situation that is very real, and can result in the write down or write-off of the investment. Anson (2002) give a prime example of investment in a distressed company that eventually had to file for Chapter 11 bankruptcy, causing the complete write down of debt from the portfolio company. In this case, due diligence is of utmost importance and reduces the risks of investing in “lemons”.

²⁰ This of course applies to companies that are incorporated in the United States of America.

3. Holding period risk (Agency risk: Moral Hazard)

Gilson (1995) states that the return determined from investing in distressed companies is determined by two factors which are unknown, or mystery, factors. The first is the recovery of instruments (equity or debt) invested in, which are tied to the recovery of the portfolio company. The second is the amount of time taken for this recovery to take place. Both factors are usually beyond the control of non-control investors who will have to rely on the management or control investors to effect the turnaround of the portfolio company. However, control investors have to manage both time and resources to ensure that the turnaround of the portfolio company is managed efficiently in order to reduce the holding period of the securities. The emphasis of control investors can pose as a risk to maximize gains through intense cost cutting which can reduce the efficacy of the distressed firm post-exit. While profit maximization is positive for the private equity firm, reputational loss from extreme cost cutting can impede future investment bidding. Hence, the importance of due diligence and monitoring are further accentuated for the reduction of this particular risk.

4. Lack of information of purchases (Signalling risk)

The danger of lack of information is created from the filings required by the SEC for distressed companies. According to Gilson (1995), although public companies are usually well audited and have respective filings done with the SEC for US companies, 13D or 14D-1²¹ need not necessarily be filed until restructuring plans have been finalized by the distressed company. The effect of this non-disclosure means that the private equity company looking to invest may not have the full picture of ownership for the company, especially when it comes to the ownership of debt of the portfolio company.

5. Liquidation risk (Signalling risk)

This risk is in relation to a Chapter 7 liquidation which involves the selloff of assets and distribution of the sale proceeds to claim holders through the priority of level of claim.²² This form of liquidation can be a dangerous game for distressed investors invested in equity or non-collateralized debt which are below Tier 1 debt.

²¹ 13D refers to the acquisition of 5% or more of a publically traded security and 14D-1 is for the successful tender of 5% or more of a publically traded company. More information on the filings are stated on the U.S. Securities and Exchange Commission website: <http://www.sec.gov/>

²² The filing of Chapter 7 can be found on the United States Courts site and is part of the United States Code (Bankruptcy Code): <http://www.uscourts.gov/FederalCourts/Bankruptcy/BankruptcyBasics/Chapter7.aspx>

Should the liquidation only be able to cover the higher grades of debt, the distressed investor then risks a total write-off of the investment.

6. Tax implications (Agency risk)

Tax issues can vary between countries and jurisdictions, which can be complicated and tedious to file through. A key example can be found in the Internal Revenue Codes from the United States of America. Section 382 stipulates that the net operating loss can be limited should there have been any changes in the ownership of the company within the past two years²³. With this stipulation in place, the tax benefits can be severely reduced for the private equity investor. With this in mind, it is prudent to have law and tax experts working in conjunction with investment professionals when making a decision to invest in distressed public companies.

7. Liquidity Risk (Agency risk)

In the past, few players existed in the distressed private equity arena which left few options of exit for private equity companies (Anson, 2002). This area of investment has grown larger, with funds growing larger in size yearly. Liquidity risk is always inherent in a distressed investment due to the risk entailed within the investment itself. However, with the increase in number of private equity companies in the investment space, and the increase in capability of turnaround professionals, this risk is reduced gradually with time.

The risks that have been listed above may not apply across the board to all distressed investments, however acts as an information board of the risks that exist in the investment sphere. Gilson (1995) has based his research more on companies in the United States. However, it can be foreseen that several other risks can exist which can be broadly covered under legal, infrastructure, and cultural risks. Hence, having expounded the risks that can affect the selection of distressed portfolio companies, it is now prudent to apply this theoretical exploration into practical circumstances. This would be done through the employment of the selection criteria, which are to be explored in the empirical portion, which will allow for private equity practitioners to reduce selection related risk.

²³ Information derived from the Internal Revenue Services: http://www.irs.gov/irb/2012-02_IRB/ar13.html

4. Empirical Research

4.1 Research Design of the Inductive Research Approach

The start of the research phase would encompass the introduction of the overall research process which will be applied. The author will follow standard procedures that have been formulated from qualitative research technique studies. The author adapts the procedures formulated by Eisenhart and Howe (1990) to ensure standardization of the methodology in both qualitative and quantitative research undertaken by this study. The basic foundation from Eisenhart and Howe (1990) suggests that both qualitative and quantitative research has different standards. Hence the author will direct the research and describe the methods used for data collection and validation as according to the research method.

4.1.1 Data Collection Methodology

The data sources for this research phase can be derived from a variety of qualitative techniques which can be derived from various standards dictated by qualitative researchers (Eisenhart and Howe, 1990; Denzin and Lincoln, 1994; Miles and Huberman, 1994; Schwandt, 1997):

- 1) Interviews with practitioners
- 2) Studying of available documentation and archives
- 3) Questionnaires and Surveys to practitioners
- 4) Direct observations through observation of the practitioner

However, there are certain pitfalls to each method which may not be able to allow for its efficacy in the qualitative research phase. Due to the sensitive nature of the Private Equity industry, it would be unlikely to be able to do any direct observations as well as participant observations. Private equity professional guard the secrecy of the selection methodology tightly and will not allow for observation techniques to be employed. In addition, Private Equity firms ensure the secrecy of their industry through the enforcing of contracts that stipulate that the information gathered while working in the firm is proprietary and cannot be divulged to third parties. Hence, (4) Direct observations and participant observations will not be employed in this study.

Questionnaires will only be employed after the main hypotheses have been derived from the quantitative research done. Hence, it has been determined that it would be best served for ensuring the validity and study of the hypotheses that will be derived from the qualitative research phase.

Due to the lack of studies on private equity investment selection, there is a lack of documental evidence on the selection criteria and selection process of private equity firms. Most existing documents that exist on the deals done by private equity firms contain little or no detail on how the portfolio company was selected for investment. In addition, it has been determined that private equity databases contain archival data about firm performance and fund performance mainly, not many which are beneficial to the study on the initial phase of selection. Through these pitfalls that hinder the study of documental and archival works, it has been determined that it would be best left to the interview phase, to first expound the criteria, then to use academic theory to serve as backing of the hypotheses.

4.1.2 Elite Interviewing of Professionals

Ideally, a long term in depth analysis across different investment decisions made with the distressed investment teams would suit the study. However, the consideration of time and information distortion from a single source would come into play. George and Bennett (2005) have seen interviewing as a central method to research. In addition, interview research has been employed across different private equity studies and has shown its efficacy in unveiling causal relationships for unknown variables. Hence, through the compelling studies already done the method, the interview analysis methodology would be better suited to this study.

Interviews can be informative and require a shorter period of time as compared to shadowing the investment team individuals. An interesting form of interviewing is Elite Interviewing. Essentially, it is a technique employed in interviewing professionals who are top of their field. Its form was first used by Matthews (1960), Dexter (1969), and Huitt and Peabody (1969) to interview political runners. This method is still seen as a trustworthy method used to collect information from a wide range of sources. The most important points that are important to elite interviewing

are the access to the right people, and that if one can obtain the right information from the person. Tansey (2007) has compiled the main advantages of using elite interviewing in research. They have been identified as:

1) To triangulate data from other sources

Elite interviewing can serve as starting point for research. However, the information gained should not be used in isolation, and should be verified either through other documental sources or through quantitative triangulation. An important note is to ensure that data is collected from multiple sources in order to place credibility on the findings. As well, this method of interviewing elites serves to confirm the accuracy of information that has been collected.

2) To corroborate viewpoints from multiple interviewees

The additive nature of elite interviewing serves as a method to not only substantiate viewpoints, but to add information that to the advancement of research. The usage of elite interviewing as well enables the researcher to uncover the “values, attributes, attitudes, and beliefs” of the interviewee. The interview format enables the researcher to question the interviewee through open-ended questions and leaves allowance for “free speech” from the interviewee. Hence, this method serves to open up the interviewee on the research subject, while removing the constraints that may exist in questionnaire methods. Thus, the researcher can focus on the key aspects of the research through the interview process.

3) To infer about the population characteristics through the data from the sample

The idea of interviewing is to be able to gain inferences about the population characteristics, through the gathering of data from the sample. This creates an idea of what the consensus of the wider population is, without having to or being able to interview all in the population. The process we can undertake is a random selection due to the large size of the population, allowing the selected sample to be representative of the wider population. This aspect is a key aspect to elite interviewing as well due to the large amount of professionals in the private equity field.

The literature on elite interviewing is extensive enough to entail and warrant its usage in this study. Although Miles and Huberman (1994) suggest a form of bias if interviews are only conducted with the elite, especially leaving out the voice of the minority. However, the private equity field is in itself is an elite field²⁴ already, which is not easy to penetrate. Moreover, the triangulation of data with surveys will serve to ease this biasness, if even in existence. Hence, the author finds that the elite biasness is not of concern in this research study.

In order to keep a form of order to the interviewing, the author will adopt the techniques suggested by Peabody et al. (1990). In their research, they have outlined (1) the methods of formulating the interview questions, which they specify the use of eight to ten targeted questions, (2) the methods to gain access to personnel, which outlines the use of staff connections and reverse hierarchical probing for access, (3) the techniques of running an interview, including how and when to end the interview, (4) how to take notes of the interview and to keep track of what has been said by the interviewee, and (5) how to best use the information gained in the interview for the usage in a research paper.

Researchers have also emphasised that the interviewee should be explained the importance and relevance of the study to them, in order to gain the interviewee interest and commitment to answering the questions posed (Goldstein, 2002; Lilleker, 2003). Moreover, the questions used will be funnelled from “non-intimidating” to “intimidating” questions in order to allow the interviewees to open up to the author in a systematic manner (Leech, 2002). This method has been suggested by Pridham (1987), who has found it to have most effect in drawing answers from interviewees.

4.1.3 Validity and Reliability

From the interviews that will be conducted with the private equity professionals, the author will analyse and establish the validity and reliability of the information derived. In this study, we define validity as the accuracy of the interviewee’s depiction of a phenomenon according the credibility afforded to the interviewee (Schwandt, 1997). Lincoln and Guba (1985) have established the methods of determining the validity of

²⁴ Freeland (2011) mentions in an article on „The Atlantic“ (Issue: Jan/Feb 2011) that the private equity professionals are the new Barons of the World. As well, he mentions the elitism of the compensation is equivalent to “growing rich as they sleep”.

information derived through qualitative research. The methods include (1) Corroborating what has been derived across the different interviewees, (2) member checking, which entails returning to the interviewees to confirm the credence of the information that has been derived, (3) peer debriefing, which can include approaching one who is well versed in the phenomenon being studied, (4) prolonged engagement, which entails doing a longitudinal study over time. The author has determined that the methods of determining validity are sufficient for the study, which has as well been confirmed by the systematic and critical paradigm of research.

After ensuring validity checks of the data, the author will as well seek to ensure the internal and external validity. The internal validity is referring to how convincing the argument is to the conclusions derived from the research, as well as the causality between the variables derived, and the relationships that have been inferred from them (Yin, 2009). External validity is the ability to generalize the research findings to across different circumstances (Yin, 2009). External validity has come under scrutiny of researchers who mostly believe that it can be achieved through the ingenuity of the researcher (Lynch, 1982).

Reliability of the research must be sustained to allow future researchers to attain similar, if not the same insights from performing the study in the same manner (Denzin and Lincoln, 1994). Transparency and replication can be adhered to by following the standards of Yin (2009) who instilled the need of providing the records of the work that has been done.

4.2 *Methodology choices*

Due to the complication of studying the investment selection procedures, as well as the evaluation methodology of private equity companies, the author will first entail the most common methodologies in research studies to determine the best methodology to follow in this study. It is to be noted that the study is exploratory in nature, but will still seek to validate the claims from the exploratory research through the use of quantitative study. These methodologies were inspired by the research

conducted by Povaly (2007) on his research of private equity exits, and were found to suit the study of selection criteria as well²⁵.

1) Data analysis of industry data gained from databases

This form of research entails the gathering of information from the data provided on databases like “ThomsonOne”, “Preqin” and “Eurekahedge” database to name a few. The advantages of using multiple databases can include triangulation benefits of data, and confirmation of correctness of the information. However, this can also work in the opposite direction if data does not match. It is hence important to select reputable data source providers which are employ industry standards for data collection and verification. The analysis of this form of data is useful when it is applied to the generalization of research findings when required. Various studies have employed this methodology but note that the methodology requires that the information be available in order to analyse the inherent relationships. Gompers and Lerner (2001), Povaly (2007) and various authors have used this research method for their papers, but it is noted that their studies are concentrated on data that is readily available on the databases. As this study is meant to study data that will have to be explored from the industry, the database research methodology will be a secondary source of performance and naming of private equity companies to complement the research.

2) Case study research

Case study research is a common research methodology employed in the field of finance as determined by Eisenhardt’s (1989) study, which as well propositions how a case study should be structured and carried out. Case study research is also one of the best methods to be applied when the variables and relationships between them have not been pinpointed or determined yet (Yin, 2009; Eisenhardt, 1989). In the case of this study, the variables that lead to the selection of a portfolio company have not been clearly defined, and may differ from firm to firm. Hence, the case study research portion will assist in determining the later framework that the researcher can propose. The author finds this method is commonly used by private equity research facilities

²⁵ While Povaly (2007) is studying the selection methods of the end phase of private equity investments, this current study is studying the selection criteria at the start of the investment. The methods described by Povaly (2007) encompass the most common quantitative research methods employed by private equity practitioners, which this study attempts to map over in order to have a standardized research methodology for future practitioners.

as tools to study transactions. While this methodology may be difficult to employ, due to private equity professionals unwilling to go into depth with details of a portfolio company, it is a method that can be used to create the framework with details that are available in the public domain, and available databases.

3) Structured interviews with industry experts

As the private equity industry is one driven by information asymmetry, the author feels that the best alternative to finding information on the selection process would be to arrange interviews with private equity companies and their employees. This approach has been used by private equity researchers like Cumming and Macintosh (2003a, 2003b), Kraft (2001), and Schwienbacher (2002). Through their studies, the author has found that private equity firms are more open to revealing information confidentially through the assurance of their names and firms being kept anonymous. This is understandable due to the sensitive nature of their work.

4) Quantitative research using surveys

Quantitative research is well used as a research method and triangulation of information which has been collected through qualitative interviews data through the use of quantitative questionnaires whereby information has been have been amassed from industry experts. In addition, including quantitative research as a method of triangulation, helps in integrating the hypotheses that have been derived from the interview and research phase. As this has been a proven and tested research method in the field of private equity, the author has decided to utilize quantitative research as part of the research phase.

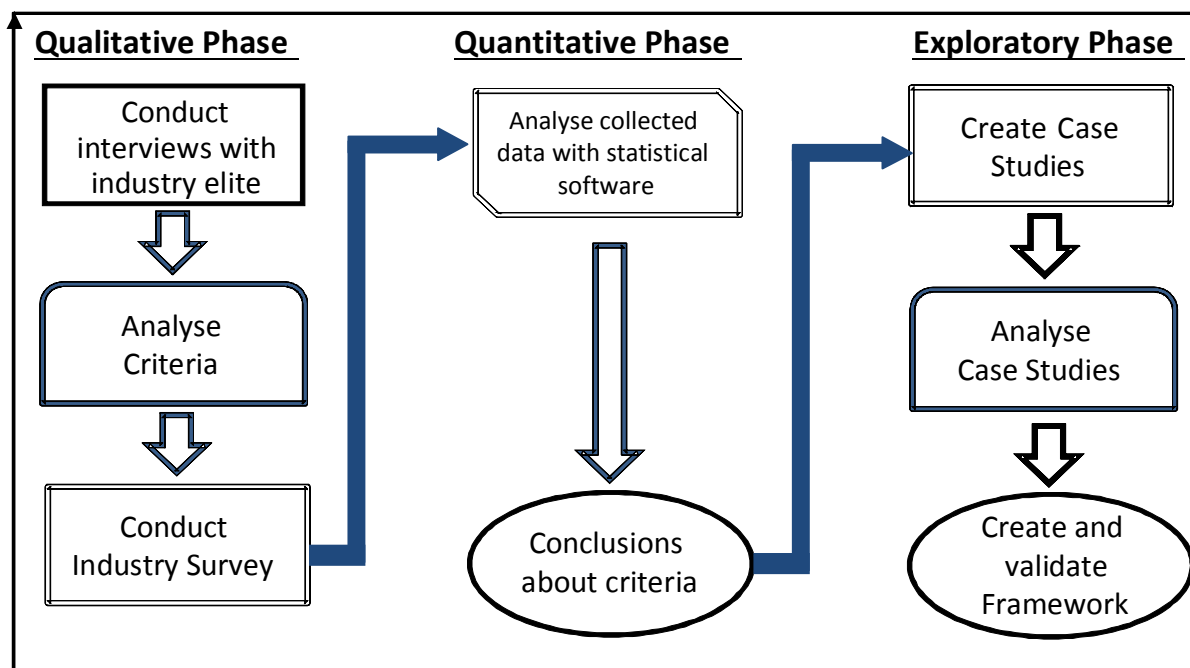


Fig. 15: Chain of research activities leading to empirical results and conclusions

Source: Author's own

Through the understanding of the four research methods, it has been decided to incorporate all of the methods. Firstly, structured interviews will be done with industry experts in the field of private equity. This would form the basis of understanding the mind-set and practice from the ideology and expertise of the experts. Following which the criteria have been determined, they will be expanded in order to further elaborate on the specificity of each individual criterion. The expert insights will then be combined with theory in order to create the hypotheses which are to be tested. After which, a questionnaire would be formulated, which encompass the operative variables covering the investment selection criteria, and will be sent out to private equity companies to be filled. The results from the questionnaire will then be analysed through the use of statistical software to obtain the confirmation of the results from the interview phase. After this initial phase has been completed, an exploratory research will be embarked upon using case studies as a basis to analyse the basis of investment in real-life distressed buyouts. In this phase, database research will be incorporated to identify the cases that can be analysed, as well as to provide data for analysis within the case studies. This will form the foundation for which the framework for selecting distressed companies will be formed and tested upon.

4.3 Selection Criteria: Results from Interviews and Creation of Hypotheses

In this section, we seek to explore, investigate, and expand through interviews with industry professional for answers to the first research question. From there on, we develop hypotheses as well to tackle the second research question:

- 1. What are the criteria that private equity firms use to evaluate an investment decision when selecting distressed investments?*
- 2. What are the most important criteria used to evaluate an investment decision when selecting distressed investments?*

In order to ensure that there was enough support for the criteria for distressed investment selection, semi structured interviews were conducted with nine industry experts, through the use of elite interviewing as mentioned in the above methodology section. Interviewees were selected through their expertise in the private equity industry as an investor, or as an intermediary to private equity investors. Out of the nine industry experts, six of the experts work for firms which invest in distressed investments as investment professionals, and are involved in the selection process. Two of the nine work in investment banks which are involved with sourcing of investments, or have had experience dealing with private equity investors. The last interviewee is a consultant for turnaround investments with deep experience being involved on the C-suite level of companies, as well as on the board of private equity backed companies.

Interviewees were contacted via phone and were allowed to elaborate on terms that were not within the structure. They were questioned about criteria that they had not mentioned, but could possibly be in scope. This would allow for a broader discussion on criteria as most criteria that were stated had a qualitative nature, making it difficult to conform to statistical analysis. Questions were structured to leave the large portion of the interview open-ended for interviewees to open up on how they would select distressed investments. Through this methodology, the author managed to create a list of criteria that would be relevant to distressed private equity companies. The information that was provided by interviewees was taken down to create and verify the list of criteria. In addition, comments that were found to be of interest and added value to the section of the criteria were added to the body of explanation text.

Due to confidentiality, and proprietary reasons, interview partners were reluctant to have their names or companies revealed outside of the academic study. This can be understood by the privately guarded nature of the industry²⁶ and need to safeguard their methods of investing. Hence, interviewees were not pressed overly to reveal too much information. However, most of the interview partners were happy to open up about the selection criteria and went into deeper detail, on the condition of strict confidentiality.

Distressed Investments Selection Criteria
<p><u>Quality and Experience of Management Team/Board</u></p> <ol style="list-style-type: none"> 1. Experience of Management in the Industry 2. Coachability of CEO 3. Board of Directors Structure
<p><u>Product or Market Capability</u></p> <ol style="list-style-type: none"> 1. Barriers to protect market position 2. Existence of Patents 3. Market Growth 4. Market Size
<p><u>Financial Aspects</u></p> <ol style="list-style-type: none"> 1. Valuation of Business 2. Liquidity of Investment: Exit Opportunities
<p><u>Management Criteria</u></p> <ol style="list-style-type: none"> 1. Referral Source 2. Location of Investment: Proximity 3. Legal Environment 4. Accounting Environment 5. Syndication or Co-Investment Opportunity

Fig. 16: Proposed Selection Criteria
Source: Authors own from Interviews

Due to the need to receive responses from as many distressed private equity investors as possible, investment sizes were not taken as a criteria. There was positive matching of professionals on the websites with the interviewees who also gave confidence to the professional status, involvement with investments, and knowledge sphere of the selection criteria.

²⁶ Secretive nature of Private Equity investors have been documented in the public news and also the difficulty in gaining information of these companies are compounded by the reluctance of professionals to reveal too much information that could affect their livelihood. See: <http://www.ft.com/intl/reports/privateequity>; <http://www.economist.com/node/1893232>; <http://www.businessweek.com/stories/2006-02-12/private-equity-wants-to-stay-that-way>

From the interviews, we managed to identify 14 criteria that the interviewees expressed were important and could affect the selection of private equity investments. These criteria were then further grouped into 4 different categories where they were deemed to fit into. From there, we then delve deeper into the individual criteria to find support for them in literature as well, in order to ground the importance of the criteria.

In addition, since it would be expected to use the later questionnaire to reach a large array of investors, we first form the hypothesis through the theoretical studies of Casamatta and Harichabalet (2007), as well as Kaplan and Schoar (2005), to analyse the experience of the private equity professionals themselves to determine their superiority of selecting profitable investments. The more experienced investor is expected to have fewer write-offs, hinting at an inverse relationship between experience and write-offs. This leads us to the sub-hypothesis:

H1: The more experience the investor has in selecting distressed investments, the fewer write-offs the investor will incur

Having determined the importance of experience, we then head into the criteria from the interviews, matching the responses during the interviews, together with theoretical studies, to form the hypotheses that will be answered in the subsequent chapters.

4.3.1 Quality and Experience of Management Team/Board

(A) Experience of Management in the Industry

Companies in distress have been found to increase firm performance and structure through compelling managers to move away from risk adverse behaviour that they would usually engage in (Jensen, 1989b; Wruck, 1990). One of the interviewees commented that in his experience, over 90% of turnaround situations had to have the Chief Executive Officer (CEO) replaced due to their inability to lead. This outlines the importance of having a strong management team that is willing to step up and make changes to the firm during critical situations, like a distressed situation.

The issue with bringing management to align their performance to the firm performance is to realign the management incentives to maximise their value creating decisions. Gilson (1989) has suggested that the presence of monitoring by external sponsors like private equity companies can encourage the afore-mentioned behaviour. John and John (1993) as well argued that the alignment of managerial incentives to firm performance should be aligned with the performance of the firm's equity when the firm is restructuring. This encourages a risk on approach of management style which benefits the firm performance.

Although some studies have encouraged increase stock ownership options for top management teams, in order to align their interests to those of shareholders, excessive ownership can actually result in managerial entrenchment within the firm (Schleifer and Vishny 1986; 1997), which can be counterproductive, causing risk aversion by the management team in order to preserve their income and position in the firm (Wright et al. 1996). In addition, interviewees have mentioned that private equity companies want to prevent entrenchment of staff within the companies due to their unique and valuable skills. In addition, the ideal situation for the private equity investor is to effect the turnaround, but limit their exposure and portfolio firm reliance once an exit opportunity has been identified.

However, it is noted by interviewees that participate in control investments that that performance of top management team in the portfolio company may not be a mitigating factor for investment selection. The reasoning for control investors is that they tend overhaul the management team with individuals that are higher performers, with stronger industry insight, or with individuals who are "fresh" and align their interests to that of the control investor.

Hence, the literature and interviewees comments signal that the capabilities of the management team is of importance when the private equity investor is not looking for control over the company, but becomes more qualifying as the investor looks for control situations within the investment. Through this, we form our first hypothesis:

H2: The experience of management in the industry is an important criterion for private equity companies when selecting distressed investments.

(B) Coachability of CEO

Private equity companies require the CEO to be able to follow their agenda of restructuring in order to guide the company through him/her. In essence, the CEO will have to be a person that is an Authentic Leader. This is characterised by the ability of the CEO to build synergistic relationships, being able to listen and transform the viewpoints of stakeholders, and to be able to meet targets (Avolio et al., 2004; George et al., 2007).

Although explored through venture capital research studies, the concept of an authentic leader has not been touched on in other aspects of the private equity investment stages. An interviewee touched on the CEO aspect, commenting that:

“Our role is not aimed to be entrenched in the business, but to provide guidance to the management team in the restructuring/turnaround of the business. We always ask ourselves before investing, if we take away the current adverse situation that the business is in, would the current management team be able to lead it to profitability.”

This perpetuates the proposition that the CEO and management team alike do not need to be the root of distress for the company. In times that include external dislocation events, that cause lack of dry powder in the market and difficulties in obtaining funding, companies that are laden with debt cannot utilize their capital efficiently and require external assistance which can come in the form of expertise from private equity companies.

This can explain why many of the general partners of private equity firms are consultants as well, as they expect to be coaching a CEO and his management team as to how to improve the business, or to achieve cost efficiencies (Acharya, Hahn and Kehoe, 2013). Not to mention, CEO changes comes with hefty costs to bear. These can include, and are not exclusive to, search agency costs, severance costs for the existing CEO, and signing on costs for the new CEO (Rajgopal et. al., 2012).

Hence, with costs as an aspect that the private equity company may look into, the CEO capability and coachability can come into play when making an investment selection decision. The depth of influence of the head of the company as an Authentic

Leader can be the difference between a working investment, and one that may cause write-offs of an investment. This leads us to the second hypothesis:

H3: The coachability of the company CEO is an important criterion for private equity companies when selecting distressed investments.

(C) Depth of Board of Directors

The board of directors have an important role to play within the company, specifically with the formulation and direction of strategy that the management has to execute (Fried and Hisrich 1994; Carpenter and Wesphal, 2001; Wright et al., 2002). Hence, it would be important to have a qualified board with relevant experience to the portfolio company, in order to have a meaningful involvement from the board members (Fried, Bruton and Hisrich, 1998; Switzer and Cao, 2011).

However, control investors seek to have representatives on the board that will assist with monitoring and improving firm performance. In fact, it is often the case that private equity professionals take over the board, and retain board directorship after exit to further capture value (Huang, Ritter and Zhang, 2013; Cao, 2011). This form of external influence can cause a contrary effect that causes loss of performance from the portfolio company. This is especially seen in firms that receive governmental intervention, or for distressed companies which have sought to have former government employees on the board to seek to sway government support towards their firm (Yu and Main, 2009).

Private equity companies that seek non-control methodology for investment in distressed firms should then look toward a quality board of directors that can guide the company back to success. In addition, they should be careful to analyse the skills of the board members to check if these members can and will contribute to the revival of the portfolio company in a positive manner. It can then be postulated that board members depth of experience, and management would be important to both control and non-control investors alike.

As per Hilb (2005), it would be essential to have a supervisory board to have close involvement with the strategy of the firm. He further perpetuates that board members

should comprise of individuals that are seen to be outstanding by both stakeholders and shareholders. These points perpetuates that the quality and experience of the board members can be seen as an important criterion for selection. Hence, this leads us to establish the hypothesis:

H4: The depth of board of directors is an important criterion for private equity companies when selecting distressed investments.

4.3.2 Product or Market Capability

(D) Barriers to protect market position

There can exist different kinds of terminology of companies a specific market. Some markets consist of oligopolies, while some markets may be monopolistic. Whichever market they are in, companies within an industry can have barriers to protect their market position within the industry. Pehrsson (2009) came up with a comprehensive list of the types of barriers that can be exploited by companies and segregated them in to two different categories: Exogenous and Endogenous barriers.

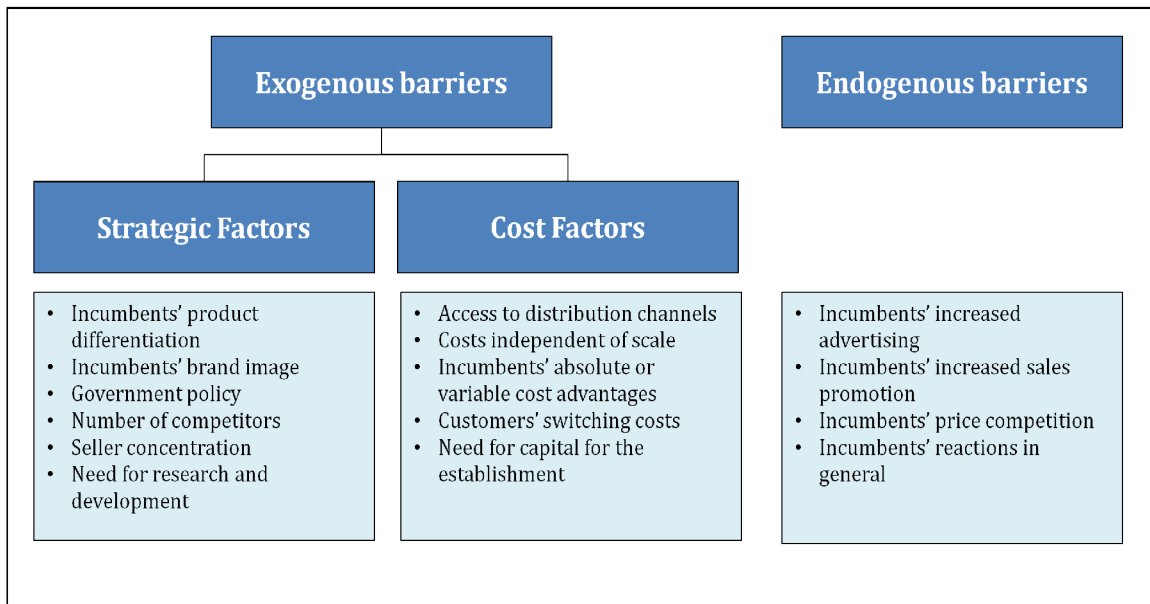


Fig. 17: Barriers to entry and sub-factors

Source: Pehrsson, (2009)

Exogenous barriers are described as factors that are beyond the control of the companies that want to enter the industry (Pehrsson, 2009). As an easy guideline into

the different factors that form exogenous barriers, the author has decided to split them into two categories that adequately describe them: Strategic and Cost factors.

Strategic factors can encompass various ideals that can affect a company's bottom line, product differentiation through research and development, or brand image. A starting point in analysing strategic factors comes from the resource based view, which gives the proposition that resources available to the company, the existing resources in the company, as well as the resources that are required by the market for the product should determine market entry, as well as the success that the company can have in the market (Lee and Lieberman, 2010). The classic view of product differentiation alludes that the uniqueness of an offering to the market allows for a competitive advantage to achieve a larger pie of the market share (Porter, 1985). This theory alludes to the value, or differentiation of the company products have in the market place.

The brand image allows users to identify with the branding, image of possessing or using their products, and associating themselves with the kind of people that use the company's products (Labrecque et. al., 2011). Through this, the branding etches a form of devotion and following which allows for the company to extend and retain its market share (Arruda-Filho and Lennon, 2011). These points show how important the branding can affect not only the market share of a product, but also the perception of the company as a whole to the community at large.

Concurrently, the government policy of individual companies can come into play when trying to enter a specific market. A key market that regulates products and governmental policy frequently is China. A study done on the market entry of products and share of market found that the frequent change in policy affects the decision to enter the Chinese market adversely (Niu, Dong and Chen, 2012). Especially with the restriction of company ownership and the desire to promote local products, foreign companies can find difficulties extending the existing market share of their products in a country with stricter policies governing market size. In addition, certain countries may allow monopolies or oligopolies of certain products or services, further restricting the growth of foreign companies that may already be in the market. Hence, this can affect the decision of the private equity company to dissolve operations in the certain country in order to cut costs. However, labour policies can as

well restrict the timeliness of a smooth exit from the market. Adding on to the importance of careful selection, there could as well be certain policies in place that disallow full foreign ownership of local entities. This can be an explaining factor as to why certain countries have a deeper private equity market as compared to others.

Competition exists in most market places and can act as a stabilizing force to push prices to consumer benefits. It has been shown that the fragmentation of market share can occur due to product quality and costs (Berry and Waldfogel, 2010). This in turn can cause issues with acquiring companies with smaller product production lines and higher costs. However, private equity companies can help to improve cost basis of producing good and improve the production line of certain operating companies. As an interviewee commented:

“...it depends on the kind of product that the company makes, and how long we intend to hold the company for. The operational improvement of a company is not as paramount for non-control investors, but as we go mostly into control situations, we have a line of contacts, personnel, resources, experience and knowledge that we tap on when we enter into portfolio company investment....”

The comments from the interviewee drive the point of seller concentration within the market, and how economies of scale or scope can be achieved in a certain market. Should the portfolio company not be able to achieve economies of scope, then the reduction of product lines may be necessary to reduce the cost base. However, if there is low seller concentration with relatively equal market share, then an advantage can be taken by chipping away at competitor's share of the pie through various methods that can include price or product differentiation.

As well, a firm could be highly invested into research and development for the existing product lines already. It was found that the uncertainty of the markets can affect the rate at which research and development is carried out, with the investments into research and development decreasing during market uncertainty (Lanjouw, 1998; Czarnitzki and Toole, 2011). As research and development costs cannot be reversed once invested into and completed, it would be essential to utilise the full benefits that are gained from the research. In addition, it can be postulated that non-control and control investors alike would not wish to invest greatly into research and

development during their investment period, especially when cost cutting measures may be due to be put in place. Hence, existing research that has been done and patented by the portfolio company can reduce hazards from adverse competition proliferation and can generate uniqueness of product differentiation, aiding in the product trade for the portfolio company.

Cost factors generally affect the balance sheets of the portfolio companies and are in general one of the first factors that should be visited by the private company. Scale advantages that come with costs benefits can include the absolute or variable cost advantage for producing a product or service, inclusive of the costs that are independent of the scale of the company, and distribution channels that are available to the company. These can include various advantages that a portfolio company has. For example, it would be profitable for a logging company to have access to a non-protected forest where their activities can be self-directed. It would be extremely profitable if the logging company already owns the portion of the forest, and that it is in close proximity to the mills, as well as to companies where they deliver their product to. Although unlikely, this example highlights the benefits that a company can take advantage of, greatly reducing their cost base through the advantages of location or technology owned.

In addition, there could be various factors that assist the company which can be beyond their scope of influence. For example, customer lock-ins is customary and can be very lucrative for mobile service providers. Through lock-in services provided to customers, companies can increase the costs for customers to switch services to another company using expensive contract break terms and clauses. As well, with a reputable service, provider, the barriers induce customers to stay with their existing provider, assuming *ceteris paribus*. Especially with an extensively complex industry like the mobile service industry, the costs of trying to enter or for smaller existing entrants to compete on the market add to the barriers that prevent further growth in the industry.

Endogenous barriers can complement exogenous barriers that have been identified. Advertising products that do not have a large market presence can in fact affect the market valuation of a company. Comparable companies of equal size can differentiate themselves through the use of advertising to increase brand recognition in the market,

which in turn increase sales and market size of the company (Joshi and Hanssens, 2010). Promotion of sales further perpetuates this growth of value that a company can expropriate through their use of marketing and advertising. Should these avenues already be in place for the portfolio company, this could signal an investment opportunity for the private equity company. Balance sheet issues could have arisen from external dislocation events like the credit crisis of 2008, and capital injection may be all the portfolio company requires, which would suit non-control investors.

However, instance where exogenous and endogenous barriers can affect each other adversely can occur. Using the previous example of mobile services providers to explain the switch costs for customers, reaction of customers to the associated costs can cause resentment and switches to other providers can occur once contracts have passed their validity. This phenomenon can occur for business to business customers as well, though the reasons for switching can differ and are usually due to issues with the supplier (Ulaga, 2003).

Although the above points do not cover the whole extensive universe of barriers that can protect a business, or prevent new entrants into a market, this serves to show that private equity investors have a myriad of barriers to analyse and seek to benefit from in the portfolio companies. These points cover some of the general areas which a private equity firm can exploit in the portfolio company, in their attempt to seek cost efficiency and to implement exit opportunities in a swift and timely manner. Through this, we form the next hypothesis:

H5: The existence of barriers to entry is an important criterion for private equity companies when selecting distressed investments.

(E) Existence of Patents: Technological/ Intellectual Protection

Patents can form another important aspect of valuing a firm beyond the physical aspects and assets. Sandner and Block (2011) found, through a study of 6,757 observations, that trademarks and patents can be an important aspect of valuing a company. Through their study, they found that the knowledge assets of a company contribute to roughly 20% of the firm valuation. This signals that new product development and patents held by a company are positively valued by investors.

Patents as well signal to competitor companies of the lucrative prospects of entering into an acquisition or partial stake purchase of a company (Albert et al., 1991). The importance of this factor increases the likelihood of an exit for the private equity company when an invested portfolio company can be valued for its non-physical assets by a separate company. This would allow for the sale of the portfolio company, or stake in it, to proceed much quicker, with higher premiums to be derived from patents owned by the portfolio company.

Hussinger and Grimper (2007) found that private equity investors were willing to put up a higher premium for companies with valuable technology patents. The effect of having valuable patents allows for competing companies to seek to exploit the knowledge through combination with their own proprietary knowledge, or attempt to block off other various competitors in the same field (Hussinger, 2005; Sorescu et al., 2007).

Sorescu et al. (2007) determined that certain acquisitions perform better than others through innovation potential. Meaning, the better the potential of innovation of the acquired firm, the more usage can be found for it. Having patent knowledge on the side of the portfolio company can encourage more exit opportunities simply through the innovation capability inherent in the firm. With this in mind, private equity companies could be swayed by potentially distressed firms, with innovative capabilities and filed patents under their name. Through this,

H6: The existence of patents for the company is an important criterion for private equity companies when selecting distressed investments.

(F) Market Growth and Size

Due to the short term view of distressed investors, there are few opportunities to assess or utilize the growth potential of the market to effect a change in the valuation of the market. In addition, distressed opportunities usually present themselves in the late stages of the product investment cycle as shown below, indicating the low point of revenue generation of the company's product, or maturity peak of the product. Venture firms are usually at the start of the product life cycle and are in the phase of introducing their product/service to the market.

Market growth is also intertwined with branding and marketing factors of the company, which incorporates brand recognition and sense of the market (Morgan, Slotegraaf, and Vorhies, 2009). Essentially, market growth forecasts affect the ability of revenue growth in the industry. As well, the size of the market, number of customers that potentially want the product or service, and the range of customers a company can reach form the base of calculating the revenue growth possibilities of a company.

Calandro (2009) indicated in his case that control investors who are looking for long term value in the acquisition of a distressed investment find value in the growth potential of the products offering and can find synergies in distribution lines. Shareholders of the business also would be swayed easier by a takeover from a company or investor that understands the business. This hence points to a preference of large range and scope companies that are able to capitalize on opportunities in expanding acceptance of products or services.

Through these points, the indication is that distressed investors will look to market growth and size as an essential point in selecting their investments. This becomes starkly so because of the distressed state of the investments, reliance on growth of revenues would be necessary to bringing the company back to normalcy. Hence, this leads us to develop the next two hypothesis:

H7: The market growth of the industry is an important criterion for private equity companies when selecting distressed investments.

H8: The size of the market is an important criterion for private equity companies when selecting distressed investments.

4.3.3 Financial Aspects

Financial aspects have been researched to some extent in private equity to show importance in both research and practical settings (Gompers and Lerner 2001, 2004). It is no surprise that distressed investors would find these criteria especially interesting, especially since there is a realistic possibility of default in their investments. The two aspects below represent the financial criteria that have been

mentioned by interviewees, and conform to the overall criteria that are important in investment selection for distressed investments.

(G) Valuation of business

Guidelines for Private Equity valuation have been set by International Private Equity and Venture Capital Association (IPEV). The guidelines, which have been set in August 2010, are endorsed by a large majority of private equity and venture capital associations around the world (41 organizations altogether). Although not set in stone, these guidelines give us an understanding into the applicability of valuation methods that apply to private equity investments.

The valuation of businesses varies depending on the different stages the company is in the lifecycle. Venture capital firms have less comparable companies to compare performance and growth when investing in start-up companies. Whereas distressed businesses are usually in the tail end of the lifecycle, with a much longer operating history and usually a much larger number of comparable companies as compared to growth companies. Typically, these include public companies which are required to produce financial statements. With this public disclosure clause, this allows for a more uniform and verifiable method of analysing comparable companies.

Through guidance from the afore-mentioned guidelines, the author analysed the 6 different methodologies mentioned. Coupled with the impressive research on three of the methodologies for valuation modern valuation of a business by Damodaran (2012), there are two common different valuation methods that are used for company valuation. These methods are further supported by the research of Altman and Hotchkiss (2006) and Gilson et al (2000), who elaborates with further details, inclusive of the post-bankruptcy valuation.

1. Discounted Cash Flow and Cost of Capital Method

The Discounted Cash Flow Method, commonly termed as DCF, is the most common method of corporate finance valuation of a company. This method has been used as the standard textbook valuation method used to estimate the approximate value of a company (Brealey, 2012). The method comprises of using future cash flows, applied by a “weighted average cost of capital”

(WACC) factor, to calculate the “Present Value” of the company (Damodaran, 2012). The DCF has been seen as the most widely developed and commonly used techniques in valuation of a business as compared to asset based approaches (Wright et al., 2002).

Delving into the DCF method, Damodaran (2012) describes that the methodology to calculate the value of an asset is to start by discounting the cash flows of the business, taking into account the risk of cash flows and time value of money. This is reflected in the following formula:

$$\text{Value of firm} = \sum_{t=1}^{t=n} \frac{\text{Cash flow to firm}_t}{(1+WACC)^t}$$

Where,

t = Time

Cashflow to Firm = Expected cashflow to the firm in period t

WACC = Weighted Average Cost of Capital

The calculation of the value of the firm would be useful for control investors looking to invest into a portfolio company for takeover and turnaround purposes. Alternatively, Damodaran (2012) also describes the calculation for the value of a firm’s equity, shown through the below formula:

$$\text{Value of Equity} = \sum_{t=1}^{t=n} \frac{\text{Cash flow to Equity}_t}{(1+k_e)^t}$$

Where,

t = Time

Cashflow to Equity = Expected cashflow to Equity in period t

k_e = Cost of Equity (which can be estimated by: Cost of Equity = Risk-Free Rate + Beta*Equity Risk Premium)

Alternative to using the formula to calculate the Value of Equity, the outstanding debt can be deducted from the Value of the firm to produce the same value. When valuing the firm, and using the cost of capital approach, we can use the following formula:

$$\begin{aligned} \text{Cost of Capital} = & \text{Cost of Equity} \left(\frac{\text{Equity}}{\text{Debt} + \text{Equity}} \right) \\ & + \text{Pretax Cost of Debt} (1 - \text{Tax rate}) \left(\frac{\text{Debt}}{\text{Debt} + \text{Equity}} \right) \end{aligned}$$

Using the Cost of Capital equation, we notice that the effects of debt have a high function to the formula. The cost of capital increases as the more debt is borrowed and interest payments have to be made, in addition to the increase in default risk that will arise from the increased borrowing of capital. Hence, it is important to balance out the financial mix of equity, a costlier form of financing, and debt, a cheaper form of financing.

Damodaran (2012) also noted the advantages and disadvantages of the DCF calculation methodology:

Advantages

- 1) When applied correctly, DCF is less affected by the temperament and perception of the markets.
- 2) The appropriate method for mature businesses with longer operating history for investors that are looking to buy companies.
- 3) Focuses on the underlying features of the business and allows for the investor to understand the underlying cashflows of the business itself.

Disadvantages

- 1) The DCF valuation is highly sensitive to the underlying assumptions for cash flows, requiring many different inputs which can be difficult to estimate.
- 2) Assumption driven valuation that is inherently intrinsic, making it difficult to determine under or over valuation

Hence, it is important to determine when DCF valuation is most appropriate and can add value. The DCF valuation method is primarily meant to determine the asset values and to ascertain their capability to drive cash flows for the future. Therefore, this methodology is highly useful for investors who would

want to acquire and entire business, or for investors who have a extended investment horizon, willing and capable of having to time to correct the business and valuation.

2. Comparable or Relative Valuation Method

Relative Valuation is based on the comparison of how “*similar assets are priced in the market*” (Damodaran, 2012). Hence, these methods are frequently based on multiples and usually take earnings as of premier importance when valuing a firm. Some of the popular multiples that are used by practitioners include the PE ratio, EV/EBIT and EV over sales.

The PE ratio is a measure of the price of the current stock price of the company, measured upon the earnings per share of the company as documented by the formula below:

$$\text{PE Ratio} = \frac{\text{Market Price of Share}}{\text{Earnings per Share}}$$

Commonly used by financial market practioners, the multiple is found to be very simplified and have a modest, if not slight, accuracy in determining the valuation of a company.

Among the commonly used multiples for approximating the value of a firm, are the Enterprise Value over the Earnings Before Interest, and Taxes (EV/EBIT) ratio and the Enterprise Value over Earnings Before Interest, Taxes, Depreciation and Amortization (EV/EBITDA) ratio is another multiples often used to value companies (Baker and Ruback, 1999). The basis of the multiples is as below:

$$\text{Enterprise Value to EBIT (DA) Ratio} = \frac{(\text{Market Value of Equity Market} + \text{Value of Debt-Cash})}{\text{EBIT(DA)}}$$

However, with the calculations of the multiples, the most important aspect is that the comparable companies being chosen should be similar, if not match,

the company being valued (Damodaran, 2012). This leads on to the various advantages and disadvantages to the usage of multiples to determine the value of a company as depicted by the diagram below.

Multiple	Advantages	Disadvantages
P/E ratio	- Simple to calculate and compare - Frequently applied multiple	- Sensitive to corporate tax rate - Sensitive to capital structure
PEG	- Considers future earnings expectation	- Limited applicability if growth ratios are low
EV/Sales	- Simple to calculate and compare - Applicable is no or - earnings - Can be used for cross-border comparisons	- Ignores financial structures - Does not consider profitability
EV/EBIT(DA)	- Avoids biasness for different taxation rates and capital structure - Can be used for cross-border comparisons	- Equity values is sensitive to net debt for highly leverages companies

Fig. 18: Summary of advantages and disadvantages of various multiples

Source: Baker and Ruback (1999)

Damodaran (2012) goes deeper into the different advantages and disadvantages to describe that multiples can be a double edged sword. The calculation of multiples require significantly less effort as compared to DCF valuation for one, but are commonly used by financial practitioners. The multiples can cause inconsistent calculation of firm value if the firms chosen to match the valuations do not really compare as well, especially when variables like risk and cash flows are left out from the calculations.

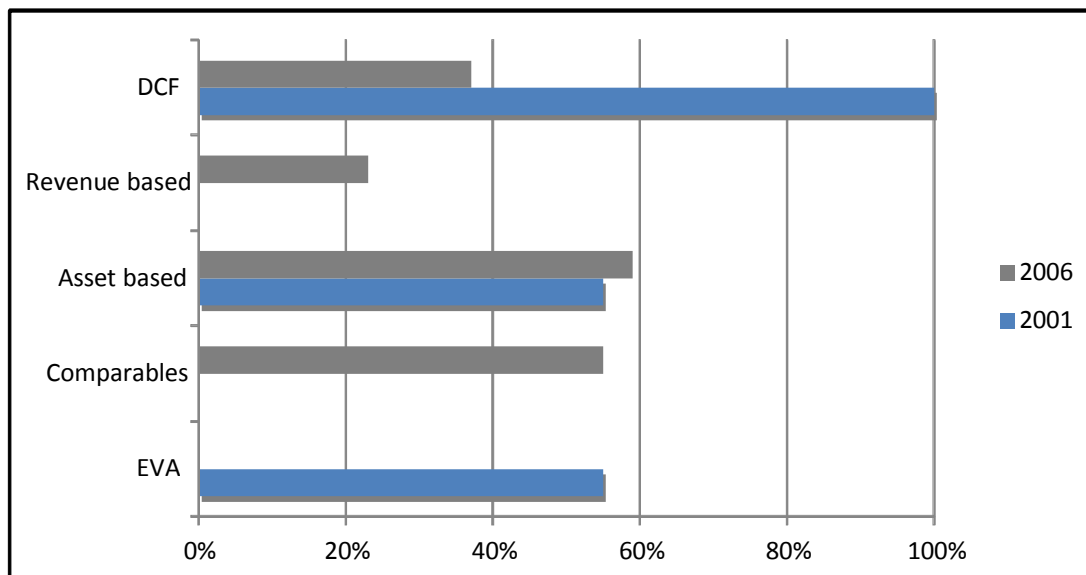


Fig. 19: Valuation models used in by distressed investors

Source: Danovi (2011)

Danovi (2011) did a survey on valuation models and found that distressed investors rely on, and shift towards different models in evaluation investments.

In this current study, a utilization of the new value creation attributors for distressed buyouts will be utilized instead. This is to instil a uniformed methodology of evaluating the investment pre and post buyout that can serve as a consolidation model, or extension model to the existing methods used by private equity professional.

Through this theoretical and deductive expansion of this financial aspect, we formulate the hypothesis:

H9: The valuation of the investment is an important criterion for private equity companies when selecting distressed investments.

(H) Liquidity of Investment: Exit Opportunities

In order to complete the cycle of investments that have been invested into, the final step is to liquidate, or exit the investment, making either a loss, or gain from the initial invested capital. The point of liquidity has been driven across by interviewees as an important point. This relates to the opportunity there is to exit investments. Typically, this would entail an upmarket where market players are looking to consolidate. Through the interviewees, it is then understood that a future view of markets is important to ensure that the holding period of the investment does not become exceedingly long, causing extended delays in negotiating an exit. Hence exit opportunities can form an important part of the criteria when selecting an investment.

Kraft (2001) analysed 379 turnaround/distressed companies and found that there were essentially five different routes that are taken by private equity investors. Private equity researchers also found that these five forms of exits encompass almost all of private equity investment exits (Gompers and Lerner, 1999; Cumming and Macintosh 2001, 2003a, 2003b).

1. Trade Sale

Trade sales basically mean that the portfolio company is sold off to another company that operates in the same industry (Gompers and Lerner, 1999; Schwienbacher, 2007; Strömberg, 2008). Essentially almost 50% of the turnaround/distressed exits were done via trade sale

(Kraft, 2001)²⁷. This was further confirmed through interviews with private equity experts who indicated that trade sales consisted as one of the most important exit routes for distressed investments. Schwienbacher (2008) has as well found that the ability to conduct a trade sale can be contingent on the availability of capital in the local market for financing of the purchase by an acquiring company. This was as well confirmed by Beinz (2005) who found that trade sales occurs more often for companies that were deemed less profitable, with those that were deemed more profitable usually exited publically, which also formed a way to increase the reputation of the private equity company.

In the case of trade sales, the sale to a strategic buyer who operates in the same industry could be lucrative for both ends. The seller, the private equity company, gets to exit the investment from their portfolio, preferably at a higher price than what they had paid for. The buyer, which operates in the same industry, would be most suited to analyse and value the company that they buying, based on the industry dealings that they have.

Giot and Schwienbacher (2005) found that the trade sale method is commonly used for venture capital companies as well. In their research, it was found as well to be the most common method of exit, with even non-profitable companies. Here is where, there is a tie-up with the patents criteria described before. The authors describe that when a buyer is interested in the technology or patents of the invested company, there could still be the chance of a profitable exit for the private equity company. Valuation of the patents or technologies owned could far outweigh what the investment is worth, hence potentially providing an interesting exit choice for the private equity companies. This was found to be the case by the authors in Silicon Valley, where trade sales were very common as compared to liquidations, which were by far and wide, almost never done. The authors also found that later stage investments

²⁷ EVCA publications have reported as well that the preferred method of exiting portfolio companies amongst private equity companies is through trade sales.

tend to have shorter periods of completing exits from investments via trade sale. This could signal that distressed investments, typically tail end investments, exit quicker than the typical venture capital backed investments.

However, there can be potential issues with trying the exit via a trade sale as well. The typical concerning factors involve management of the company and lack of trade buyers for any of the particular portfolio companies (Wall and Smith, 1997). Issues regarding management blocking trade sales can be mainly due to the inherent vested interest for management to retain their jobs. Should the trade sale go through, the loss of jobs due to synergistic values and workforce could negatively impact the managers from the company being acquired. Lack of trade buyers can negatively affect the time taken to exit an investment as the private equity company searches for exit solutions. However, this factor can be negated through planning from the investment screening phase by already taking exit options into mind when selecting a potential investment/portfolio company.

Overall, trade sales do not necessarily have to consist of a “strategic fit” for the acquiring company. Certain company purchases can be made to develop new business or technology lines and used as an exploratory investment. However, the better the synergistic fit and validation of benefits for the acquiring company, will allow for a quicker, and willingness to complete the transaction (Gompers and Lerner, 2004).

2. Secondary Sale

Secondary sales are the second most common method of exiting an investment. The sale consists of the private equity company selling the shares that they own to another buyer, typically another private equity company (Cumming and Macintosh, 2001, 2003a, 2003b). The main difference between this form of exit as compared to the trade sale, is that only the shares owned by the private equity company is sold. The

shares that are owned by management, or other investors, remain untouched from this kind of sale.

This choice of investment allows for the acquiring company to have a “taste” of the technology and business of the sold off investment. What this could signal is a future buyout should the acquiring firm find synergistic or opportunistic qualities in the company that they have acquired shares from the private equity company.

More often than not, a secondary sale represents a complete liquidation of the investment by the private equity company. The sale of the investments can prevent a longer holdout period should they find a suitable buyer quickly, which in turn allows for a better internal rate of return and conservation of reputation by the private equity company (Phalippou, 2008). The case for exiting via secondary sale could also follow the findings of Beinz (2005) that less profitable companies are sold through less public means. Cummings and Macintosh (2003) explain that this phenomenon can be clarified by the level of monitoring and control that is required from the private equity company. While a less profitable company will require stronger and continued monitoring from the private equity company, an independent management signals the need for less control, allowing for a public exit through Initial Public Offering.

3. Company Buyback

Subsequently, another form of exit can be the company buyback, which entails the repurchase of the shares owned by the private equity company, by the invested company itself (Cumming and Macintosh, 2003). This form of exit can form a potential partial exit only if the repurchase of shares do not constitute the full ownership of the private equity company’s initial purchase.

Although not common in the distressed private equity sphere, this exit form can prove to be lucrative and can be combined with secondary sales. This would entail partial exit back to the invested company, and

then a further secondary sale to a separate investor. A combined transaction like that afore described may leave the initial invested private equity company with a profit should the sale be conducted prudently.

4. Private to Public

Although private to public transactions are common for venture capital backed companies and other early stage backed companies, this strategy does not apply well with distressed investments (Krasoff and O'Neill, 2006)). As one of the minority exit opportunities for distressed investors, the Initial Public Offering route is one for companies that have not been listed before.

However, Krasoff and O'Neill (2006) have described the transaction of Regal Cinemas to be the "grand slam of distressed investments". Through a restructuring of the company, the payoff for the investment in Regal Cinemas was largely lucrative for the private equity companies involved. However, these kinds of transaction are far and wide apart from the amount of trade sales conducted for exits.

5. Liquidation or Write-off

As described by the heading itself, this form of transaction is a complete walk away from the investment due to inability to exit from it (Cumming and Macintosh, 2003). This could be due to the inability to recover from the investment or to even find a buyer for the investment made. These investments comprise of less than 9% of the transactions that were found by Kraft (2001) but still form a significant amount of capital loss that should be avoided through proper investment selection,

Calandro (2011) has suggested that the exit options of the investment should be taken into strong consideration when making investment selection decisions. The above analysis would suggest especially that the existence of trade sale opportunities, or larger corporations willing and able to made trade purchases, which account for over 50% of exits, should be an important consideration when making distressed investment decisions. The consideration of exit options allows for the private equity

company to analyse the potential investment fully and understand best/worst case scenarios of investing into distressed portfolio companies. For example, the route of public liquidation has been over relied upon by the Chinese private equity market. Of nearly 10,000 deals from 2001 to 2012, almost three quarters of the investments have not been exited due to the unfortunate circumstances of vying for initial public offerings²⁸. This phenomenon perpetuates the importance of diversification of exit opportunities, as well as planning for the type of exit at the investment selection stage. Hence, we form the following hypothesis:

H10: The liquidity of the investment is an important criterion for private equity companies when selecting distressed investments.

4.3.4 Management Criteria

(I) Referral Source

Referral sources have been shown to be of importance to validate the authenticity and viability of target investment leads (Mason and Harrison, 1996; Feeney et al., 1999). This could be indicative that trusted sources are required by private equity companies to cross the first hurdle of the selection process.

Deal origination for private equity companies, and venture capital companies alike, can come from many sources within, and outside the firm. Teten and Farmer (2010) found that the majority of deals were sourced in-house with the next largest referral sources coming from paid intermediaries. The downside of using intermediaries is that they can be costly and may force competitive bidding for a specific investment. However, the intermediaries usually also comprise of investment professionals who have deep investment background to make referrals more meaningful as according to the screening criteria of the potential buyer.

²⁸ Information from “The New York Times” (Private Equity in China: Which Way Out? By Neil Gough) on January 10, 2013.

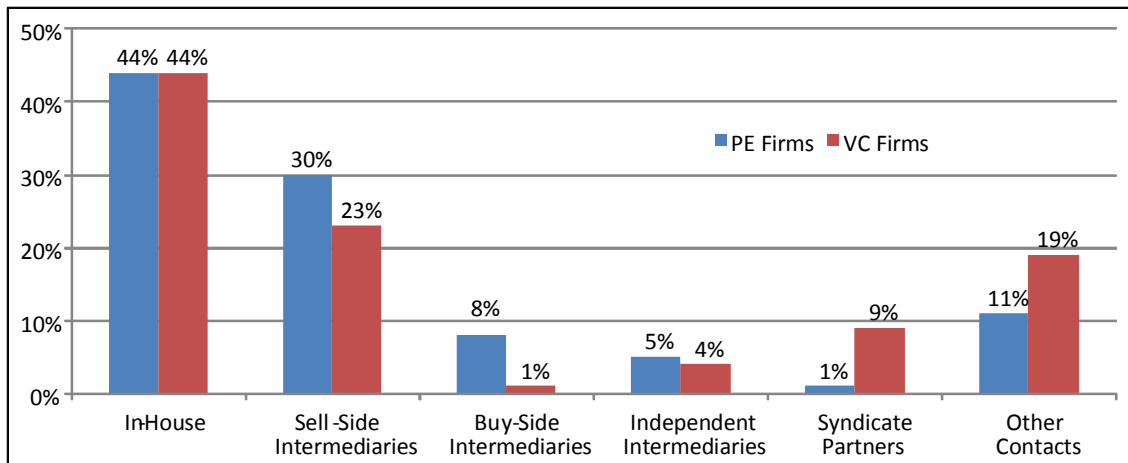


Fig.20: Proportion of deal referrals

Source: Teten and Farmer (2010)

Teten and Farmer (2010) is a pioneering study into referral sources and found that the preferred method of deal origination is from professional relationships built by the investment professionals. However, they note that there is growing interest in exploring the media spaces and conventions as deal origination sources. Most importantly, the growth of these sources does not negate the fact that the source still must be regarded as trustworthy.

Kraft(2001) found that from a sample size of 384 turnaround funds, a good 24% of private equity fund managers relied on their personal network to identify potential investments. Another 24% found potential investments from Workout Departments and Investments banks. This shows the importance and relevance of referrals of potential targets from outside sources to the private equity firm. In addition, this further perpetuates that the initial introduction of the distressed investment should come from a trustworthy source that is well known by the private equity firm.

Interviewees maintained that the exploration of sources outside from trusted intermediaries, service providers, or professional contacts is not as wide. In addition, it is imperative to note that while investors are fully immersed in the deal making process, interviewees mentioned that there have in-house specialized deal sourcing teams within some private equity companies to cope with the large inflow of deals being introduced. This adds further support to the findings of Teten and Farmer (2010), showing the importance of in-house capabilities in being able to source new deals. One interviewee states as well:

“Having investment houses present potential investments to us is beneficial in two folds.

- 1. The financial groundwork has already been covered by the investment house, minimizing the time required for us to do the initial legwork in regularising financial statements and paperwork. This way, we can sift through many potential investments and make well informed choices in these potential portfolio companies.*
- 2. When the sources are from well-known banks, or executives, they put not only their reputation on the line, but also the reputation of the institution that they represent. This, coupled with the understanding that they have bright and capable people working for them, instils greater confidence in the investment that they are going to refer.*

“Cold call” investments are not the ideal investments that we want on our books because we need to double and triple check every paper or number that is provided to us, as these investments can potentially be expensive lessons to our institution. In these markets where many companies are in danger of distress, we have to be extra careful in our selection process to weed out any potentially adverse investments”

As can be told from the interviewees’ point of view, the deal should come from a reputable source as confirmed by Fried and Hisrich (1994). Reputation damage can be devastating for any institution, and hence, it is well understandable that private equity firms would prefer to accept investment proposals from referrers who have *“more to lose”*. Seeing the importance of referrals through the interviews and theory, we form the hypothesis:

H11: The referral source of the investment is an important criterion for private equity companies when selecting distressed investments.

(J) Location of Investment: Proximity

Boundaries of countries have always been a form of deterrent to investment, especially with the inclusion of currency risk, locations risks, and trying to understand business culture can all be forms of disincentives to invest in a portfolio company (Bruton et al., 2005). Amongst many reasons to invest abroad, private equity firms broaden their investment location scope in order to learn more from overseas compatriots and to create synergies with existing portfolio companies and resources.

Many major private equity companies as well invest overseas from their base locations. However, certain markets can pose difficult issues for specialised investments like distressed investments. China has long been known to be a closed market. Control investors looking to seek majority share in a distressed company in China would be largely prohibited (Peng et al., 1999). The market for control in Asia is likely difficult due to difficulties in exit mechanisms as well. Peng, Lee, and Wang (2005) indicate in their study that technology portfolio company exits in Asia are largely to strategic buyers looking to “dip their feet” in the Chinese market. Information asymmetry due to the large number of state owned companies in China could also pose difficulty in effecting a full profitable exit (Cumming and Macintosh, 2003) as buyers may be wary of the effect of governmental ownership, or even be prevented from purchasing stakes in these organizations, greatly reducing the number of buyers actually able to take up the exit stake.

Groh et al. (2010) did a survey on the European locations that are most attractive to private equity capital investment. With no surprise, countries like United Kingdom and Sweden with well-developed capital markets, strong corporate governance aspects, investor protection and investment opportunities, ranked highest in their study. Although these factors could be largely related to the legal and tax environment, a large number of private equity companies are located within these markets already, making investment into these countries relatively smoother. Although there are points to discourage investments away from home, Cornelius et al. (2009) found that the US companies are least biased, with Europe being one of their largest investment grounds. As well, their study found that the private equity companies in the United Kingdom still had least home base operation biasness, but were at least biased to investments in Europe. Bruton et al. (2004) found that investor

tend to have a proximity biasness to increase the viability of monitoring during the investment stage. This is in line with the previous studies mentioned but can also be due to the lack of trust of management to run the portfolio company efficiently.

Cornelli and Karakas (2008) explain that the private equity firms monitor management by bring on the board of the company, as well guiding the company independently. Through large stakes in the company, the private equity company can exert monitoring controls and increase their influence over the management, especially through attendance of board meetings and formulating restructuring plans (Fenn et al., 1997). It can then be argued that by being in closer proximity of the company location, the monitoring costs can be reduced. This would imply less air travel required to reach the company, which also implies less travel time, and therefore lowering of costs.

Lossen (2006) could not identify positive benefits to diversifying across geography. This could signal that the benefits of investing beyond base operations could have little positive benefit to the private equity company. However, there could be arguments made for investment beyond borders when currency risk is not of an issue. For example, investing within the Eurozone where a common currency is used could mitigate the low value of geographic diversification. This however does not mitigate the country risk which is still present.

Interviewees commented that though an important criteria to investment, the location of an investment is highly mitigated by having experienced staff in the region, and strong capital markets to support investing in the country. Companies as well are becoming more global in operations, which meant that few investments made were location specific only. Lossen (2006) studied the diversification benefits of funds and found that top quartile funds will benefit the most from location diversification due to the opportunistic nature of the private equity industry. In addition, country diversification has been found to increase the value of the private equity fund, allowing for knowledge sharing between portfolio companies, and increase financing deals (Humphery-Jenner, 2011). Hence, this leads us to the next hypothesis:

H12: The location of the distressed investment is an important criterion for private equity companies when selecting distressed investments.

(K) Legal Environment

Meuleman and Wright (2011) determined that the different legal systems support the case for cross border syndication. Complicated issues dealing with contract forming and operational mapping may face barriers in transferability across different countries (Bottazzi, Da Rin, and Hellmann, 2009; Kaplan, Martel, and Strömberg, 2007). Since syndication can incur high costs, both in the form of joint payoffs and reputational risk of having to work with partners (Meuleman et. al., 2009), this shows reason for private equity companies, especially those interested in distressed investing, to be wary of cross border legal issues.

In order to understand how the legal environment affects private equity as a whole, we have to look at the history of adoption of legal systems. In Europe alone, there exist various legal systems, of which, the four main ones comprise of the English, German, French, and Scandinavian systems. In addition to these systems, we have to look at US legal system as well, due to the large amount of private equity deals that are done in the United States. The comparison between the legal systems which are relevant to private equity boils down to the raising of external finance (La Porta et al., 1997), and investor protection against misappropriation (La Porta et al., 1996).

Raising external finance, in the form of fund raising, is essential to all forms of private equity and forms the lifeblood of the industry (Lerner, Hardyman and Leamon, 2004; Lerner and Schoar, 2005). Gompers and Lerner (1999) explored the drivers to financing of deals. A key focus in their study focuses on the capital gains tax which can have industry and firm specific effects, specifically noticed when a reduction of capital tax correlates with a larger inflow of capital funds (Gompers and Lerner, 1999). In addition, Lerner and Schoar (2005) found that in investments made in high enforcement jurisdictions, costlier forms of funding like preferred stock were used, instead of common stock and debt.

La Porta et al. (1996) described investor protection as essential due to their perception of expropriative behaviour by controlling shareholders. Although seen as an important aspect in the form of legal protection for smaller shareholders, over extensive investor protection can slow down deal making capabilities of private equity houses, delaying exit opportunities and increasing agency costs (Himmelberg, Hubbard and Love, 2000). However, the importance of well-grounded legal systems

in place are very important to curb the over valuations of assets, and increasing the quality of information, and reporting quality that private equity companies and local firms have to provide (Cumming and Walz, 2009). Hence, we form the hypothesis:

H13: The legal environment surrounding the investment is an important criterion for private equity companies when selecting distressed investments.

(L) Accounting Environment

Previous researchers have found that location specific reporting and accounting standards as well affect the asymmetry between private equity companies and their investors (La Porta et al., 1997; Gompers and Lerner, 1999). This is further reinforced by Ho and Wong (2001), who find that the governance aspects and accounting rules of the country affect the disclosures that companies make.

Cumming and Walz (2009) found that there existed various information asymmetries with regards to disclosure of performance to institutional clients by private equity funds. Through their research, it was found a positive relationship between a strict accounting environment, and the proper valuation of a private equity fund investment. This finding could waiver the decision of a private equity house looking to invest in a country with lax accounting standards. For one, the private equity house may find difficulty in exiting investments that are in lax accounting environments²⁹. Such circumstances can cause difficulty for the private equity house in both valuation and to return dividend or capital to invested clients.

Strict existing standards sway companies in the market to comply with the regulations though penalties, which in turn ensure that private equity investments are correctly valued, and are compliant in a regulated market. With opaque accounting standards, which in turn lead to opaque earnings declarations (Bhattacharya et al., 2003), investors can find difficulties in smoothing out the valuation of private equity investments. Hence, this can serve as a point of avoidance of investment into countries with lax accounting regimes.

²⁹ CNBC: Private Equity in China: Which Way Out?; Accounting scandals have hit the investments in the country and have reduced outside investments due to fears of loss of exit options. This adds credibility to the Sarbanes-Oxley Act of 2002, whose objective is “to protect investors by improving the accuracy and reliability of corporate disclosures.”

As valuations of private equity may not be necessarily subject to standard accounting practices (Ljungqvist and Richardson, 2003b), it could stem that for risky investments like distressed private equity, private equity companies would seek countries where accounting standards are stricter. This would assist in preventing adverse selection and instil investor confidence in selection of investments, inclusive of exit opportunities that the private equity houses can take to realise investments. Based on this understanding, it would signify that private equity companies would prefer to invest in developed nations where accounting standard have been well established and are the norm for the companies in the country. This leads us to the hypothesis:

H14: The accounting environment surrounding the investment is an important criterion for private equity companies when selecting distressed investments.

(M) Syndication or Co-Investment Opportunity

A view of syndication could potentially sway the view of private equity companies to invest in a company. The idea of syndication is to pool the resources of two or more private equity companies, to invest in identified companies.

Syndication can pose to benefit through various mechanisms. Through co-investing with other private equity companies, the effect of adverse selection can be reduced (Lerner, 1994), as the selection approval would have to pass through two or more selection committees in order to pass through to the detailed evaluation stage. This could imply that smaller private equity houses could find utility in latching onto investments with larger/experienced private equity houses, through learning about the selection of investments through co-investing with them. However, this could seemingly pose the dilemma that smaller private equity houses would be recycling selection criteria already set by larger private equity houses. Hence, the selection criteria employed by these smaller houses could already be “hand me downs” once they cease co-investment activities. As well, this could be an example of free-riding of the quality of investment selection by larger houses, enabling smaller houses to leech off the capabilities already inherent in the more experienced private equity house.

Lockett and Wright's (1999) study in United Kingdom indicated that syndication could be a mechanism to share risk amongst investors rather than serve as an information sharing mechanism between private equity houses. This study highlights the proprietary skills involved with investment selection and deal execution, highly hinting that these skills are important, if not necessary, for the success of investing in profitable investments. This crucially adds weight to the study of selection criteria in order to determine how investments are selected.

Co-investment on the other hand represents usually a minority passive stake into the investment. The co-investment strategy usually encompasses the limited partners of the fund adding on a passive investment to improve the performance of the already lucrative investment (Greenberger, 2007). Through this strategy, the limited partner gains an insight into the investment strategy of the general partner (private equity company), forming stronger views of deal execution and monitoring.

Co-investments can be a double edged sword for the private equity company however. Good relationships harboured with the co-investor can be enhanced through positive co-investment opportunities, which in turn can lead to future opportunities to co-invest. However, similarly, a co-investment gone bad will similarly cause an issue with the co-investor, souring the relationship which has been built. Even so, co-investment has seen to increase³⁰ due to difficulties in raising funds after the 2008 credit crisis which has persisted through 2012.

As previously mentioned, the lack of information flow from the experienced investor to the inexperienced investor poses an information asymmetry risk. The logic of this is to prevent competition in the selection of prime investments, encouraging inexperienced firms to be reliant on experienced firms for selecting investments. However, as this allows for the inexperienced firm to gain experience in the mid to tail end stages of the investment process (Lerner, 2004; Kaplan and Schoar, 2005; and Gompers et al., 2006, 2008, 2009), the signal for this leads to the belief that inexperienced firms would prefer to syndicate in order to increase the learning curve of the firm. As well, this signals that the experienced firms would choose syndication as they can take advantage of the capital injection from the smaller firms, as well as

³⁰ Evidenced in the article "Private-equity co-investment set to rise" published on MarketWatch.com on July 29, 2011.

shift monitoring activities to them in order to free up time to concentrate on other investment activities. With this, we then form the hypothesis that:

H15: A syndication or co-investment opportunity for the investment is an important criterion for private equity companies when selecting distressed investments.

4.3.5 New Value Creation Factors

In this section, we seek to find answers to the following research question posed at the beginning of the study:

3. Which value creation factors can be used as criteria to evaluate an investment decision when selecting distressed investments?

It was decided to use case studies to incorporate the new value creation factors to test their effectiveness together with the selection criteria identified through the interviews. The reasoning of not including them in the questionnaire was to prevent confusion, due to the uniqueness of the formula and methodology, as well as to do an unbiased test of robust financial factors for distressed investments. The interviewees were unable to go in-depth into the financial methodology of investment selection, and hence, the new value creation factors serve as a deeper analysis for that portion. More importantly, based on the interviews conducted, explaining the formula and expecting the practitioner to decipher it as part of a questionnaire would significantly reduce the rate of returns. Hence, it was decided instead to incorporate the testing of the new value creation factors in case studies instead.

The uniqueness of the formula lies in the incorporation of working capital as part of the value creation factors used in selection. As mentioned previously, the effective management of working capital has been shown to have positively affect profitability of companies in numerous countries (Smith, 1980; Deloof, 2003; Eljelly, 2004; Lazaridis and Tryfonidis, 2006; Raheman, and Nasr, 2007; Eda, 2009; Gill, Biger and Mathur, 2010; Garcia, Martins and Brandão, 2011; etc.). Through these studies, we deduce the importance of working capital in the selection of distressed investments and statistically test the value creation factors against the performance of

the distressed investments to determine the value of using them as selection criteria. Through this, we form the following hypotheses:

H16: Operating liquidity factor is significantly correlated to, and demonstrates significant value to the performance of distressed investments.

H17: Revenue efficiency factor is significantly correlated to, and demonstrates significant value to the performance of distressed investments.

Following Loos (2006) and Achleitner et. al. (2010) study of the value creation factors, we adapt the hypotheses to match investment selection which is being investigated here. This leads us to the last three hypotheses:

H18: EBITDA margin factor is significantly correlated to, and demonstrates significant value to the performance of distressed investments.

H19: Multiple expansion factor is significantly correlated to, and demonstrates significant value to the performance of distressed investments.

H20: Leverage factor is significantly correlated to, and demonstrates significant value to the performance of distressed investments.

4.3.6 Summary of Hypotheses

With the decision criterion having been identified through the interviews with the industry experts. It was decided as per the methodology section to do a questionnaire to test the variables, in order to answer the research questions, and to test the variables with industry practitioners for H1 – H15. Further to that, we would cover the H16 – H20 using a case study methodology as described previously. The fourth research question would be answered via case study once a framework had been established. Below, we have the summary of the research questions, the hypotheses, and how they are to be tested.

Research Questions		Testing Method
1	What are the criteria that private equity firms use to evaluate an investment decision when selecting distressed investments?	Interviews
2	What are the most important criteria used to evaluate an investment decision when selecting distressed investments?	Questionnaire
3	Which value creation factors can be used to as criteria to evaluate an investment decision when selecting distressed investments?	Case Studies
4	How can private equity professionals use these criteria as a framework to select profitable distressed investments?	Case Study
Hypotheses		
H1	The more experience the investor has in selecting distressed investments, the fewer write-offs the investor will incur.	Questionnaire
H2	The experience of management in the industry is an important criterion for private equity companies when selecting distressed investments.	Questionnaire
H3	The coachability of the company CEO is an important criterion for private equity companies when selecting distressed investments.	Questionnaire
H4	The depth of board of directors is an important criterion for private equity companies when selecting distressed investments.	Questionnaire
H5	The existence of barriers to entry is an important criterion for private equity companies when selecting distressed investments.	Questionnaire
H6	The existence of patents for the company is an important criterion for private equity companies when selecting distressed investments.	Questionnaire
H7	The market growth of the industry is an important criterion for private equity companies when selecting distressed investments.	Questionnaire
H8	The size of the market is an important criterion for private equity companies when selecting distressed investments.	Questionnaire
H9	The valuation of the investment is an important criterion for private equity companies when selecting distressed investments.	Questionnaire
H10	The liquidity of the investment is an important criterion for private equity companies when selecting distressed investments.	Questionnaire
H11	The referral source of the investment is an important criterion for private equity companies when selecting distressed investments.	Questionnaire

H12	The location of the distressed investment is an important criterion for private equity companies when selecting distressed investments.	Questionnaire
H13	The legal environment surrounding the investment is an important criterion for private equity companies when selecting distressed investments.	Questionnaire
H14	The accounting environment surrounding the investment is an important criterion for private equity companies when selecting distressed investments.	Questionnaire
H15	A syndication or co-investment opportunity for the investment is an important criterion for private equity companies when selecting distressed investments.	Questionnaire
H16	Operating liquidity factor is significantly correlated to, and demonstrates significant value to the performance of distressed investments.	Case Studies
H17	Revenue efficiency factor is significantly correlated to, and demonstrates significant value to the performance of distressed investments.	Case Studies
H18	EBITDA margin factor is significantly correlated to, and demonstrates significant value to the performance of distressed investments.	Case Studies
H19	Multiple expansion factor is significantly correlated to, and demonstrates significant value to the performance of distressed investments.	Case Studies
H20	Leverage factor is significantly correlated to, and demonstrates significant value to the performance of distressed investments.	Case Studies

Fig.21: Summary of Research Questions and Hypotheses

Source: Author's Own

4.4 Questionnaire and Data

4.4.1 Design of questionnaire

This section was dedicated to answering the following research question as well as hypotheses 1 to 15:

2. *What are the most important criteria used to evaluate an investment decision when selecting distressed investments?*

Due to the difficulty in getting industry surveys done, it was decided to keep the survey as brief and succinct as possible, using previously used survey questions in

private equity studies when possible. A key study in private equity exits done by Povaly (2007), who had further drawn his questions using previous various studies on exits, which will be further described in the ensuing paragraphs, was used as the baseline to decide which general questions to ask.

To complement the study, the studies done by Van Osnabrugge and Robinson (2000) and Baldi (2013), were used to structure the questions on selection criteria. The study provides a ranking methodology which will be used to rank distressed private equity selection criteria. The study also provides a basis of how to ask the question of criteria to practitioners, and a table format using a Likert scale was decided upon to employ the questionnaire methodology for the bulk criteria section. Each of the criteria was built upon theoretical development which is backed by interviewee confirmation as to the importance that it weighs to selecting distressed investments.

This study incorporates the control measures determined by the operational influence of the private equity investor (Povaly, 2007). Schwienbacher (2002) determined that this categorization for his study which applies greatly to this study as well. Unlike the two studies mentioned above however, the determinacy of influence by the private equity investor is instead separated into control, and non-control investors. Through this, it can be determined the importance of the criteria by each of the two types of private equity investors and to what extent each criteria holds.

It was determined that the number of write-offs would determine the success rates of the private equity investors (Schwienbacher, 2002; Povaly, 2007). This would be through a different methodology by determining the percentage of write-offs instead. As well, the experience that the team has in selecting investments was selected as a variable that can affect the decision of the distressed private equity investor. Due to the cyclicity of private equity investments (Phalippou and Zollo, 2005), it is postulated that the experience teams would have had a checklist gathered through experience as to which criteria hold weight in the selection process. Although it is a criteria not used in previous studies, this variable is seen to be of importance to this study to determine as well if experienced investors have a lower percentage of write-offs as compared to inexperienced investors. This effect could be attributed to the larger number of deals done by the experienced investors and from them adapting their criteria from written off investments.

Consequently, it would be expected that through this experience, exit timings would be quicker for the private equity investors that have been through more investments than others. With this variable, it could be determined the differences and evolving of criterion used by different private equity investors in the market. Most importantly, this variable could tie in with the criteria of exit opportunities and whether or not these opportunities are already sought of at the start of the investment cycle for distressed investments.

To complete the questionnaire, one of the questions was left to the private equity professionals to determine if any criteria had been left out. This would give the opportunity to expand this study to other areas which were not covered by interviewees, or were not available previously to academic studies in the area of selection criteria.

Lastly, it was important to incentivise the professionals to complete the survey. Incentives have been found to increase the efficacy of response and there have been numerous studies to support the use of incentives in increasing response rate³¹. However, as a cash incentive would be difficult to monitor and be a self-serving incentive, a question was left for contact information instead, should they want to receive a copy of this study.

Hence, through the formulation of the questionnaire, it was then determined that the study could utilize the following variables for extrapolation. The selection criteria were measure upon a Likert scare from 1 (Not Important) – to 5 (Very Important). A non-applicable (NA) selection was put in as well to determine if the criterion was not actually one of any importance at all. Below lists the criteria which were created through interviews with private equity professionals.

Questions Description

The main reason for using the questionnaire methodology was to ensure a large outreach to private equity professionals which would allow for a statistically significant study of their selection criteria. The questions formulated were formed using Povaly (2007), Van Osnabrugge and Robinson (2000), and Baldi (2013) as

³¹ Goritz (2006) mentions various other studies supporting incentivising web survey respondents as well as the positive effects of increased response rate to surveys.

bases to maximise the return of questionnaires, as well as to ensure that it would be easy to follow and manage. Below are the descriptions and reasons for selecting the questions.

1) Average experience of selection team

This variable is measured in years of average experience of the selection team. It was decided to use the team as a whole rather than a single individual, so that the study could measure the criterion against overall experience.

2) Operational involvement with the investment

As mentioned previously, this variable is measured by whether or not the private equity invests through control or non-control investors. This gives the opportunity to check the differences between the types of investors when selecting distressed investments.

3) Length of exit starting from preparation

As per Povaly (2007) and Schwienbacher (2002), this criteria was chosen to determine speed of exit of the firms. It can be postulated that the experienced investors would have a shorter lead time to exit the investments chosen based on the perfection of selection criteria that should aim to minimize adverse selection.

4) Number of write-offs

As the absolute number of exits would be irrelevant without knowing the number of portfolio companies invested by the private equity company, it was decided that this variable would be measured as a percentage of total portfolio companies invested into. As the number of investments grow, it is postulated that the experienced investor would have less write-offs as compared to the less experienced one. Write downs are not included as although interests may not be accrued anymore, the investment can still be recovered should the portfolio company move out of distress. This would be highly applicable to non-control investors. This question in conjunction with 1) are formulated in order to understand the impact of team experience against performance of the investment (Kaplan and Schoar, 2005; Loos, 2006; Casamatta and Harichabalet, 2007).

4.4.2 Respondent Selection and Analysis

Since this questionnaire required the response of private equity professionals involved in distressed private equity investing, it was determined that the use of databases would be most suited to extrapolate the firms, as well as contacts that could answer the questions. ThomsonOne database was selected as a starting point to try to determine as many companies as possible for the study. However, in order to be complete and to speed up the search in selecting the firms, the use of various lists available online was used as well³². Information regarding to contact information of the professionals was then garnered off the respective company websites and from the ThomsonOne database. In total, 236 institutions were found to invest in distressed portfolio companies. From this number, individual websites were visited to determine the investment strategy and type of investments were done by the company. Of the initial 236, it was found that 21 were hedge funds, 17 were real estate funds, and 45 of these institutions had no contact information or were defunct, hence were not included into this study. In total, 153 firms that invest in distressed private equity which could be contacted were found.

Total firms found from database and website study	236
less: Hedge funds	21
less: Real estate funds	17
less: Uncontactable companies	45
Total firms found that invest in distressed PE	153

Fig.22: Private equity population for questionnaire

Source: Various databases and websites

Web surveys were the decisive method to use to gather the questionnaire responses that were sent to the 137 firms. An email was prepared³³ and sent to each of the companies first to the general email box. Upon waiting for two weeks with weak responses, it was determined to send the email to individuals within the company in order to increase the response rates from the company. As the survey required a fill in of the company name, the responses could be monitored for duplication as well. After

³² Only reputable service providers were used to collate the list of private equity companies. Bloomberg: <http://www.bloomberg.com/markets/companies/private-equity/>; and Private Equity International: <http://www.peimedia.com/Pages.aspx?pageID=3391>

³³ See appendix for email that was sent to the professionals.

the last response was garnered, a period a week's grace was given to wait for any last responses before sending out the reminders to professionals that had not answered the questionnaire. After a second round of responses, two weeks grace for late respondents, and one and a half month for the questionnaire, it was closed for the analysis of the data to begin.

Of the 153 firms that the questionnaire had been sent to, there were a total of 58 respondents. However, 11 of the respondents had either skipped questions, or had answered the questionnaire twice. This left a total of 47 respondents as a whole which accounted for a response rate of 30.7%. This is comparative with the response rate of the study done by Povaly (2007), who received a response rate of 34%. As per his discussion about response rate comparison, this is a much higher response rate garnered from professionals as compared to other private equity studies which have had certain response rates of mostly below 25%³⁴. This comes at a time where web survey responses are declining and where top professionals are less inclined to complete surveys due to their popularity and a possibility of misuse of data (Baruch, 2000). A factor that could have helped increase the response rate of this study was the promise of anonymity to the professionals and their company, which acts as an aid for the professionals to feel less anxious about participating in the survey.

Of the 47 respondents, the large majority of answers came from the United States of America with one respondent from Canada. This comes as no surprise as the United States has a more developed private equity market as compared to other regions, with most research focused on the North American region. However, the respondents were diverse in this study with respondents from every continent and a total of 18 countries, both developed and undeveloped, covered as well. Although the respondents may largely come from the United States, this does not mean that they only invest in North America. An investigation into some of the larger private equity company websites showed a diverse location investment focus, which adds further credence to the questionnaire results.

Additional data about the private equity companies were then gleaned from their website as well as from the database to study the characteristics of the firms. As an industry that is shrouded in secrecy, it was possible to find only limited data on the

³⁴ Povaly (2007) pg 248 goes on to describe that the increase could be due to individual follow ups, as well as emailing the person directly and rather than to a general email.

firms. The average partners for the 26 firms where data could be found were 5 partners. However, the skew for one large firm was 29. Taking away the one firm left the average at 4 partners per firm. This would leave approximately 10% to 20% of the firms as partners, with the rest of the staff at more junior levels. The statistic would make sense as compensation ratios would move up the ladder with partners earning the most.

The average fund size for the 30 respondents where data could be found was USD 349.6 million. Buyout funds typically have large fund sizes in excess of those that are reported for distressed private equity. However, it has been found that larger fund sizes can have lower multiples as compared to smaller funds (Humphery-Jenner, 2012). What was interesting was that some of the most well-known private equity companies had taken part in the survey, and of course, skew the reporting of the average fund size.

However, the average funds raised in the last 10 years exceeded USD 2.36 billion for the 27 firms where the statistics were available. In addition, the average dry powder available was in excess of USD 600 million. These statistics show that the size of investments was relatively large and as well that each partner was privy to an approximate average of USD 100 million of funds for investment.

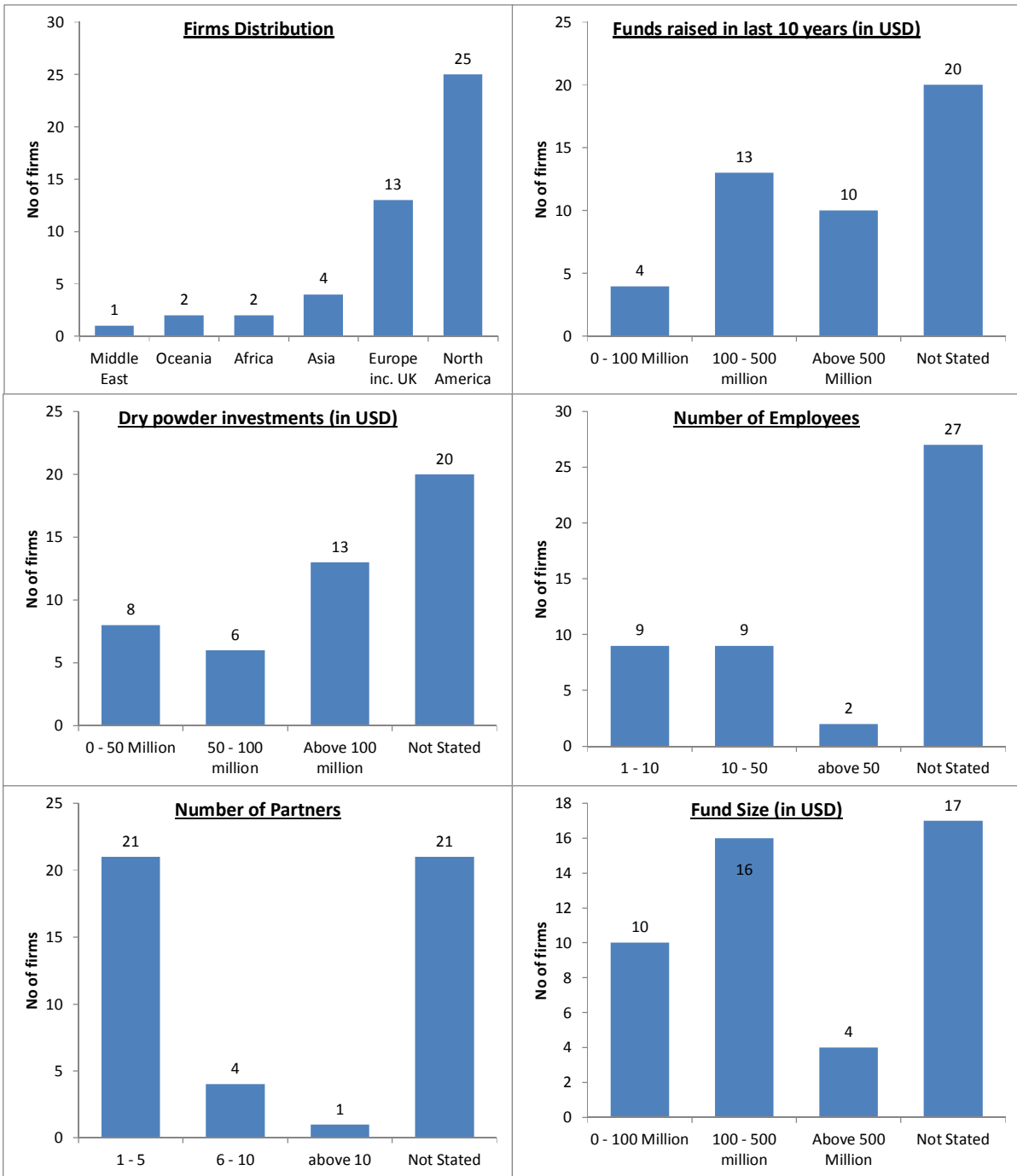


Fig. 23: Various Respondent Statistics

Source: Author's own from data collection

4.5 Results from analysis

4.5.1 Reasoning Behind Research Method

Initial research into the singular criteria from previous academic studies like Van Osnabrugge and Robinson (2000) and Sudek (2007), suggested that data could be grouped into 4 different categories, as per below.

- 1) Quality and Experience of Management / Board
- 2) Product or Market Capability
- 3) Financial Aspects
- 4) Other Criteria

However, upon completion of interviews and studying criteria set by companies on their websites, it was found that criterion should be analysed individually as groupings would not be sufficient for combination of data, as well as uneven study variables that would not accurately study the importance of the criteria to investment selection. In addition, according to Stevens (2012), the correlations between factors were mostly below 0.3 and were not significant at both 0.01 and 0.05 levels, leaving this study unable to use factor reduction to reduce the dimensions.

The usage of mean, median and standard deviation would be used to study the individual criterion and the importance it holds per grouping, as will be explained in the hypothesis which would be spelled out next. This would allow for a clear and set out approach that have been tested by other private equity researchers.

4.5.2 Initial Hypothesis Testing and Ranking of Criteria

Through the previous chapters, it was postulated that the more experience the private equity investor would have, the better their methods of selecting investments would be, hence, lowering the overall percentage of adverse selections of investments, and hence, the number of write-offs the investor would have to make in their investments. Through this we begin by testing the following hypothesis:

H1: The more experience the investor has in selecting distressed investments, the fewer write-offs the investor will incur.

From the data that was collected, it was decided that a linear regression would suit the analysis for to test the hypothesis. First we tested the assumptions for linear regression (Stake, 1995; Scandura and Williams, 2000; Kothari, 2009; etc). Through a scatterplot review, a linear relationship was established and showed a negative correlation for the data, with no significant outliers. A Pearsons correlation check showed that there was a negative correlation of -0.70 showing a high significance at the 0.01 level. Through this, it could be said that the higher the years of experience that the team has in selecting distressed investments, the fewer write-offs they would have. This correlation was found to have a strength of -0.71 which can be considered relatively strong (Rubin, 2012).

	1	2
1. Experience in years	1.00	
2. Number of Write-offs	-0.71**	1.00

Statistically significant at ** $p < 0.01$ (2-tailed)

Fig. 24: Correlation data for Experience and Write-offs

Source: Author's own from data collection

Homoscedasticity was visually analysed from the scatter plot with normality checked through the plotting of the histogram of frequency of the regression standard residual (Miles and Shevlin, 2007). Through a check of reasonable consistency of variance throughout the horizontal spread of the distribution, and a Shapiro-Wilk test of p-value 0.75, the assumptions of homoscedasticity and normality were met. A linear regression analysis was then performed to further determine the relationship between the 2 variables. Multicollinearity could then be assessed using the Tolerance and Variance Inflation Factor (VIF) statistics, with indications that the Tolerance level was greater than 0.2 and VIF statistics were much less than 4, indicating that multicollinearity was not an issue for the regression (Miles and Shevlin, 2007). Based on the data and conclusion from the assumptions, it was determined that the linear regression analysis was appropriate for analysing the two variables.

The R Square value was shown to be 0.50, meaning that the differences in experience could explain 50% of the variation in write-offs. This is an important finding indicating that the experience of the private equity company plays an immense role in minimizing adverse selection, further adding credence to their selection ability. Furthermore, at the 0.01 level of confidence, we have sufficient evidence to reject the

null hypothesis and conclude that there is enough evidence to support the hypothesis **H1**. This confirms the importance of experience for reducing adverse selection of distressed private equity portfolio companies³⁵. As well this adds to the capabilities view of Zollo and Winter (2002) which mention the accumulation of experience as a firm capability. Through experience in selecting portfolio companies, private equity companies can greatly reduce their write-off possibility by taking on professionals with strong previous experience in the selection process, or alternatively, concentrate on the important criteria for selection which have been proven to be important to experienced private equity companies.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin Watson
1	0.707	0.5	0.489	0.106	0.954

Predictors: (Constant), Experience in Years

Dependent Variable: % of Write-Offs

Model	Unstandard Coefficients		Adjusted R Square	t	Significance	95% Confidence		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1 (Constant)	0.367	0.034		10.663	0.00	0.297	0.436	1	1
Experience in Year	-0.016	0.002	-0.707	-6.714	0.00	-0.02	-0.011		

Dependent Variable: % of Write-Offs

Fig. 25: Regression Statistics for Experience and Write-offs

Source: Author's own from data collection

While so, the other 50% of the variation could be due to various other reasons. Firstly, investment timing could contribute to the variation of write-offs³⁶. Private equity companies that made investments in profitable vintage years could have a higher success rate and fewer write-offs. Secondly, investments by industry could account

³⁵ Findings could potentially be correlated to PREQIN report entitled "Preqin Special Report: Exits in Private Equity", where it is stated that bottom quartile funds write-off about 6% of investments as compared to 2% by top quartile funds. Experience can possibly be used as a variable to determine difference of top and bottom quartile firms as well.

Source: https://www.preqin.com/docs/reports/Preqin_Special_Report_Exits_in_Private_Equity.pdf

³⁶ See Article on vintage years affecting private equity companies and causing unrealized losses. These losses can potentially translate to write-downs or write-offs in the future. Source:

<http://www.bloomberg.com/news/2010-06-16/fortress-s-5-billion-private-equity-loss-haunts-edens-as-black-has-gain.html>

for a proportion of the variation as well. Target industries which could be not only affected by cyclical, but also brand acceptance, could be subjected to difficult recovery from distress. This has been seen in investments in consumer discretionary sectors which can take a particularly harder hit³⁷.

Ranking of Criteria

Through determining the significance of the experience of the investor in selection criteria, it is important to now determine which criteria are important. A full table of the ranking could be produced to show that there exist key criteria that influence the selection of distressed private equity investments.

Description	Rank	Mean	Median	Standard Deviation
Valuation of business	1	4.7	5	0.785
Barriers to protect market position	2	4.24	4	0.794
Legal Environment	3	4.23	4	0.859
Liquidity of Investment: Exit Opportunities	4	4.04	4	1.154
Experience of Management in the Industry	5	3.94	4	1.275
Market Growth	6	3.85	4	0.988
Coachability of CEO	7	3.81	4	1.409
Market Size	8	3.7	4	1.008
Accounting Environment	9	3.69	4	1.062
Existence of Patents	10	3.09	3	1.226
Depth of Board of Directors	11	3.07	3	1.254
Location of Investment: Proximity	12	2.81	3	1.209
Referral Source	13	2.3	2	1.113
Syndication or Co-Investment Opportunity	14	2.15	2	1.161

Fig. 26: Ranking of Criteria for all distressed investors

Source: Questionnaire data

Valuation of the business was seen as highly important and was ranked first across all investors, with a mean of 4.7, median of 5, and a relatively low standard deviation of 0.785. The data showed that a resounding 79% of investors ranking valuation as the most important criterion when it comes to investing in distressed private equity, and only 4%, or 2 cases, ranking it as not so important or not important. This shows a

³⁷ See Affinity Equity Partners investment in Colorado Group and CVC loss from Nine Entertainment. Source: <http://www.reuters.com/article/2011/05/05/us-dealtalk-affinity-idUSTRE74414C20110505> <http://uk.reuters.com/article/2012/10/17/uk-australia-nine-cvc-idUKBRE89G0CO20121017>

clear commitment to the criteria as the foremost key criterion that has to be adhered to. This leads us to reject the null hypothesis, and to accept **H9**.

Barriers to protect the market position of the company came in second with a mean of 4.024, median of 4 and a relatively low standard deviation of 0.794. Investors indicated the importance of this criterion with 85% of investors ranking it important or somewhat important. Again, only about 12% or 6 cases out of 47 ranked the criterion with a neutral or somewhat not important. The indication of this conforms to Lee and Lieberman's (2010) findings that this criterion determines entry into a market and success a company can have in a market with existing strong barriers in place. Investors hence should place a large significance on these barriers whilst deciding to invest in a distressed investment. One of the cases ranked this criterion as non-applicable was shown to have a smaller average fund size of approximately USD 50 million. An investigation into the portfolio investments of the company found smaller private portfolio companies that were into non-niche industries. This could signal that the investor is interested in mid-market revivals which could be exited through trade sales to larger competitors in the same market space. Hence, the barriers may not be as important to this investor as compared to the rest surveyed. This leads us to reject the null hypothesis, and to accept **H5**.

The legal environment of the investment showed to be a significant important criterion as well, coming in third with a mean of 4.23, median of 4 and a relatively low standard deviation of 0.859. The large majority, 81%, of the investors ranked the legal environment important or very important, with 12%, or 6 cases, which ranked the criterion somewhat not important, or neutral. What was interesting is that no investors ranked the legal environment as not important at all. This supports various views expressed on the importance of legal environments that affect fund raising and contracting in different jurisdictions³⁸ (La Porta et al., 1997; Bottazzi, Da Rin, and Hellmann, 2009; Kaplan, Martel, and Strömberg, 2007). As private equity companies attempt to invest across borders, it is clear to see why distressed investors would like to protect themselves as well from write-offs through well establish bankruptcy laws (Altman and Hotchkiss, 2006; Ravi Kumar and Ravi, 2007). However, there were 3 investors that rated the criterion as non-applicable. An in-depth review of their

³⁸ This importance is highlighted by the EVCA who has published a list benchmarking investments the tax and legal environments that are favourable to private equity investing. For examples, please see: http://www.evca.eu/uploadedFiles/a2_exec_summ_benchmark06.pdf

answers found that all 3 of the investors had been through 1 the year cycle or more of private equity investments, and that 2 of the investors were control investors while the last one was a non-control investor. As the average size of investments were relatively smaller as compared to some of the other funds, USD 10 million and smaller, a closer examination of their investment activities was conducted. The non-control investor was found to only invest in their home country, thus negating the need to have legal councils that focus on investments outside of the country. One of the control investors had primary investments in 2 countries where they had base operations in. This could signal that in in-country capabilities of the company were sufficient to analyse the environmental risk, hence not requiring it to be an important criteria. The other control investor again did not invest past its base operation country, and hence did not require a legal environment criterion to be essential to their investment strategy. However, it can be postulated that when these private equity companies would like to expand their investments past their base operation companies, the legal environment would then become an essential criterion. This leads us to reject the null hypothesis, and to accept **H13**.

The fourth ranked criterion would not be of any surprise as it determines the profits to be made by the private equity company. The liquidity of the investments had a mean of 4.04 with a median of 4 and a standard deviation of 1.154. A total of 76% investors ranked the criterion very important to somewhat important, with half as many ranking it very important in this statistic. This confirms Calandro's (2011) assertion that liquidity should be an important criterion when making investment decisions, and should be done in the beginning of the investment cycle. Surprisingly, 4 cases, viewed liquidity as not as important and, 2 cases viewed liquidity as not important. A review of their cases found that they had answered the criteria question in a legitimate and clear manner, hence ruling out that there was haphazard filling in of the survey. Of those that ranked that liquidity was not as important, 3 were control investors and 1 was a non-control investor. A closer investigation was made to uncover the investment profiles of 2 of the investors that had exit timings of 6 months each. Both investors aimed to exit investments within 4 years of investments, but did not state how the exit was to be done. Through database investigation of the portfolio holdings, it was determined that the exits were done through trade sales and secondary sales. It was stated for one of the companies that strong relationships with banks, hedge funds and other private equity houses facilitated exits of portfolio companies. Through this

network of investment houses, it can be postulated that the liquidity of investments are assisted through the use of intermediaries who help find buyers for the investment. This can facilitate and explain the quicker exit, and why the criterion of liquidity is not as important to those investors. This leads us to reject the null hypothesis, and to accept **H10**.

For the investor with a longer lead time to exit the investment, mentioned on their website that a clear exit strategy should be present at the start of the investment. This shows a clear commitment to the liquidity of the investment which is required as one of the investment criteria. A manual change to the rating by the investor did not incur a significantly larger mean or change in ranking of importance. The non-control investor had focus in non-controlling investments with liquidity a clear portion of their strategy. However, this conflict in answering could arise because they also have longer holding periods for the investment with fundamentals of the company being more important than liquidity that their investment. Lastly, the 1 case that stated that it was non-applicable was due to holding debt investments to term as the core strategy of the investor, while accruing interest payments. This would explain why the investor found liquidity not important for their investment criteria.

Experience of the management team was ranked fifth with a mean of 3.94, median of 4 and standard deviation of 1.275. From the statistics, it was clear that this was as well an important criterion, with 70% of investors ranking it somewhat important or important, and 17% of investors ranking it not as important or not important. This is in line with well-known academic studies like Jensen (1989b) which found that management played a critical role in firm performance. None of the respondents signalled that this criterion was not applicable to their selection strategy. However, investors who ranked the criterion not as important or not important were control investors. It can be postulated that control investors seek to replace management with personnel known to them, or are from the private equity team itself to lead the turnaround process (Baker and Montgomery, 1994; Kester and Luehrman, 1995). This finding is also in line with Hilb (2005) in keeping the portfolio company under control, and integrating personnel. This is also in line with the thoughts of interviewees that mentioned management as a key area of change brings about a “fresh start” for the portfolio company to start anew, and to renew personnel vigour. This leads us to reject the null hypothesis, and to accept **H2**.

Market growth of the product as well was ranked significantly and came in sixth on the ranking, with a mean of 3.85, a median of 4, as well as a standard deviation of 0.988. Majority of investors, 70%, ranked the criterion either somewhat important or very important, with 10%, or 5 cases, stating that the criterion was not as important, or not important. This is in line with Calandro (2009) who indicated that market growth comes as an important factor in distressed investments from his case study. The investors that ranked the market growth below neutral were all control investors. It was found as well that they were of varying experiences that ranged from 1 to 3 cycles of investment. However, a common factor was found between the private equity companies through their investment sizes. They were all of companies of relatively smaller average fund sizes, USD 20 million and below. An in-depth analysis of the company websites, as well as database research into the companies found investments largely in home base countries, as well as smaller investments into private mid-market companies. Exit methodology was mostly through trade sales, though a few were management buy backs. As these private equity companies have a niche focus on smaller portfolio companies, it can be postulated that their goal is not to grow, but rather to fund fundamentally sound portfolio companies. Market growth in this case would not be as important a criterion as valuation and liquidity of investment, which were rated much higher by these respondents. This leads us to reject the null hypothesis, and to accept **H7**.

Coachability of the CEO was ranked seventh with a mean of 3.81, median of 4, and standard deviation of 1.409. As the standard deviation was highest for this criterion, a deeper analysis was done on the respondent answers. It was found that 47%, or 22 cases responded that the criterion was very important, and 20%, or 9 cases, responded that the criterion was of some importance. All respondents ranked this criterion without a single non-applicable answer. The findings fall in line with the viewpoints of the interviewees that CEO change is not always necessary and having a good one in place can make investment selection and easier and smoother process. All of the respondents that ranked the criterion lowly were control investors with most of the respondent in the second cycle of investment. Deeper analysis into the websites and portfolio company holdings did not find management criteria listed on the investment strategy page, less one of the respondents' website. It could be postulated that these private equity companies go into distressed investments with the view of an overhaul

of investment. Through this process, they could, like the findings in management experience, be looking for turnaround through “fresh start” opportunities (Baker and Montgomery, 1994; Kester and Luehrman, 1995; Hilb, 2005). This leads us to reject the null hypothesis, and to accept **H3**.

Ranked eighth was market size, with a mean 3.7, median of 4 and standard deviation of 1.008. The 62% of respondents ranked the criterion somewhat important or important, with 12%, or 6 cases, ranking it below neutral. There was a high concentration of neutral responses for this criterion, which was investigated more thoroughly through the characteristics of the private equity firms. The firms were mostly smaller in size with only two funds that had average investment size of above USD 50 million. Each company checked in the databases and also on their individual investment websites, revealing that almost all of the companies were invested in smaller to mid-sized mid-market portfolio companies. This statistic is similar to those found in respondents that rated market growth lowly. This raises an interesting perspective that conditions of a market for portfolio company products may not be as important for smaller private equity firms, as compared to larger private equity firms. A check back on the respondents with fund sizes larger than USD 50 million showed a resounding 9 of ranking the criterion above neutral. This statistic was mirrored by their ranking of market growth as well, statistically confirming the postulation made. Overall, the criterion was still highly rated across most investors as an important criterion in investment selection of distressed private equity. This leads us to reject the null hypothesis, and to accept **H8**.

The accounting environment ranked a close ninth with a mean of 3.69, median of 4, and standard deviation of 1.062. Of the 70% that ranked the criteria above neutral, 38% were skewed towards somewhat important. In addition, 15%, or 7 cases, rated the criterion below neutral. Two respondents rated the criterion as non-applicable, and was found that both private equity companies were the same that rated legal environment non-applicable, due to their investment in home base country only. A comparison with the legal environment showed that it was more important than the accounting environment. These findings reinforce the study of Ljungqvist and Richardson (2003b) that private equity valuations are not always subject to standard accounting practices, hence signalling that the accounting environment does not affect a portion of distressed investors. However, a clear signal remains that the

accounting environment is still important for the large majority of investors that were surveyed, especially the more experience and larger investors. This leads us to reject the null hypothesis, and to accept **H14**.

The following criteria from this point onwards were all rated with a mean of neutral and below, with 3 criteria with a median of 3, and 2 criteria with a median of 2. These criteria can be seen as less crucial in the investment selection phase, but may still hold some weight with certain niche investors that will be explored in the ensuing paragraphs.

The existence of patents for products was ranked tenth with a mean of 3.09, median of 3, and standard deviation of 1.226. Most respondents, 65%, or 30 cases, rated the criteria neutral and below with only 33% of cases rating the criterion in equal amounts, somewhat important or important. One case rated it non-applicable, which was found to be a sector unbiased investor in their relatively small home market. Four of the 16 cases that rated the criterion above neutral were non-control investors. As non-control investors should not be concerned about product turnaround with a larger focus on non-debt default, patents for products should not be as important for them. As is evidenced from the exit timing, non-control investors had an exit timing of approximately 6 months, much lower than the average 11 months for control investor respondents. The other 12 cases were from control investors of varying years of experience. A check into the respondents that rated the criterion above neutral found a higher concentration of healthcare, biotechnology, and technology holdings, which explains why patents would be more important for those companies (Hussinger and Grimper, 2007). Further probing into the private equity companies that rated neutral and below, showed that most were sector un-biased and were invested into various portfolio companies with sometimes overlapping products, or services. Many of the portfolio companies were non-technology based, which could explain the non-necessity of patents as an investment criterion for these companies. We fail to reject the null hypothesis, and are unable to accept **H6**.

The depth of the board of directors was not viewed to be as important as well, ranked eleventh, with a mean of 3.07, median of 3, and a standard deviation of 1.254. However, a good 43%, or 20 cases, rated the criterion above neutral, with the largest frequency rating at somewhat important. A total of 55% rated at neutral and below,

with one case that rated the criterion as non-applicable. It did not come as surprise that those that rated above neutral were all control investors. This shows the importance placed by control investors on the criterion as compared to non-control investors. For the private equity investors that rated the criterion neutral and below, it was found that there were a mix of control and non-control investors alike. In addition, the experience and average sizes of investments were varied across the board as well. Further analysis into the control cases could not find distinguishing features for individual firms. It is proposed that the reason for the lower rating is due to the similar reasons behind the management experience and CEO coachability reasoning. Further checks into the responses of these investors into the two aforementioned criteria found that there were discrepancies in their rating. The ratings were much significantly higher for management and CEO coachability as compared to board members depth. This could be due to the replacement of board of directors by in order to direct through employees of the private equity firm (Jensen, 1989a; Jensen, 1989b; Bantel and Jackson, 1989). We fail to reject the null hypothesis, and are unable to accept **H4**.

The location, or proximity, of the investment was lowly ranked at twelfth, with a mean of 2.81, a median of 3, and a standard deviation of 1.209. Of the total respondents, 66%, or 31 cases, rated the location neutral or below, with 34% rating the criterion above neutral. None rated the location investment as non-applicable, which can show that location of investment is still of interest to the investment professionals. Respondents that had rated above neutral were largely non-location specific investors with mostly larger average investment sizes. All of these respondents rated legal and accounting environment somewhat important or important, less 2 cases who rated them neutral. This could suggest the importance of location, legal and accounting environment for larger investors who have the capacity to make multiple transactions across different jurisdictions. Importantly, a combination of those 3 factors could potentially be a crux factor for investment selection. For respondents that ranked investments neutral and below, what was interesting was that although these respondents did not find location an issue affecting selection, 87% of those respondents rated legal environment as an important or somewhat important criteria. It could be suggested that while proximity to the base offices are not important criteria to these companies, the legal environment of the country they are investing into is of importance. Most importantly, these respondents

had a smaller average investment size of less than USD 40 million. This confirms the proximity biasness described by Bruton et al. (2004), which could explain that smaller firms would tend to be more biased to markets which they have operations in already, rather than risk venturing into newer markets. We fail to reject the null hypothesis, and are unable to accept **H12**.

Referral source came in second to last with a ranking of thirteenth, a mean of 2.3, a median of 2, and a standard deviation of 1.113. One of the respondents rated the criterion non-applicable, and only one of the respondents rated the criterion very important. This respondent was an obscure large investor that was difficult to find definite concrete data about. It could well be that due to the obscure nature of the investors; they depend largely on referrals from reputable sources, hence leading to the importance of the criteria. Of the 6 respondents that rated the criterion somewhat important, only one of them had an average investment size of USD 50 million. All of the 6 respondents were control investors, suggesting that due to the smaller investment size, it was imperative that there would be reputable referrers if investors were to take on a control stake, partially confirming the findings that Fried and Hisrich (1994) had found. However, with such a large proportion that found referral source not important at all, 14 cases or 30.4%, this could suggest that Kraft (2001) and Teten and Farmer's (2010) research may hold much more significance that sourcing capabilities usually start in-house already. We fail to reject the null hypothesis, and are unable to accept **H11**.

Lastly, syndication, or the opportunity to co-invest came win last, with a mean of 2.15, median of 2, and a standard deviation of 1.161. It was clear with 83% of the respondents replying with neutral or below that this was not an important criterion for investment selection for distressed private equity investors. Only 1 respondent rated this criterion important, and was the same obscure investor which had chosen referral source as an important criterion. It could be postulated that due to the obscurity of this investor, it frequently took on investment partners who were more reputable in the market. Besides this one investor, the 7 respondents, or 15% of cases, who had rated co-investment opportunities as somewhat important, were all smaller investors, with average investment sizes of less than USD 50 million. This could signal that smaller investors are more comfortable with co-investment or syndication opportunities less they spread their professionals too thinly across investments. This

could also be explained that these investors as well had not passed more than 10 years of investment experience and do latch on investments with more experienced investors to gain experience (Lerner, 2004; Kaplan and Schoar, 2005; and Gompers et al., 2006, 2008, 2009). We fail to reject the null hypothesis, and are unable to accept **H15**.

4.5.3 Additional Criteria from Questionnaire

The questionnaire left room for the private equity professionals to comment on whether any criteria had been left out. This gave an opportunity for them to voice out additional criteria that could not be gleaned from the interview stage, or from the company websites, adding further value to this study. A total of 19 questionnaire respondents added comments on criteria that they felt could be explored. Although there were a few criteria that could potentially be missing from this study, most of the comments left by the respondents signalled that the main criteria were covered, except more in-depth studies are due to drill down into the sub-criteria to further understand the motivation behind the importance of certain criteria.

One of the professionals mentioned that his company was interested in the ability of the distressed portfolio company to generate cash. This is an important finding that refers to the company's ability to bear credit repayment. This feature is potentially linked to the value creation attributor Operating Liquidity, which measures the value creation from available excess working capital. While this is not further examined in the questionnaire, the value attributors will be analysed in the ensuing case study analysis to follow. Furthermore, the professional went on to elaborate that capital expenditure needs to be maintained and/or grow, and that free cash flow had to be measured. One other respondent mentioned that the deal terms that could be obtained by the private equity company would also be essential. These measures mentioned could potentially be covered by 2 different criteria that were already evaluated among the 14, technically the Valuation of the business, and the market growth for the products of the portfolio company. As mentioned by Damodaran (2012), the "Discounted Cash Flow and Cost of Capital Method" of valuation measure the cash flows to the firm and can help the private equity determine if this should or can be channelled into capital expenditure or to cover existing obligations. However, it is noted that the methods of valuation of companies still differs amongst private equity

companies as determined by Danovi (2011). This covers another point made by one of the respondents on success of the portfolio company, previous to its distressed state. This adds weight to the possibility of private equity companies looking for companies that have inherently strong businesses, but are distressed due to As this study was meant to be a preliminary exploratory study into the main criteria, what the professional has pointed out is that deeper analysis into the specific criteria is necessary to nail down the specific methods, or sub-criteria used for selection.

Adding on to the previous point, another professional mentioned that the downside protection was essential, including the valuation of the hard or physical assets of the company was essential. Four other professionals mentioned that the break-up potential of the company, and the portfolio company having a healthy core business was essential. This essentially strengthens the above point raised about the depth of the main criteria that have been mentioned. Through valuing the business, the private equity company can determine essentially the physical asset prices and amortization. As well, deeper analysis into the core of the business, as well as the “Dogs” of the business can be done to determine which units can be divested, and which ones should remain with the portfolio company. The above points support the study done by Rogers, Holland and Hass (2002), confirming the importance of valuation of assets of the portfolio companies.

Not all professionals were interested in break-up potentials, with 4 professionals mentioning that value creation potential that could materialize from their involvement in the distressed portfolio company. This was an interesting point that although could be a sub-factor of the market growth criteria, is innate to the portfolio company itself. Specific product lines could be potentially analysed to measure the potential of value creation that could be done through the expertise of the private equity company. This point adds on to the research done by Kaplan and Schoar (2005), Acharya, Hahn and Kehoe (2013), and Humphery-Jenner (2011) on the value creation of private equity companies.

Three respondents described management as an important criterion, but in 2 separate ways. Two of the respondents mentioned that having good management which the private equity company can work with was important to ensure that they are able to add positive value to the portfolio company, effectively adding weight to CEO

coachability. The third respondent commented that having bad management was a good opportunity for the private equity company to enter and clean up the top levels. This shows 2 different opinions and attitudes towards the importance of management in the portfolio company. As management turnover can be expensive, it would still be prudent to work with existing management as much as possible.

The next most important trio of comments were regarding liquidity of the investment. One of the respondents was interested in potential buyers of the company once the turnaround was completed in the distressed portfolio company. Another was interested in reasonable returns without having to make extreme assumptions about the portfolio company. Again these are deeper discussions into the liquidity criterion which has been identified as one of the top most important criteria for selection. Through the responses of these respondents, it is clear that deeper analysis into liquidity is warranted in order to determine how private equity investors quantify liquidity and manage the criterion in their selection process.

One other respondent mentioned that labour laws and union related issues could come into play when making a decision for selection. This ties in deeply with the third most important criteria which is the legal environment of the country that has been identified previously. Through the respondents' response on labour laws, this reflects the importance of the criterion in selection of distressed private equity portfolio companies. The legal environment can encompass various different laws that could differ from the home base operations of the private equity company, and would call for the importance of having lawyers on the team in order to understand and to work within the boundaries of the law of which the portfolio company is located in as well. This finding ties in with Niu, Dong and Chens' (2012) findings of policy change being a deterrent to investment in a country, especially when frequent changes are made in a country that affects ownership by foreign entities.

Through respondent answers to this one question, it could be found that there are deeper sub-levels of each criterion that could be further explored and expanded upon, leaving room for future research.

4.6 *Summary*

Through the analysis conducted in the questionnaire portion, it gave us enough measure to determine the validity of the hypotheses set forth in the previous chapters. Overall, taking into account the mean scores of the criteria, it could be said that scores above 3.5 are important criteria for distressed private equity investors. This would cover 9 of the 14 identified criteria which had strong support for their overall importance in selecting a distressed investment. Taking this in mind, it helps practitioners to streamline their criteria to match the important criteria that have been identified in order to reduce evaluation costs. However, while this study has measured a breadth of criteria, a deeper analysis into the depth of individual criteria has been opened for future researchers to explore. This study will next perform a deeper dive into the financial factors that affect the selection of target firms by focusing on the new value creation factors as a sub factor of the most important criteria, valuation of the investment. This will be performed through case study analysis in the next chapter.

5. Creation of Selection tool for Selecting Target Firms

5.1 Methodology

This section will be dedicated to answering the following research question, as well as the hypotheses 16 – 20:

3. *Which value creation factors can be used to as criteria to evaluate an investment decision when selecting distressed investments?*

In order to analyse the new Value Attributors as a selection measure for distressed investments, a two phase methodology will be employed. Firstly, the veracity of the chosen variables will be tested with distressed deals with exit data. This method will allow for a comparison with the methodology and variables employed by Loos (2006), which will add to an expansion of how the new Value Attributors enhance the selection of investment. Secondly, the new Value Attributors will be used to analyse a range of distressed deals that do not necessarily have exit details. This will increase the number of deals that can be analysed and as well increase the validity of the variables in being used for selection investment.

The first section of the methodology will utilize case studies formed through utilization of various sources of data. This is to ensure construct validity through a triangulation approach to cover both qualitative and quantitative data (Yin, 2009). Cases would be selected from PREQIN, the leading research company with a database focused on private equity transactions. Financial statements were gleaned from Thomson Reuters, and Bloomberg databases. Additional information was derived from the U.S. Securities and Exchange Commission (SEC) filings for deals that were performed in the United States. These databases would allow as well for a preliminary analysis of the company and the country for which the transaction was performed.

Any additional information was derived from reputable news sources which include Business Week, the Wall Street Journal, Private Equity journals, amongst others. The large amount of data that surrounded these deals allowed for a triangulation of the data and an increased enhancement of validity of the data that was reproduced for this study. In addition, the case studies form variation in the type of industry that they

operate in, by the private equity firm that performed the buyout, and also by type of exit. These variation aspects still allow for cross case examination through their buyout industry specification as listed by the Preqin database.

The case studies are analysed using the following areas of the deal:

1. Pre-buyout analysis: The conditions of the deal and the circumstances surrounding the individual companies which qualified them as distressed/turnaround opportunities. Compounded Annual Growth (CAGR) for past 3 years will be used as a testing mechanism to analyse the possibility of using the variable attributor as a predictor for future equity growth. This will be further analysed in the later sections. In this section, suggestions will also be provided as to which areas the General Partners would have to concentrate on in order to add most value.
2. Post Buyout analysis: The success of the deal will be analysed and also how each attributor has contributed to the growth of Equity value. This analysis will help to uncover if there is a relationship between pre-buyout new value attributors with the performance of the investment. If so, this would indicate the viability of using the value attributors in the selection process.
3. Comparison with Loos (2006): A comparison with the old value attributors will also be done for each case to determine the difference between the two and also to analyse the value add of using the new value attributors.

Following the completion of the case studies, the cases will be analysed together in entirety, followed by a separation into three buyout industry classifications as indicated by the PREQIN database. To add more detail into the analysis, within each industry buyout classification where possible, industry comparables will be used to measure the success of the distressed buyout case studies that had been realised. The comparable analysis will be done for the same period of the investment, which would give a good indication of the buyout success. While industry comparables are not expected to be distressed, the companies would have been running in the same period

of the investment under similar market circumstances, leading to a good comparison of the ability of private equity professionals in reforming a distressed company, into a healthy one.

5.2 Case Studies

Due to the secrecy in the private equity industry, it was decided to concentrate on public to private transactions. This would allow for the ability to measure the financial aspects of the transaction. The PREQIN database listed 349 public to private transactions from the period of 2003 to 2013. Of these, 167 of the transactions did not have entry and exit financial information listed. This fact perpetuates the secrecy of the private equity industry when reporting figures. From that figure, recapitalizations, mergers and secondary sales were removed from the exits due to typical devoid of financial information as well. This would bring the number of transactions down to 104. Removing financial and insurance companies, due to different working models which will not be able to use the new value attributors, brought the number of cases to 91.

Details of transactions				
Total number of Public to Private transactions			349	
less: missing entry and exit information			167	
less: recap., restruc. And mergers exits			104	
less: financials and insurance companies			91	
Final number of Public to Private transactions			<u>91</u>	
Categories for Distressed Buyouts		Number	Min	Max
No. of Buyout Industry Classification		3	-	-
No. of Industries		7	-	-
Buyout firms		11	-	-
Holding period		-	4 yrs	8 yrs
Pre-Entry Equity CAGR		-	-45.7%	43.4%
Exit Multiple		-	0.00x	4.50x
Exit Equity		-	-100%	43%

Fig. 27: Breakdown to Eleven cases for Distressed Buyouts

Source: Author's own from PREQIN database

While these transactions had not been analysed for distressed buyout conformability, it was found that only 5 of the transactions were in developing countries. Large majority of the transactions, 53, were done in the United States, with the United Kingdom, the second largest majority, only having 7 transactions in the same period. This point perpetuates the findings from the empirical study that the legal and accounting environments, ranked 3rd and 9th respectively for importance, are a significant consideration for transactions. From these transactions, a further investigation to the distressed state was done. The companies were categorized as distressed through two different avenues. The first were obvious signs of financial pressure leading towards defaulting on obligations, or possibly bankruptcy. The second mechanism of distress used was operational difficulty, which was inclusive of lack of growth. This second form arguably leads to financial difficulty and hence is viewed as an indicator of distress of a company. Through this analysis, 11 transactions were identified that fit the criteria of being distressed investments that could be analysed for the purpose of this study.

Due to the existence of partial exits, assumptions were taken to analyse these transactions as full exits. Typically, private equity companies can hold on to their equity in a company if they want to wait out for larger exit potential. However, the partial exits have been found to be lucrative still for the private equity companies. The case studies could be sub-divided into three different buyout industry classifications as indicated by the PREQIN database. This would further allow for further analysis on the case studies within their classifications. Also, the variety of holding periods, exit profitability and private equity investors, allowed for a better generalization of the population of distressed buyouts. This unique combination would add to the better possibility of understanding criteria for distressed buyouts.

5.2.1 Bausch and Lomb

Bausch and Lomb was acquired by a consortium of investors led by Warburg and Pincus for a total deal of USD 4.5 billion which made one of the largest buyouts of the year in 2007. Bausch and Lomb was facing legal issues to do with their products, especially a fungal infection caused by the use of eye solution manufactured by the company. Subsequently, a fall of 22% of net sales occurred accompanied by a loss of consumer confidence.

Pre-Buyout Analysis and Suggestions

While the company made a USD 720 million payback dividend to the General Partners, it is assumed to be paid to the company at the same time as the exit transaction was made, with the full amount added to the equity value of the exit period. For the Pre-Buyout period, the portfolio company assumes the full debt load and the General Partner equity is substituted into the Equity Value of the company.

Using the newly created Value Attribution formula, analysing 3 years prior to the initial buyout, it was found that equity value growth was muted at a CAGR of -5% even though revenue was growing at a CAGR of 4%. This could be attributed to three factors:

1. EBITDA Margin was waning at a CAGR of -13% which could that expenses were mounting for the company. A check found that there was increased cost across Research and Development costs, Selling, General and Administrative expenses, and the Costs of Goods Sold. This was the largest contribution to the decline in equity value.
2. While there was increase in working capital, Revenue Efficiency was reduced, indicating management inefficiency in fully utilizing working capital to drive revenue growth.
3. In the meantime, while Total Debt had been relatively stable, the CAGR of the Leverage attributor was a negative -1%. This indicated a loss in share price of the equity and hence the debt to equity ratio was higher even though total debt had not changed significantly.

Largely, from the analysis, the issue appeared to be mounting operating costs with a lack of management expertise in working capital management. In addition, the EBITDA margin was impaired, which caused a slowdown in operational profitability. Should the private equity company want to conduct a buyout, it should analyse the depth by which cost reductions can be realised for the portfolio company. This point

appears from the initial analysis to be the clear distinctive feature by which the company is lagging. In addition, the management inefficiencies need to be reduced. This can be done through educating the management, or by replacement with personnel capable of increasing revenue efficiency.

It would be suggested that a focus on cost reduction to increase the EBITDA margin, while taking a second focus point on working capital management which would reduce in efficiencies in revenue generation.

Post Buyout Analysis

Information of the key financial was garnered through the previous SEC filings and reports from the trade sale of the company³⁹. To estimate the working capital, it was assumed the same growth rate between 2011-2012, and 2012-2013. Through this, we could complete the analysis of buyout to exit of the company.

Warburg and Pincus had increased the Total Debt with a CARG of 7.5% from pre-entry to exit. From Entry to Exit, the Equity Value CAGR is at 19% considering the conversion of equity to debt. The increase in shareholder's equity appears to be consistent with the agency cost hypothesis of cash hoarding (Dittmar and Smiths, 2007). It also suggests that cash generation was largely used for debt servicing as well. In addition, top management was replaced through an executive search who was responsible for the turnaround⁴⁰.

Impressively, the EBITDA Margin was doubled to 0.22x from 0.11x with a CAGR of 18% and 6% for EBITDA and Revenues respectively. This clearly exhibits the prowess of the private equity in reducing the expenses of the portfolio company while

³⁹ SEC Filings (2013):

<http://www.sec.gov/Archives/edgar/data/1416436/000119312513122167/d502777ds1.htm>

Valeant Investor Relations (2013): <http://ir.valeant.com/investor-relations/news-releases/news-release-details/2013/Valeant-Pharmaceuticals-International-Inc-To-Acquire-Bausch--Lomb-For-87-Billion/default.aspx>

⁴⁰Forbes (2011): <http://www.forbes.com/sites/robertreiss/2011/04/16/41-year-old-ceo-leading-turnaround-at-158-year-old-bausch-lomb/>

simultaneously increasing revenues. This also confirms that the pre-buyout suggestion of cost reduction correctly reflects the reality of how private equity companies select and turnaround a portfolio company.

Overall for the Value Attributors, the study of this buyout shows the following.

1. The most value derived was from EBITDA Margin growth. This is evident from the increased expansion and improved efficiency of revenue generation.
2. The exit value creation shows that consistent with Chatterjee (2010) and Damodaran (2012), a balance between liquidity and profitability is the optimum strategy in increasing value.
3. While leverage is still a driving force of value creation, Multiple Expansion is not as prominent a component in driving equity growth.

This can be a precarious situation where the Total Debt of the company is almost equal to the total Equity in the company. Other private equity companies may not have any room to increase leverage in the portfolio company, making it undesirable. An Initial Public Offering (IPO) may quickly unravel if credit ratings for the company falter. With a highly leveraged company in this situation, a trade sale to a company that has capability to raise excess equity, or a cash rich company may be the best solution. These steps were taken by the acquiring company when Bausch and Lomb was acquired by Valeant Pharmaceuticals in 2013.

Comparison with Loos (2006) Value Attributors

It is noted that the three of the value attributors, EBITDA Margin, Multiple and Leverage Growth are distinguished by the effort of Loos (2006) and Achleitner et. al. (2010) contributions to identify the value contribution to buyout. However, there is the missing essence of the driver of revenue growth, and the effect of operational liquidity on equity value. Through the incorporation of working capital as a variable, the new proposed effects show that the balance between liquidity and profitability contributes positively to equity value expansion. Most notable is that this balance

mechanism would not be captured in the previous model due to the concentration on revenue growth as a whole. The new model also indicates that working capital growth alone cannot contribute positively to equity growth if it is not utilized to generate revenue. As these effects may not have been captured with the previous model, it would not be able to capture the forward action points that the private equity company has to concentrate on when initiating a buyout. With the proposed model, the future steps pre-buyout can be seen as to focus on both cost and inefficiency reduction.

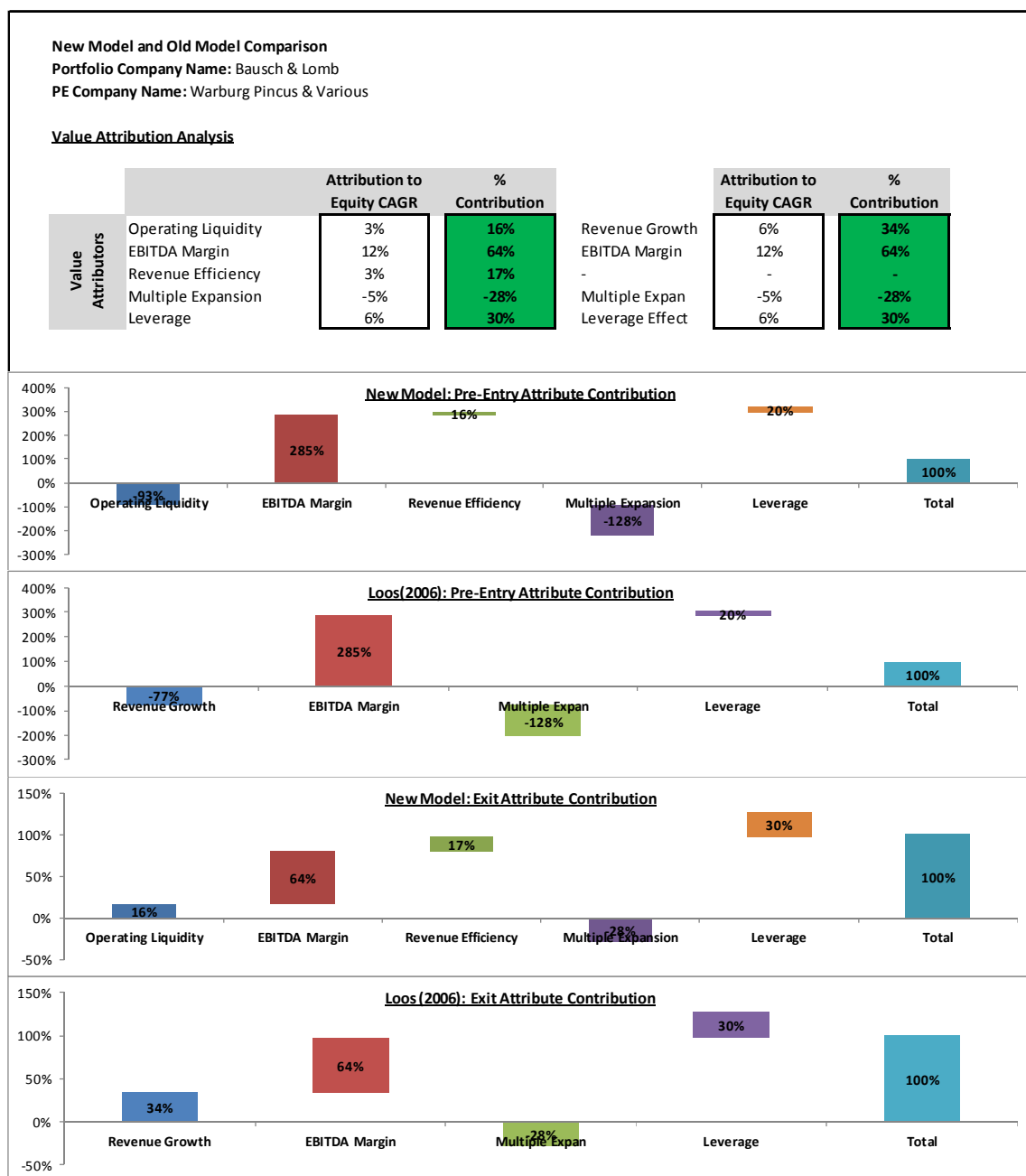


Fig. 28: Attribution and contribution analysis for Bausch and Lomb **Source:** Author's own

5.2.2 Tommy Hilfiger

Tommy Hilfiger is a premium brands label that was experiencing sales decline in their home market, with growth concentrated overseas. There was lack of organic growth in the stores, and change was needed to properly reflect the premium essence that the company was positioning the brand to be. APAX stepped in to invest in the company which sought to regain its footing in their home market in the United States.

Due to the nature of point analysis, the initial sale of parts of the company is left out, and then added in at the end of the buyout in 2010 to give a better understanding of the effects of the procedure.

Pre-Buyout Analysis and Suggestions

Using the newly created Value Attribution formula, analysing 3 years prior to the buyout, it was found that equity value growth was at muted growth at a CAGR of 3.2% with revenue growth of CAGR of -3.4%. It was clear that there was an issue of lost revenue even though there was a growth of both Leverage and Multiple Expansion effect. Through the analysis of contribution, it was found that:

1. While there was increase in working capital, there was a negative contribution of in Revenue Efficiency. This could indicate a mismanagement of short term liquidity and cash hoarding by the company, which was further confirmed by a lack of investment in existing operations. In addition, the lack of growth in stores further adds credence to the fact that operational liquidity was overloaded in the company.
2. EBITDA was highly reduced, which in turn contributed to an artificially expanded Multiple Expansion and Leverage contribution to the increase of Equity Value. This indicated that the main focus of the previous owners was in total enterprise expansion rather than holistically increased expansion through capital and inventory management.
3. Overall, with the increase in overall enterprise value, revenues appear to be driven by equity instead of debt, of which debt is a cheaper form of financing.

Largely, from the analysis, the issue appeared to be mounting operating costs with a need of proper working capital management. The clear lack of Revenue efficiency has to be analysed and clearly driven to increase revenues for the company. In addition, the debt load appears to be manageable for the company and not fully driven to further add capabilities to the company's production. However, it appears that the increased expenses of selling goods were hampering the overall profitability of the company. In addition, the lack of depth in debt usage as a financing method further hampered the profitability of the company.

It would be suggested that the clear channelling of working capital management to increase revenues, and to increase debt proportionally while reducing the costs of sales are the clear areas of success for the deal.

Post Buyout Analysis

Information of the key financials was garnered through Bloomberg which had reports from filings of the company. Estimation of the Total Debt was done through an analysis of the 2007-2008 reduction in debt reported, which was then used to compute the reduction of debt in 2010. The amount of equity that was used by APAX was not reported, hence was estimated through the exit report of 4.5x exit multiple which would then allow to cross check on the debt calculations that was previously mentioned⁴¹. EBITDA figures were not reported⁴¹ and hence were estimated through the exit multiples that were reported on Bloomberg and various sources⁴². As figures were reported in a mix of US Dollars and Euro, Bloomberg conversion to US Dollars was used in order to regularize the reporting for this analysis. Through this, we could cross check the exit figures, and complete the analysis of buyout to exit of the company.

⁴¹ EVCA. Tommy Hilfiger APAX Case Study. Retrieved from: <http://www.evca.eu/WorkArea/downloadasset.aspx?id=7404>

⁴² ICMR. Tommy Hilfiger - The Struggles of an American Fashion Icon, Retrieved from: <http://www.icmrindia.org/casestudies/catalogue/Marketing/MKTG090.htm>

APAX. Tommy Hilfiger Corporation. Retrieved from: <http://www.apax.com/our-investments/consumer/our-investments/tommy-hilfiger-corporation/>

While largely a point to point study, it has to be noted that the focus in the turnaround was through EBITDA increase, and Revenue Efficiency. A management overhaul was instituted in the company which focused the business on home market growth and technological improvement. In addition, consolidation of costs was achieved through supplier minimization and growing distribution agreements with leading departmental stores.

Based on the Value Contribution analysis, the Key drivers it is discovered that:

1. There was negligible growth in Multiple Expansion, with a CAGR at 0.2%. This shows a move away from growth in this area which may not contribute positively to Equity growth. Instead, the increase in EBITDA Margin attribution is a key focus in the increase of Equity.
2. Notable debt increase as suggested to reduce costs related to over-usage of equity as a financing method.
3. While this may seem that Leverage is a key driver, the analysis actually shows a move away from Leverage towards operational efficiency. This is reflected through the reversion of Revenue Efficiency to positive attribution, with stark reductions to Operational Liquidity to fund the excess in efficiency.

This case is a clear focus of operational turnaround with a focus on using liquidity to drive the performance and investment into the company. APAX performed a strong turnaround in a relatively short period of approximately 4 years which in turn allowed for an exit of 4.5x invested capital. In order to include the sale of parts in 2007 at USD 247.8 million, we add the value to the equity portion of the buyout. This increases the exit multiple to 4.96x but changes the attribution model only slightly. As this does not strongly affect the analysis, we leave this portion out and assume that the buyout completion was at the end. While not ideal, this case still reflects distinction of the focus of private equity professionals in turnarounds, depending on the type of distress in the portfolio company.

Comparison with Loos (2006) Value Attributors

According to the Value Attributors of Loos (2006), the exit and entry is still a success, but with clear focus of Revenue Growth contributing 21% to the increase in Equity value. However, what is neglected is how this Revenue Growth is achieved. Through the new analysis, the mismanagement of the company is highlighted through cash hoarding of the company, and lack of efficiency in working capital management. This distinction emphasizes how Operational Efficiency has contributed, and was the focus of the turnaround. Through this, it is also understandably easier to determine the turnaround strategy which could potentially be overlooked.

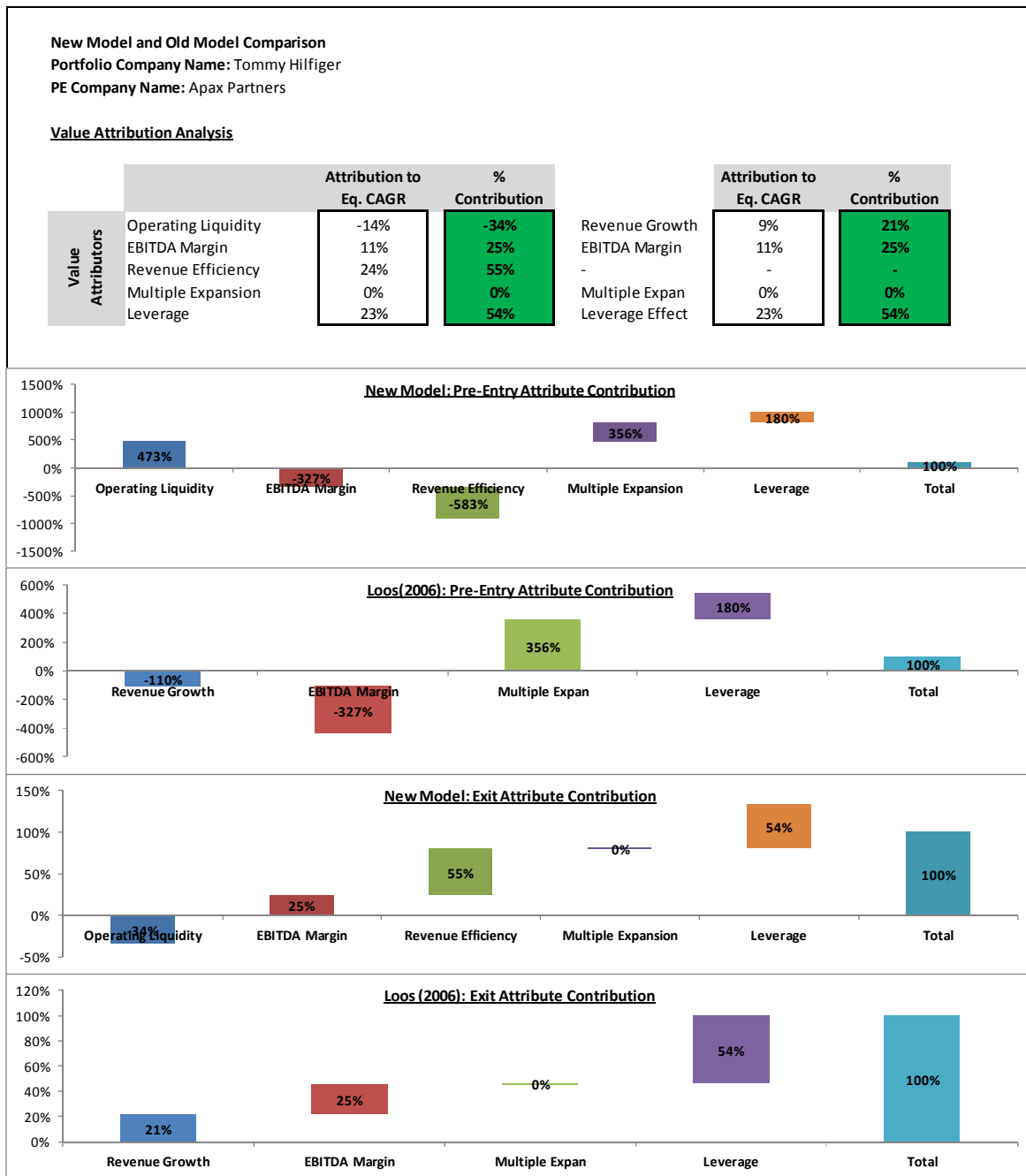


Fig. 29: Attribution and contribution analysis for Tommy Hilfiger

Source: Author's own

5.2.3 Duane Reade

Duane Reade had a long history of Private Equity investment and had hardly ever been non-private equity owned since 1992. The company was acquired for a total deal of USD 700 million. Management of the company could not instil customer service culture into the staff, causing displeasure amongst customer base. Pricing of products was considered uncompetitive and impaired the shopping experience at the

store, allowing competitors to steal market share from the company. In addition, the company was under a high debt load with bond prices dropping to impaired levels.

Due to the nature of point analysis, the recapitalization of the company is left out initially, and then added in at the start of the buyout in 2003 to give a better understanding of the effects of the procedure.

Pre-Buyout Analysis and Suggestions

Using the newly created Value Attribution formula, analysing 3 years prior to the buyout, it was found that equity value growth was increasing at a CAGR of 43% with revenue growth of CAGR of 11%. On the surface, it could be assumed that there was no clear area of distress. However, through the analysis of contribution, it was found that:

1. While there was increase in working capital, contributing 36% to equity value growth, there was a negative contribution of 6% in Revenue Efficiency. This could indicate a mismanagement of short term liquidity and cash hoarding by the company, which was further confirmed by a lack of investment in existing operations.
2. EBITDA was reduced at a CAGR of -11%. This artificially expanded the Multiple Expansion and Leverage contribution to the increase of Equity Value. This indicated that the main focus of the previous owners was in total enterprise expansion rather than holistically increased expansion through capital and inventory management.
3. Overall, even with the increase in overall enterprise value, there appeared to be a lack of revenue and working capital management.

Largely, from the analysis, the issue appeared to be mounting operating costs with a lack of management expertise in working capital management. The clear lack of Revenue efficiency has to be analysed and clearly driven to increase revenues for the company. In addition, the debt load appears to be manageable for the company and

not fully driven to further add capabilities to the company's production. However, it appears that the increased expenses of selling goods were hampering the overall profitability of the company.

It would be suggested that the clear channelling of working capital management to increase revenues and to reduce the costs of sales are the clear areas of success for the deal.

Post Buyout Analysis

Information of the key financial was garnered through the reports from the SEC filings of the company⁴³. Through this, we could complete the analysis of buyout to exit of the company.

While largely a point to point study, it has to be noted that the EBITDA was increased back to Historical values through a CAGR of 6%. While the company had a turnover of three CEOs during this period, it is evident that this was an issue through the Working Capital deficit suffered by the company one year pre-exit, as indicated on the SEC filings. The company as well to have an injection of USD 125 million in 2009 to prevent a debt default from occurring. This is reflected in the large reduction in Working Capital which shows the reduced capability of the company to stay afloat.

Based on the Value Contribution analysis, the Key drivers it is discovered that:

1. There was a consistent contribution of approximately 15% across the EBITDA Margin, Multiple Expansion, and Leverage components each to Equity value growth.
2. The exit value creation shows while there is growth in revenue, which contributed 57%, to Equity value growth, this came at the expense of Working Capital management.

⁴³ SEC Form 10-K:

http://www.sec.gov/Archives/edgar/data/1279172/000119312510067608/d10k.htm#tx58004_26

3. While there was an increase in Revenue Efficiency, Operational Liquidity was impaired, showing that the company was lacking working capital to support their increasing revenues.

This could explain the difficulty that the General Partners had in divesting the company, which had been put up for sale multiple times⁴⁴. However, the case of this company highlights the importance of management to the turnaround process of the company. The SEC filings indicate that the company required significant cash flows to fund their inventory⁴⁵. This point is strongly supported by the value attributor analysis which clearly shows Operational Liquidity impairment. Mismanagement can cause a delay, if not a collapse of a turnaround, especially in the midst of a financial crisis. The company was sold to Walgreens in 2010 which managed to show that the perseverance of the General Partners paid off.

With the inclusion of the recapitalization of USD 125 million, it is clear that the debt load and previous lack of proper capital management were driving the company into further distress. While the inclusion of the recapitalization at the entry period skews the performance of the investment, it does reflect that the extra capital injection was floating mechanism for the company to continue operations. The equity value creation would be highly reflected in the Revenue Efficiency attributor which would highlight management attempts to increase revenue through operational investments and opening new lines of revenue⁴⁶. While this would be at the expense of liquidity, this method paid off for the company which was shown to exit a Working capital deficit, and to maintain the viability of the company before the exit.

⁴⁴ Mergers and Acquisitions, (2001) 'Deal of the Year':
http://www.acg.org/userfiles/file/global/maj/maj_march2011.pdf

⁴⁵ SEC Form 10-K(ITEM 1A. Risk Factors):
http://www.sec.gov/Archives/edgar/data/1279172/000119312510067608/d10k.htm#tx58004_26

⁴⁶ This is reflected in the increase of product lines as services of the company towards the end of the investment.
Source: <http://www.businessweek.com/magazine/duane-reades-miracle-makeover-09292011.html>

Comparison with Loos (2006) Value Attributors

According to the Value Attributors of Loos (2006), the exit and entry would be viewed as a success, with Revenue Growth contributing 57% to the increase in Equity value. Through the new analysis, the mismanagement of the company is highlighted through the extreme loss in Operating Liquidity which would not have been captured by the previous method of analysis. As well, the key area of improvement would be highlighted as cost reduction to boost EBITDA margins. This would miss the essence of revenue generation through proper Working Capital management which could potentially be overlooked as a factor in value creation. This case study highlights the importance of operating liquidity for capital intensive companies. Without the injection of USD 125 million by the General Partners to recapitalize, the company could have been in dire straits with a debt default, and possible write-off, if not write-down of the company by the General Partners. Increasingly, it is important to note that it is not only the revenue growth that is important, but how it is driven that adds value to the company.

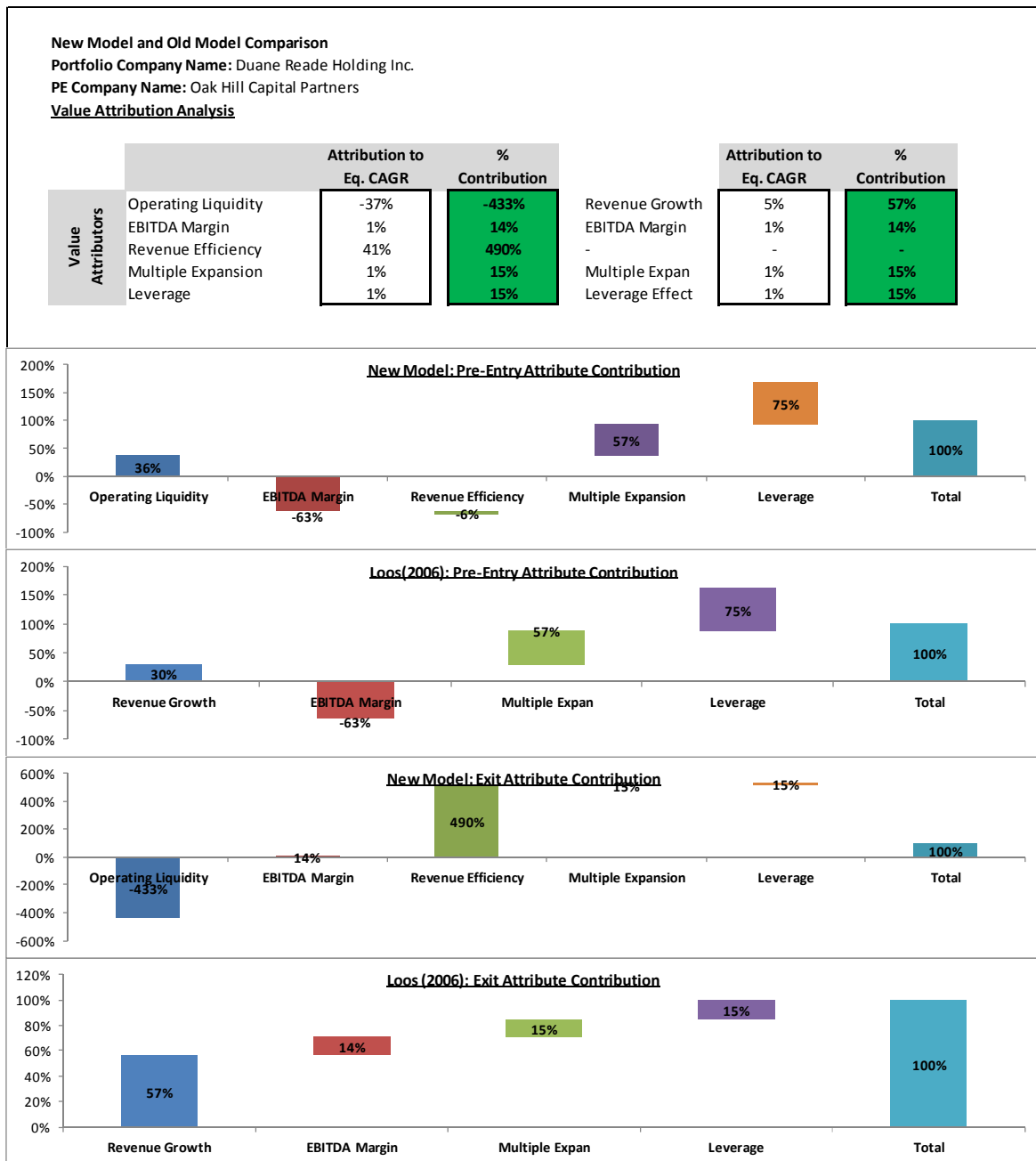


Fig. 30: Attribution and contribution analysis for Duane Reade

Source: Author's own

5.2.4 Ducati

Ducati was acquired by a consortium of investors led by Investindustrial for a total deal of EUR 560 million. Previously, Investindustrial had purchased 30% of Ducati in 2003, and led the consortium to purchase the remaining portion of the company in 2007. Due to management issues, an 18 month wait in order to receive delivery of the

motorcycles caused customer dissatisfaction. The company was going to breach its loan covenants and would cause the company to go into bankruptcy. The company was relying on older models to drive the sales, causing a slowdown of newer and better models from Ducati to enter the market. Ducati was still run like a family company and was not expanding overseas at the same rate as Japanese rivals which were encroaching market share.

Due to the nature of point analysis, this study will assume that the full buyout occurred in 2007. As there was no data on the amount of debt used, a work back to the debt as per end 2011 and at the point of purchase was used to determine the equity and debt levels utilized in the deal. In addition, further data from the exit was incorporated to determine the value creation at post-buyout to analyse the accuracy of the pre- buyout analysis⁴⁷.

Pre-Buyout Analysis and Suggestions

Using the newly created Value Attribution formula, analysing 3 years prior to the buyout, it was found that equity value growth was increasing at a CAGR of 10% with revenue growth of CAGR of 3%. On the surface, it could be assumed that there was no clear area of distress. However, through the analysis of contribution, it was found that:

1. Operating Liquidity was the largest contribution to equity value. This could indicate a mismanagement of short term liquidity and cash hoarding by the company.
2. While there was increase in working capital, Revenue Efficiency was deeply reduced, indicating management inefficiency in fully utilizing working capital to drive revenue growth. This observation aligns the understanding that the management was not fully apt at working capital management.

⁴⁷ Data on exit was publically shared with various sources reporting:
<http://www.efinancialnews.com/story/2012-04-19/investindustrial-ducati-return?ea9c8a2de0ee111045601ab04d673622>
<http://www.unquote.com/southern-europe/official-record/2168925/investindustrial-reaps-3x-ducati-exit>

3. Even with a halved Total Debt, Multiple Expansion and Leverage almost completely cancelled each other out in terms of contribution, signalling a lack of overall enterprise growth.

Largely, from the analysis, the issue appeared to be mounting operating costs with a lack of management expertise in working capital management. The clear lack of Revenue efficiency has to be analysed and clearly driven to increase revenues for the company. In addition, the debt load appears to be manageable for the company and not fully driven to further add capabilities to the company's production.

It would be suggested that the clear channelling of working capital management to increase revenues and to increase debt are the clear areas of success for the deal.

Post Buyout Analysis

Information of the key financial was garnered through the reports from the trade sale of the company⁴⁸. As well, since the company was private at that point of time, the financial statements were gleaned from the PRIVCO database with partial reporting on Bloomberg which was used to triangulate the data. Through this, we could complete the analysis of buyout to exit of the company.

Through growing the company with targeted effort on increasing revenue efficiency, it could be found that the management had taken a very efficient approach to cost cut and improve organizational efficiency. Overall deleveraging was done in order to reduce the debt load of the company with an almost double amount of EBITDA from the period of 2007 to 2012. From buyout to exit, it was evidenced that the company grew its equity value by 29% which resulted in a positive 3x exit for the private equity investor.

⁴⁸ Refer to previous footnote.

Overall for the Value Attributors, the study of this buyout shows the following.

1. The most value derived was from the deleveraging efforts by the management which had an attribution of 17.4% to overall equity value growth.
2. Clear efforts were placed into driving revenue efficiency which had an attribution of 11.8% as compared to the previous negative attribution. Clearly working capital management was an important feature for the management and worked on reducing working capital to maintain revenue generating assets.
3. Lastly, the EBITDA Margin had increased attribution to 12.1%. This shows a clear effort in cost reduction to retain larger amounts of income for the company.

Through this buyout, it can be seen that while balancing risk and profitability can be beneficial to the company, it is also important to analyse the usage of liquidity and to activate the liquidity to drive revenues. As seen in the previous case studies, typical buyout exits are driven by operational value creation which leaves lasting value to the company. In this case, the work done by the private equity company was noticed by Audi, who subsequently purchased Ducati in 2012.

Comparison with Loos (2006) Value Attributors

With the old value attributors, it can be seen that there was a positive attribution from revenues, while only the Multiple Expansion attributor showed a negative attribution. This leaves little explanation as to why the company has reduced in size without doing an analysis on the other factors affecting the company. With the new value attributors, it can be seen that the decrease in revenue efficiency is the clear issue with the company. Possible explanations could be due to cash hoarding, the company has not activated the liquidity to balance out their revenue generating inventory. These points could be missed if relying on the old value attributors, hence adding significance to utilizing the new value attributors.

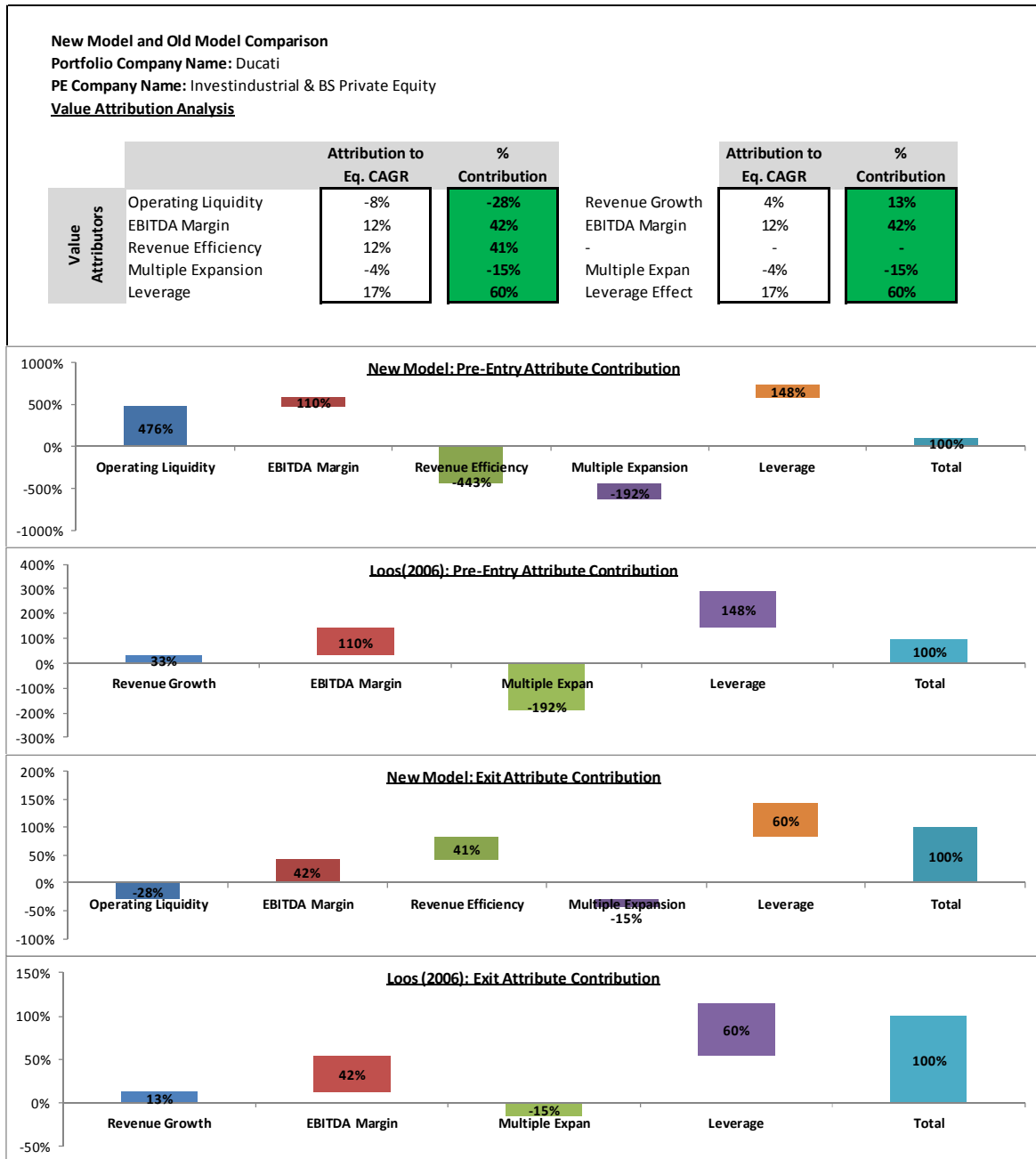


Fig. 31: Attribution and contribution analysis for Ducati

Source: Author's own

5.2.5 Guilford Mills

Guilford Mills is a company that is involved in technical design and manufacturing of fabrics and products for the automobile industry in North America and Europe. In 2002, the company had just come out of bankruptcy and was facing operation and

financial turmoil still. In 2004, Cerberus Capital Management took the company over and enacted a turnaround of the business.

Information about the buyout and financials were gleaned from Preqin, PRIVCO, Bloomberg and Thomson Reuters databases respectively. Details on the trade sale were not made public and were as well gleaned from the previously mentioned databases with appropriate assumptions about leverage used in the deal.

Pre-Buyout Analysis and Suggestions

Using the newly created Value Attribution formula, analysing 3 years prior to the buyout, it was found that equity value growth was impaired at a CAGR of -46% with revenue growth of CAGR of -18%. This case is unique in the sense that the company was bankrupt and had to undergo major upheaval. A deeper analysis of contribution was done and it was found that:

1. The company had strong revenue efficiency, which was the main contribution to equity growth. This indicated that there was strong organization efficiency in utilizing working capital to drive revenues growth. However, the EBITDA Margin was flat over the period, indicating that costs of sales were too high to maintain.
2. The deep decrease in working capital could not be written off by the contribution of increased Revenue Efficiency. The company was too high in debt and could not maintain the levels of debt that were 3 times the equity amount of the company.
3. Naturally, due to the capital structure impairment, both the Multiple and Leverage components of the company were highly eroding the equity value growth.

Largely, from the analysis, the issue appeared to be a financial structure issue and of the company with increasing costs affecting evolvment of revenues. It would be suggested that the reduction in leverage, combined with operational re-hauling would benefit the company the most. This would include a regime of cost reduction in goods sold while maintaining investments from working capital.

Post Buyout Analysis

Information of the key financial was garnered through the various databases which have reports about the company financials. Using the details inclusive of the trade sale amounts listed, the analysis of buyout to exit of the company could be analysed.

Based on the financial details of the company, there was an 14% equity growth during the period of holding with an exit multiple of 2.83x. This was a remarkable improvement from the pre-buyout period. Even though there was a reduction of -1.4% in revenues, the increase in EBITDA by 2% shows a stark improvement in cost management within the company, indicating that Cerberus enacted the operational value creation which was much needed by the company. There was a positive increase in the Multiple, back to pre-buyout levels which showed a depth of positive management by Cerberus to grow the overall company back from distressed levels. As there was stark reduction of leverage in the structure, the value attributor shows that there was a better utilization of debt in the capital structure which positively added value to equity growth.

While this exit was overall a good investment for Cerberus, there was still impairment in overall liquidity. This point is easily mitigated by the buyer which should have sufficient capital to shore up the liquidity of the unit.

Comparison with Loos (2006) Value Attributors

Overall measures of the old attributor model would show that the impairment on equity value growth is from all of the value attributors. Through adding working capital as a variable, we find that there is a saving grace in Revenue Efficiency which shows that the company has assets in place and investments in place to continue growing revenues. This point could have been overlooked using the old model, which could be a highlight to invest in this particular company.

While there is still overall reduction in revenues over the holding period, the company is shown to have starkly improved on the efficiency of channelling working capital to invest into revenue growth. As well, although there is impairment on the Operational Liquidity front, there would still be enough working capital to cover the overall debt of the company.



Fig. 32: Attribution and contribution analysis for Guilford Mills

Source: Author's own

6.2.6 Allion Healthcare

Allion Healthcare is a provider of specialty pharmaceutical and disease management services with a focus on speciality medications for the chronically ill. After taking a big plunge in stock price during the credit crisis, the stock had not been able to recover and was facing deeper issues that would prove difficult to emerge from. In

2009, it would be announced that HIG capital would acquire the company and take it private.

Information about the buyout and financials were gleaned from Preqin, PRIVCO, Bloomberg and Thomson Reuters databases respectively. As the exit will only be partially realised, assumption of full realization was made in order to complete the analysis on this case.

Pre-Buyout Analysis and Suggestions

Using the newly created Value Attribution formula, analysing 3 years prior to the buyout, it was found that equity value growth was growing at a CAGR of 14% with revenue growth of CAGR of 26%. As with other cases, the initial analysis of company shows no clear issues. With this anomaly, a deeper analysis of contribution was done and it was found that:

1. The company had weak revenue efficiency, indicating that there was poor channelling of working capital to boost revenues. This point was further enhanced by the large working capital attribution to the equity growth. This indicated a higher cash hoarding and lack of working capital management in the company.
2. With the strong increase in revenues, the EBITDA Margin was also a strong contributor to equity growth. While this indicated a better ability in cost management, the wide spread between revenues and EBITDA hinted that there was more avenue to continue cost cutting efforts.
3. The reduced Multiple could indicate that the company was in a good position to be bought out as it may be undervalued. The decreasing Multiple shows a much faster expanding EBITDA as compared to Enterprise Value, which is favourable for restructuring the company's capital structure. Moreover, the company had increased debt tremendously, but leaving room for more leverage expansion.

Largely, from the analysis, the issue appeared to be a working capital management deficit within the company with room to continue cost cutting. It would be suggested that the balancing of working capital and its employment to increase revenues should

be done, hence increasing revenue efficiency, and to increase debt to balance out the capital structure are the clear areas of success for the deal.

Post Buyout Analysis

Information of the key financial was garnered through the various databases which have reports about the company financials. Assumptions on the exit are based on the partial trade sale that was enacted and from a future projection, the analysis of buyout to exit of the company could be analysed.

Based on the projection, an exit for the company that would be approximately a 2.00x exit multiple for the buyers in the case of a full exit. With the assumptions in place, the working capital would be increased by 2%, total debt by 5%, revenues at 4% and EBITDA by 8%. These values would be more conservative than the pre-buyout period, and would contribute still to a 15% equity value growth. Through these calculations, there is a balancing out of the Operating Liquidity and Revenue Efficiency components, leading to a 14% contribution from each of the attributors. Deleveraging within the capital structure also contributed 33% to equity value growth and hence is still seen as an important attributor. Overall, Multiple expansion would contribute 11% which is a marginal improvement from the pre-buyout period.

In this case study, clear cost management will be able to produce a strong return for HIG Capital in the exit. Even with conservative numbers, the company can expect to fulfil its covenants, and be able to maintain a strong margin that contributes positively to equity growth.

Comparison with Loos (2006) Value Attributors

As with other cases analysed, it is noticed that the addition of working capital as a variable allows for a better understanding as to how revenues can be enhanced and the depth of Operational Liquidity required to maintain the attractiveness of the company to potential buyers. In addition, this allows for the company to maintain a healthy balance sheet, which should not impair the potential buyer post-exit, hence opening the doors to a larger range of possible buyers.

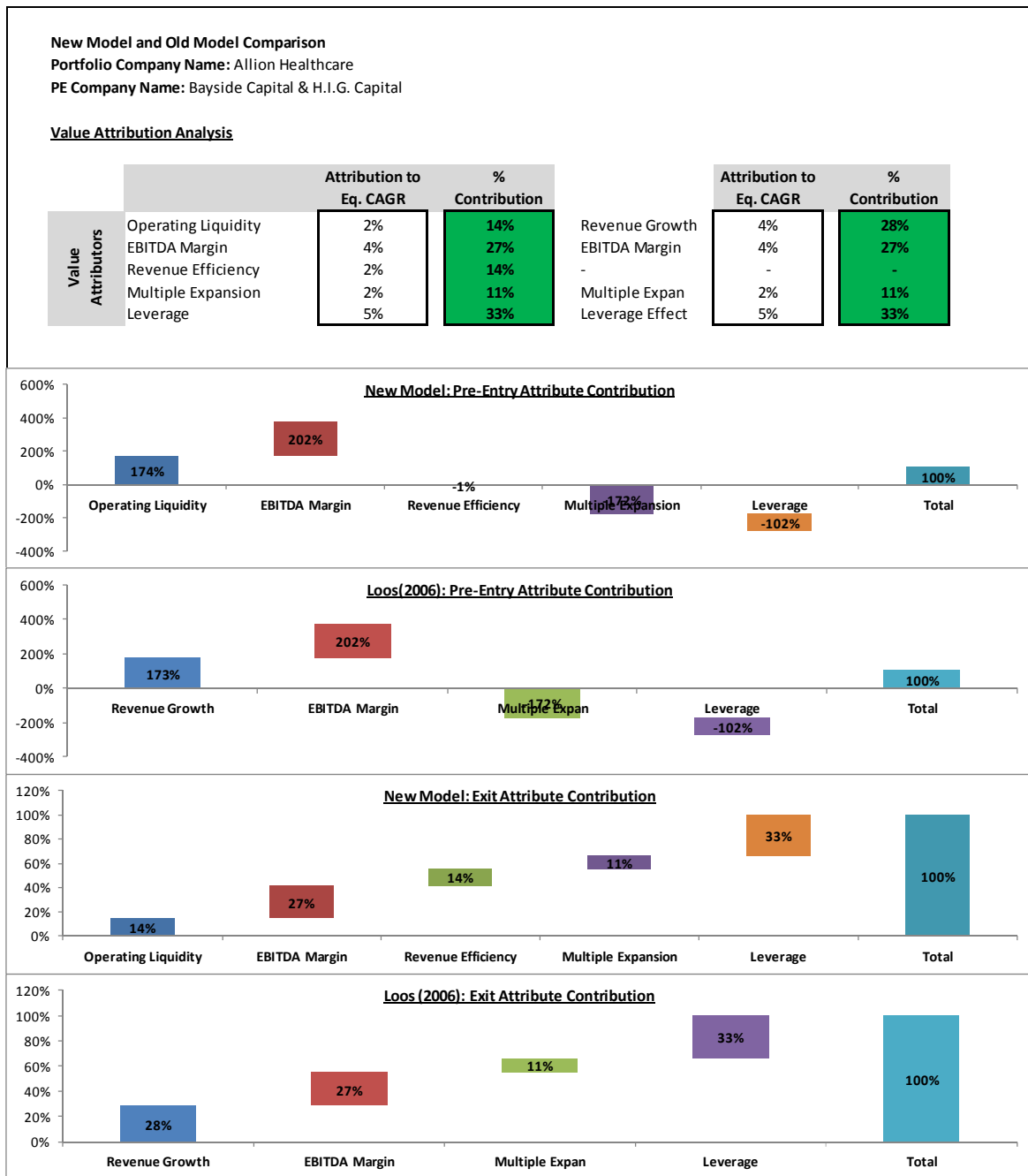


Fig. 33: Attribution and contribution analysis for Allion Healthcare

Source: Author's own

5.2.7 Colorado Group

Colorado Group is based in Australia and was a leading national footwear and apparel retailer and wholesaler. With a long heritage in the country, they had more than 400 stores in Oceania. Facing operational difficulties, they had issued three profit warnings and had changed chief executives repeatedly over a course of six

months⁴⁹. They were taken private by Affinity Equity Partners in 2006 and eventually was put into receivership in 2011.

Information about the buyout and financials were gleaned from Preqin, Bloomberg and Thomson Reuters databases respectively. As this was a private company, the financials during the holding period was gleaned from the PRIVCO database.

Pre-Buyout Analysis and Suggestions

Using the newly created Value Attribution formula, analysing 3 years prior to the buyout, it was found that equity value growth was increasing at a CAGR of 14% with revenue growth of CAGR of 2%. With this anomaly, a deeper analysis of contribution was done and it was found that:

1. The company was as per other cases hoarding a large amount of current assets, which was evident due to Operating Liquidity was the largest contribution to equity value. This could indicate a mismanagement of short term liquidity and cash hoarding by the company.
2. While there was increase in working capital, Revenue Efficiency was deeply reduced, indicating management inefficiency in fully utilizing working capital to drive revenue growth. This observation aligns the understanding that the management was not fully apt at working capital management.
3. There was negligible debt in the capital structure, meaning that the company was relying on more expensive forms of financing.

Largely, from the analysis, the issue appeared to be mounting operating costs with a lack of management expertise in working capital management. As a common factor with other cases, the lack of Revenue efficiency has to be analysed and clearly driven to increase revenues for the company. In addition, the use of debt as financing had

⁴⁹ Sydney Morning Herald (2006): "Colorado profit warning adds to the pain". Retrieved from: <http://www.smh.com.au/news/business/colorado-profit-warning-adds-to-the-pain/2006/12/21/1166290676505.html>

not been fully explored, leaving room for capital structure reengineering for the buyers.

It would be suggested that the clear channelling of working capital management to increase revenues and to increase debt usage are the clear areas of success for the deal.

Post Buyout Analysis

Information of the key financial was garnered through the PRIVCO database which has reporting from private companies. Through this, we could complete the analysis of buyout to exit of the company.

Affinity Equity Partners took on a large load of debt, which unfortunately impaired the growth and recovery of the company⁵⁰. Due to excessive debt in the structure, the company was bought over by the debt holders at a marginally lower price than the AUD 450 million which was paid for the company. This case shows a write-off of the investment which could not be turned into a profitable exit. The deep revenue inefficiency shows a lack of being able to convert short-term liquidity into revenue generating assets. A possible explanation could be that the mismanagement of working capital continued throughout the buyout period and could not be sustained, which would explain the situation of cancelling the whole value creation in the company.

Comparison with Loos (2006) Value Attributors

As which has been common in the comparisons with other cases, the distribution of importance to efficiently channelling working capital to grow revenue has not been highlighted by Loos (2006). While in this case, as we are discussing a write-off, the importance of Operational Liquidity and Revenue Efficiency has to be highlighted in order to understand the effects of current assets on the increase in equity value. With the old value attributors, we can see a positive effect across all factors. This causes us

⁵⁰ Reuters (2011): "After strong run, two deals dog private equity firm Affinity". Retrieved from: <http://www.reuters.com/article/2011/05/05/us-dealtalk-affinity-idUSTRE74414C20110505>

to believe that positive value creation has occurred without impairing the company in any way for the past 3 years. However, with the new value attributors, we immediately realise that there has been a deep inefficiency by the company which could be a mitigating figure against selecting this particular investment.



Fig. 34: Attribution and contribution analysis for Colorado Group

Source: Author's own

5.2.8 Hilton Worldwide

Hilton Worldwide is a unique case whereby Blackstone Group purchased the company at the height of an economic boom, only to live through the crisis and pulling out of the company with a solid profitable exit⁵¹. The private equity company had a hefty task on their hands, which included managing many of Hilton's distressed properties, almost plunging the company into deep financial problems⁵². This case shows the clear value add of private equity firms to revive a precarious turnaround situation during the credit crisis.

Due to the nature of point analysis, this study will assume that the full buyout occurred in 2007. All information on the pre-entry was derived from Bloomberg and Preqin databases, with exit details taken from the Bloomberg database and corresponding Initial Public Offering filings⁵³. In addition, further data from the exit was incorporated to determine the value creation at post-buyout to analyse the accuracy of the pre- buyout analysis.

Pre-Buyout Analysis and Suggestions

Using the newly created Value Attribution formula, analysing 3 years prior to the buyout, it was found that equity value growth was increasing at a CAGR of 14% with revenue growth of CAGR of 25%. While these were strong indicators of a growing company, there were factors that pointed otherwise to:

1. Operating Liquidity was the largest contribution to equity value. This could indicate a mismanagement of short term liquidity and cash hoarding by the company.
2. While there was increase in working capital, Revenue Efficiency was deeply reduced, indicating management inefficiency in fully utilizing working capital to drive revenue growth. This observation aligns the understanding that the management was not fully apt at working capital management.
3. Proportionally, the EBITDA margin was deeply reduced from 0.23x to 0.17x. This potentially indicated higher costs of operation which were muting the profitability of the company.

⁵¹ Bloomberg (2013) : "Blackstone's Hilton Joins Ranks of Biggest Deal Paydays". Retrieved from: <http://www.bloomberg.com/news/2013-12-11/blackstone-s-hilton-joins-ranks-of-biggest-deal-paydays.html>

⁵² New York Times (2014): "Lending Where Banks Can't, Blackstone Thrives in Ireland". Retrieved from: http://dealbook.nytimes.com/2014/02/18/lending-where-banks-cant-blackstone-cashes-in-in-ireland/?_php=true&type=blogs&r=0

⁵³ SEC filing (2013). Retrieved from : <http://www.nasdaq.com/markets/ipos/filing.ashx?filingid=9209477>

Largely, from the analysis, the issue appeared to be mounting operating costs with a lack of management expertise in working capital management. The clear lack of Revenue efficiency has to be analysed and clearly driven to increase revenues for the company. The clear value adding proposition that the buyers can add to the company is operational value added management.

It would be suggested that the clear channelling of working capital management to increase revenues and to focus on a clear debt reduction post-buyout are the clear areas of success for the deal.

Post Buyout Analysis

Information of the key financial was garnered through the reports from the public offering of the company⁵⁴. In addition, financials were gleaned from Bloomberg and Thomson Reuters databases in order to complete the analysis of buyout to exit of the company.

The increase in equity value over the period was at a CAGR of 26% with a deleveraging effect of -7% over the period of 6 year. Working capital was reduced at a staggering CAGR of 20%. This factor is inconsistent with the other cases which have been reviewed. However, this form of working capital management employed by the buyers is used to accelerate the investment into the business, which is evident through the dramatic increase in Revenue Efficiency.

Due to the high amount of debt used in the buyout, the focus in the years preceding the exit clearly shows a focus on the reduction of leverage employed in the capital structure of the company. Through this, the contribution of deleveraging contributes to 79% of the increase in the equity value.

This buyout stands out from the others due to the aggressive financial strategy incorporated in the buyout. While there are clear contributions of EBITDA Margin and the Multiple Expansion effect, the strongest contribution is through the investment of excess current assets into value creating assets, and the markedly strong reduction of debt during the holding period of 6 years. After the Initial Public

⁵⁴ Refer to previous footnote.

Offering at USD 20 per share, the price of the shares has remained largely stagnant at this point of this study. This could be a signal that the operational improvements may not be significant enough to warrant a higher valuation price for the company.

Comparison with Loos (2006) Value Attributors

The former value attributors show that the key contribution pre-buyout was the Revenue effect which does not highlight the cash hoarding of the company as indicated by the new Operational Liquidity effect. Post-buyout, the performance can be easily attributed to the vast deleveraging of the company, but misses out on the intricacies of how the 13% of contribution of the Revenue effect is generated by the reduction of working capital, which is an indication of investment into value adding inventory, or assets. The new value attributors demonstrate how the revenues are increased and how the contribution of investments has value added to equity value.

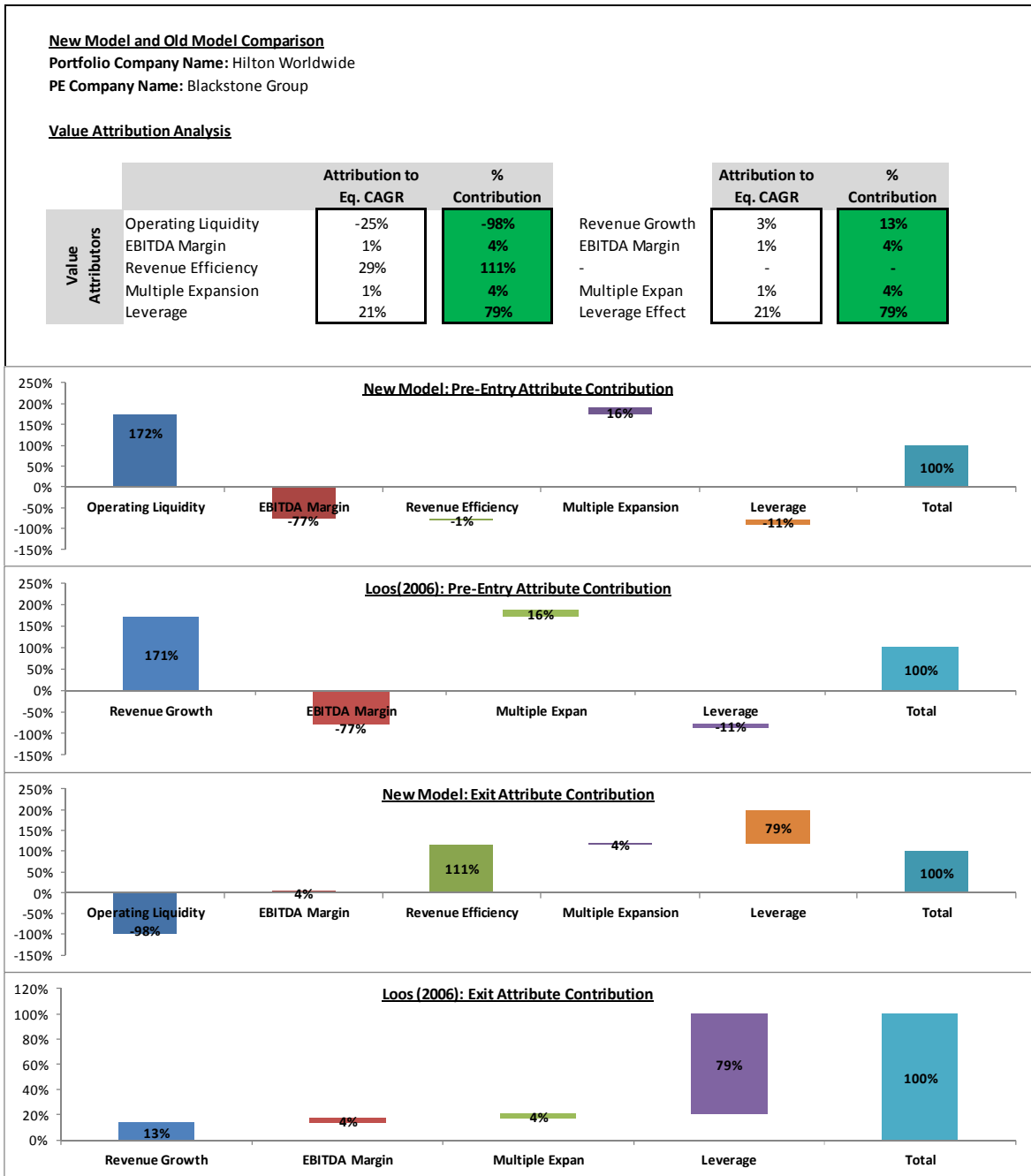


Fig. 35: Attribution and contribution analysis for Hilton Worldwide

Source: Author's own

5.2.9 National Home Health Care Corporation

National Home Health Care Corporation is a healthcare provider that provides home based care along the East Coast of the United States. In 2007, being a niche healthcare company, the revenues for the company was increasing steadily over the

past 5 years⁵⁵. However, even with rising revenues, the market capitalization of the company hardly changed over the same period, leaving the company with negligible growth of equity price on the public market. Angelo, Gordon and Co. And Eureka Capital Partners looked to take the company private while noticing the potential for the growth of this company, looking to improve the valuation of the company.

As the company is an ongoing investment at the point of this study, a simulation of the possibility of exit is done for the end of 2014. This assumes a holding period of 7 years and a profitable exit.

Pre-Buyout Analysis and Suggestions

Using the newly created Value Attribution formula, analysing 3 years prior to the buyout, it was found that equity value growth was increasing at a CAGR of 8% with revenue growth of CAGR of 5%. This initial analysis shows a growing company with no lack of revenue growth. However, through the analysis of contribution, it was found that:

4. EBITDA was reduced from USD 8.5m to USD 6.8m, representing a 20% reduction for the 3 year period. This factor clearly indicates a cost issue which would need to be addressed by the buyers of the company.
5. While operational liquidity was maintained at a high level, revenues were not being driven strongly enough by liquid assets. Again, this points to an operation issue which could be dissolved by the buyers of the company in order to drive up revenue efficiency.
6. There was negligible leverage used in the capital structure of the company. As equity is typically a more expensive source of financing, this area could potentially be a winning proposition for the buyers who can maximise the gains through capital structure engineering.

Largely, from the analysis, the company is clearly not in financial distress, rather in an operationally distressed situation. This is a breakaway from the previous cases whereby financial issues typically come into play with the financing of the deal. Clear similarities start to show with previous cases in that Revenue efficiency has to be analysed and clearly driven to increase revenues for the company. In addition,

⁵⁵ Plunkett Research (2013): Plunkett's Health Care Industry Almanac. Retrieved from: <http://www.plunkettresearch.com/health-care-medical-market-research/industry-and-business-data> val

cheaper sources of financing, like proper leverage, should be employed in order to properly manage down costs related to the capital structure of the company.

It would be suggested that the clear channelling of working capital management to increase revenues, to reduce the costs of sales, and the incorporation of leverage are the clear areas of success for the deal.

Post Buyout Analysis

Information of the key financial was garnered through the financials on Bloomberg and Thomson Reuters databases. As mentioned previously, as this is a live deal at the point of study, assumptions on holding period and progression of the company are made in order to determine a profitable exit. Through this, we could estimate conservatively a scenario where the company could potentially be exited at the end of 2014, and complete the analysis of buyout to exit of the company.

The conservative focus of the exit would be on a concentrated reduction of costs to boost EBITDA margin and the reduction of the debt to equity ratio post buyout to boost equity returns. The increase in operational efficiency and the reduction of costs to the company could potentially lead to a 2.41x exit multiple at end 2014. A forecast CAGR of 13% increase in equity value would correspond with a 4% increase in revenues and debt, an 8% increase in EBITDA, and a 3% increase in working capital. Through this, the contribution of all value factors balance out for a positive return to the General Partner. It is however important to note that in this scenario, retained earnings are aggressively channelled to increase the equity book value.

Based on the Value Contribution analysis, the Key drivers it is discovered that:

1. If we assume relatively high costs of revenues, assuming level taxes and no significant changes in interest expenses, only a relatively smaller cutback in costs could still generate a profitable exit. This portrays the EBITDA Margin as an essential factor in contribution to equity value.
2. Small increases in the working capital would generate positive Revenue Efficiency contribution, while maintaining capability to pay off 67% of the Total Debt of the company. Through this understanding, it is important to

maintain a level of working capital which allows for liquidity and at the same time does not impede on revenue investments which lead to growth.

3. Stable debt growth is still possible to positively contribute to equity growth if done so modestly. It is still important to realise operational improvements in order to extend bottom-line efficiency into contribution of value to the company.

While this is a scenario analysis as the investment has not been divested, it demonstrates that operational value does not have to be aggressively pursued in order to enact a profitable exit. This scenario expounds that conservative accumulation of current assets, compounded with strong cost reductions can lead to significantly improved valuations of a company.

Comparison with Loos (2006) Value Attributors

According to the Value Attributors of Loos (2006), it is found that there are clear similarities with other cases whereby revenue increase is portrayed as a major contributor to the increase of equity value. While the focus on cost cutting and revenue enhancement is a clear necessity in this case study, the lack of pinpointing how this can be driven is unclear. With the inclusion of working capital as a value variable, the case study takes on a different angle of liquidity management, highlighting the importance of driving revenues through the use of proper working capital management. This highlight focuses the attention towards Revenue Efficiency, and gives the General Partner a clear focus on how to position the company as a potential exit as well. Through this addition of the working capital variable, it becomes clearer that the balance of maintaining liquidity and profitability is an important driving factor of value creation.

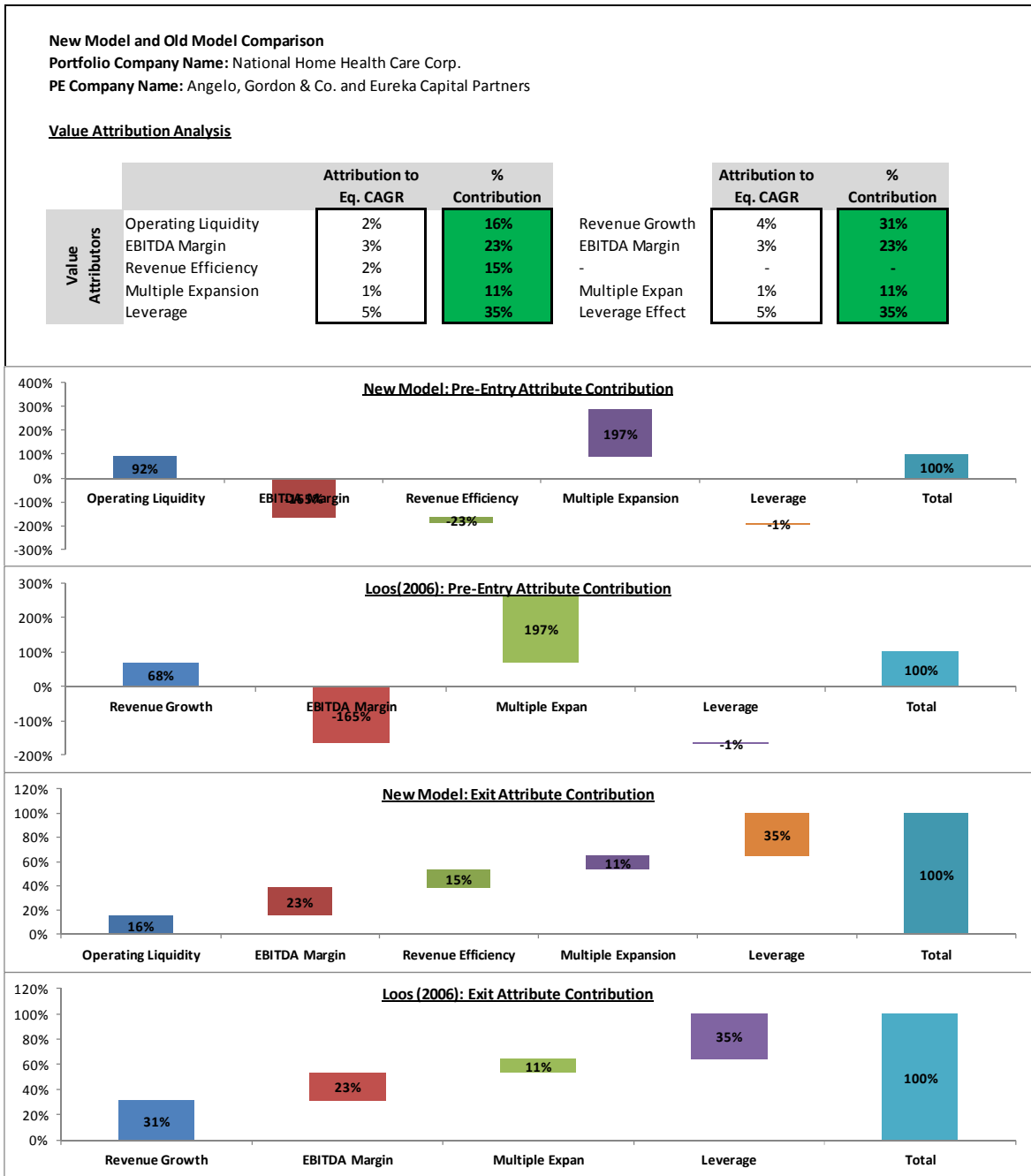


Fig. 36: Attribution and contribution analysis for National Home Health Care Corp.

Source: Author's own

5.2.10 Delta Tucker Holdings

Delta Tucker Holdings Inc. is a security company that provides its services to various governments, which include logistics and military base support. With a reduction of military spending, the company was under revenue pressure and as well needed to diversify its services. In conjunction with lawsuits that the firm was handling, there

was a need for funding to be provided and an increase in support on the management front in order to turnaround the company. Cerberus Capital Management stepped into the company in 2010 to help turn the company around.

As the company is a private company, necessary financials were taken off the PRIVCO database in order to do the analysis required.

Pre-Buyout Analysis and Suggestions

Using the newly created Value Attribution formula, analysing 3 years prior to the buyout, it was found that equity value growth was increasing at a CAGR of 15% with revenue growth of CAGR of 16%. This was a highly impressive company that did not really show any clear signs of distress in any manner. However, through the analysis of contribution, it was found that:

7. There was an over-hoarding of short term assets, leading Operating Liquidity to be the largest contributor of the increase in revenue. This would clearly be an issue which was further accentuated by the negative Revenue Efficiency contribution of -25% to equity growth.
8. While revenues had increased by a CAGR of 10%, the EBITDA Margin lagged at a negative contribution of -5% to equity growth. Clearly, the costs associated to revenue were too high and was not a sustainable way to increase company profitability.
9. Debt was a key component driving the increase in Enterprise Value of the company. However, the company was heavily leveraged, which consequently lead to a negative contribution of Multiple Expansion to the company growth.

Largely, from the analysis, the issue appeared to be mounting operating and revenue costs with a need to drive revenues with the excess liquidity held. As with previous cases, Revenue efficiency has to be analysed and clearly driven to increase revenues for the company. In addition, the debt load appears to be manageable for the company and should increase proportionally with revenues as well.

It would be suggested that the clear channelling of working capital management to increase revenues and to reduce the costs of sales are the clear areas of success for the deal.

Post Buyout Analysis

Information of the key financial was garnered through the reports from the SEC filings of the company⁵⁶, in addition to financial statements on PRIVCO. Through this, we could estimate conservatively a scenario where the company could potentially be exited at the end of 2014, and complete the analysis of buyout to exit of the company.

The conservative focus of the exit would be on the increase in operational efficiency, and the reduction of costs to the company. Through this, for an exit multiple of 1.5x, it is still possible to conservatively grow the company, and to positively increase equity value at the same time. A forecast CAGR of 9% increase in equity value would only correspond with a 3% increase in revenues and debt, a 5% increase in EBITDA, and a 1.5% increase in working capital. Through this, the contribution of all value factors balance out for a positive return to the General Partner.

Based on the Value Contribution analysis, the Key drivers it is discovered that:

4. If we assume relatively high costs of revenues, assuming level taxes and no significant changes in interest expenses, only a relatively smaller cutback in costs could still generate a profitable exit. This portrays the EBITDA Margin as an essential factor in contribution to equity value.
5. Small increases in the working capital would generate positive Revenue Efficiency contribution, while maintaining capability to pay off 73% of the Total Debt of the company. Through this understanding, it is important to maintain a level of working capital which allows for liquidity and at the same time does not impede on revenue investments which lead to growth.
6. Maintaining a level, if not stable debt growth still allows for a positive effect of deleveraging, due to increase in equity return, which in turn maintains Multiple Expansion contribution. However, this contribution is still does not undermine operation efficiency as the most essential factor when making a turnaround effort.

While this is a scenario analysis as the investment has not been divested, it demonstrates the difficulty in driving equity growth while injecting operation

⁵⁶ SEC Form 8-K: <http://ir.dyn-intl.com/secfiling.cfm?filingID=1193125-14-98457andCIK=1514226>
SEC Form 10-K: <http://ir.dyn-intl.com/secfiling.cfm?filingid=1193125-13-128795andcik=>

improvement into a company. This scenario highlights that a large amount of liquidity has to be used to spruce up equity levels in order to enact a profitable exit. Although General Partners tend to earn a premium off the exit price to equity, the stark increase of 9% CAGR required to reach a 1.5x exit can be daunting. As luck would have it, the larger amounts of working capital liquidity allows for the company to take on a larger debt load, while maintaining a relatively modest liquidity growth rate. This point is highly lucrative to the company, and is an essential point of interest to be investigated.

Comparison with Loos (2006) Value Attributors

According to the Value Attributors of Loos (2006), it is clear that the focus of the methodology of equity value increase is based on revenue growth and EBITDA Margin improvement. While the focus on cost cutting and revenue enhancement is a clear necessity in this case study, the lack of pinpointing how this can be driven is unclear. With the inclusion of working capital as a value variable, the case study takes on a different angle of liquidity management, highlighting the importance of driving revenues through the use of proper working capital management. This highlight focuses the attention towards Revenue Efficiency, and gives the General Partner a clear focus on how to position the company as a potential exit as well.

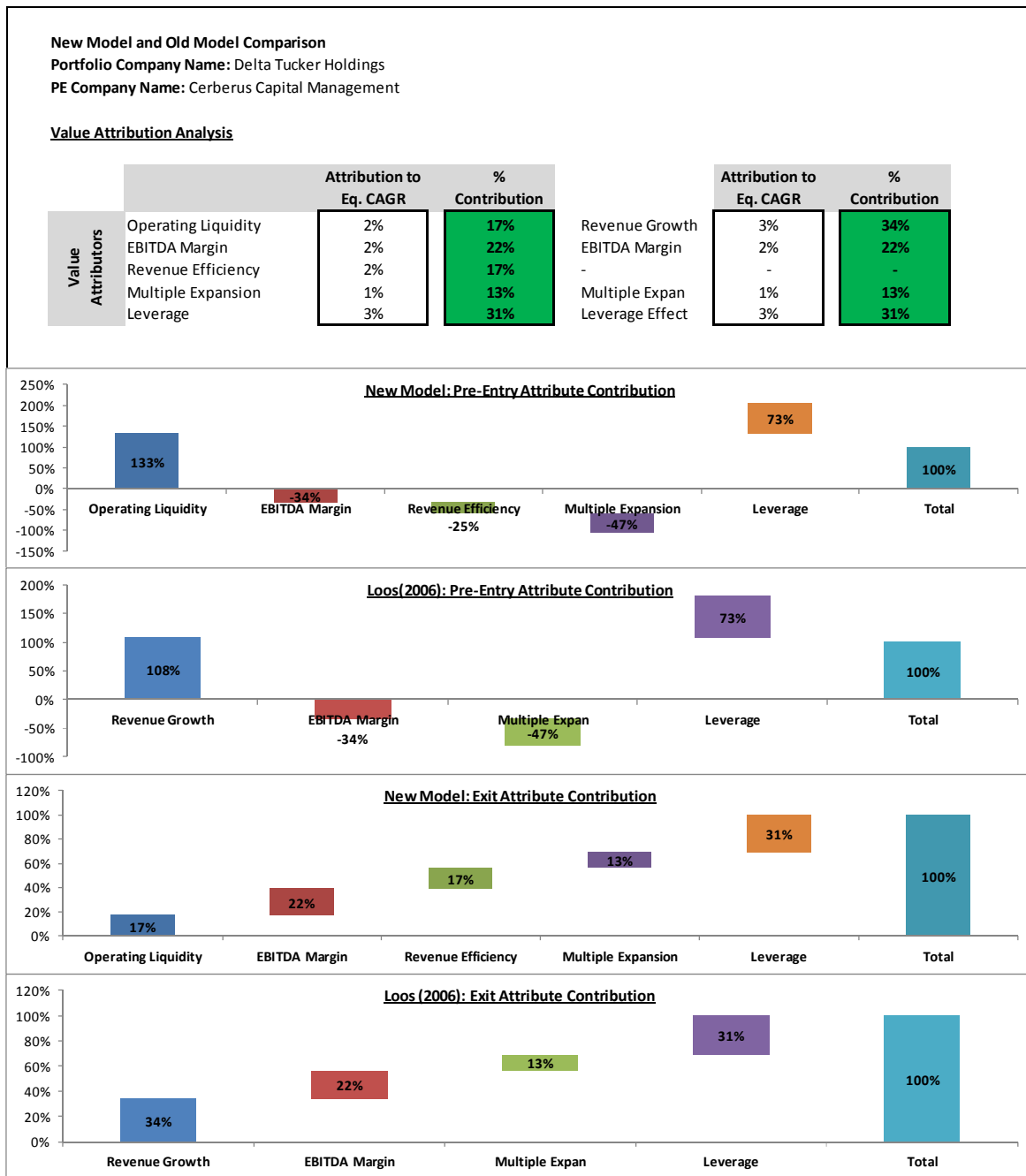


Fig. 37: Attribution and contribution analysis for Delta Tucker Holdings

Source: Author's own

5.2.11 Biomet

Biomet Inc. is a company involved with designing and manufacturing medical instruments for a large range of medical conditions. In a large conglomerate deal, Blackstone Group and various partners took the company private. At the point of time,

Biomet was on the auction blocks for the past 8 months and was in talks with rivals for a merger or takeover⁵⁷.

Information about the buyout and financials were gleaned from Preqin, PRIVCO, Bloomberg and Thomson Reuters databases respectively. As the exit will only be partially realised, assumption of full realization was made in order to complete the analysis on this case.

Pre-Buyout Analysis and Suggestions

Using the newly created Value Attribution formula, analysing 3 years prior to the buyout, it was found that equity value growth was growing at a CAGR of 7% with revenue growth of CAGR of 13%. As with other cases, the initial analysis of company shows no clear issues. With this anomaly, a deeper analysis of contribution was done and it was found that:

1. The company had strong revenue efficiency, which was the main contribution to equity growth. This indicated that there was strong organization efficiency in utilizing working capital to drive revenues growth.
2. While there was a decrease in working capital, this could be written off by the contribution of increased Revenue Efficiency. However, the company appeared to be holding excess short term liquidity as compared to leverage being employed in the capital structure. This hints at a more expensive method of financing being overused by the company.
3. The reduced Multiple could indicate that the company was in a good position to be bought out as it may be undervalued. The decreasing Multiple shows a much faster expanding EBITDA as compared to Enterprise Value, which is favourable for restructuring the company's capital structure.

Largely, from the analysis, the issue appeared to be an unbalanced capital structure of the company with under leveraged assets not being fully exploited. The debt load appears to be manageable for the company and not fully driven to further add capabilities to the company's production.

⁵⁷ Washington Post (2006): "Private equity group to buy Biomet for \$10.9 bln". Retrieved from: <http://www.washingtonpost.com/wp-dyn/content/article/2006/12/18/AR2006121800166.html>

It would be suggested that the balancing of working capital and its employment to increase revenues should be done, and to increase debt are the clear areas of success for the deal.

Post Buyout Analysis

Information of the key financial was garnered through the various databases which have reports about the company financials. Using a future projection from the end 2013 statements, the analysis of buyout to exit of the company could be analysed.

Based on the end year financials of the company, we could project an exit for the company that would be approximately a 1.73x exit multiple for the buyers in the case of a full exit. With the assumptions in place, the working capital would be increased by 6% which would be a reversion of the pre-buyout stage, leading to over hoarding of liquidity by the company. However, it is noticed that the Leverage is only reduced by a CAGR of -2% meaning that the company would still be highly leveraged. In fact, it was reported that the specific utilization of the Initial Public Offering proceeds would be to reduce the debt of the company from the buyout⁵⁸.

While there was a reduction in the Multiple, this is an indication of an undervaluation of the company which could potentially lead to higher stock prices in the market during the Initial Public Offering (Loughran and Wellman, 2012). However, the non-alignment of factors still lead to a lower exit valuation as other deals that have been analysed.

Comparison with Loos (2006) Value Attributors

Without working capital as a variable in the value attributors, we miss out on the reversion from revenue efficiency model, to liquidity hoarding model where the rate of increase of revenues is not accelerated by the increase in working capital. As this is the main difference between the old and new attributors, there is missing content on the operational improvement side of the old model, which is captured by the new proposed model in this study.

⁵⁸ The Wall Street Journal (2014): Medical Device Maker Biomet Files for IPO⁵⁸. Retrieved from: <http://online.wsj.com/news/articles/SB10001424052702303824204579424820151510510>

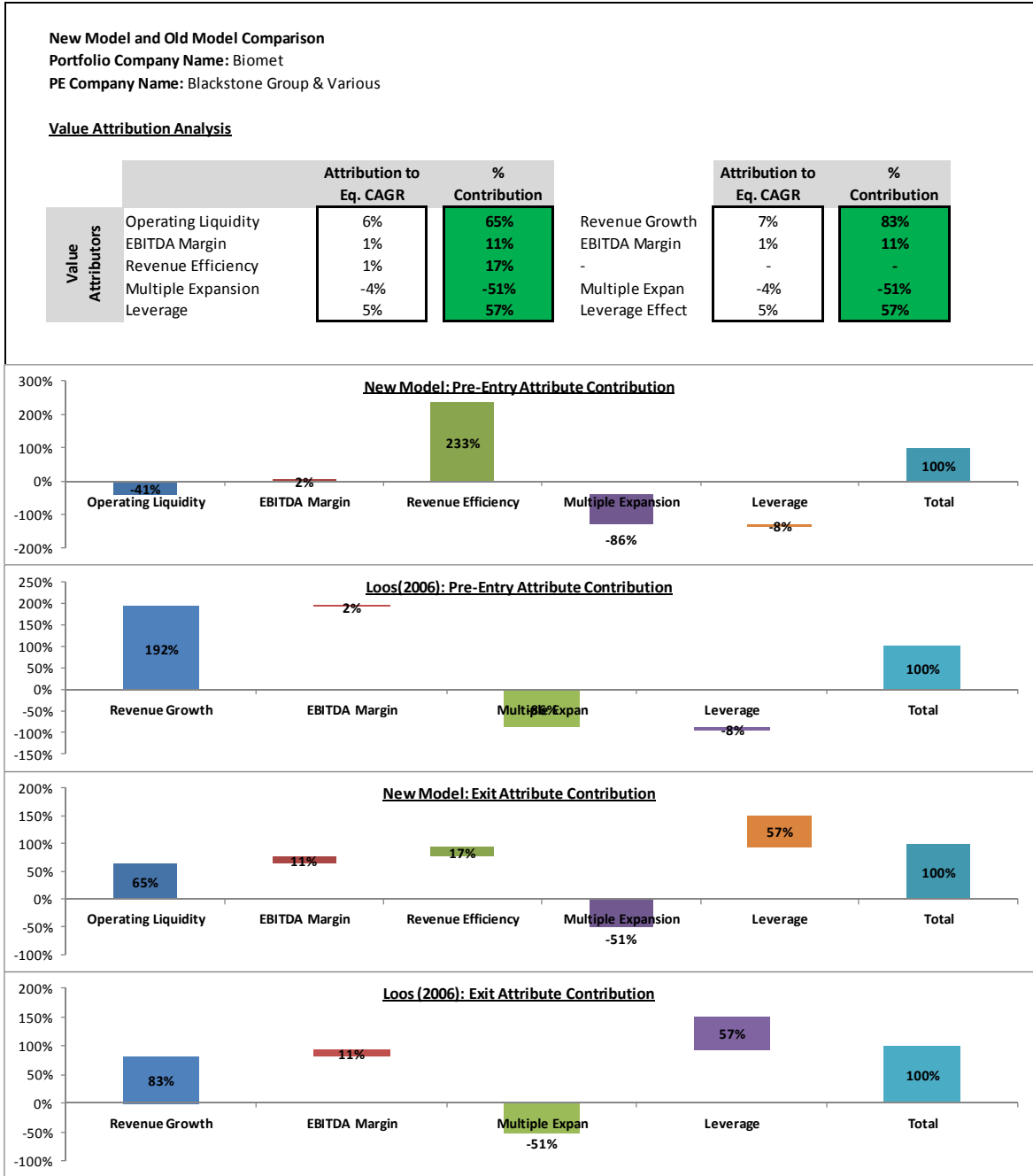


Fig. 38: Attribution and contribution analysis for National Home Health Care Corp.

Source: Author's own

5.3 *Analysis of Case Studies*

5.3.1 *Overall Cases Analysis*

The case studies represent a diversified number of companies from different industries, with different buyout backers, and different entry periods, and exits. Through this, these case studies could potentially aid as a generalization to the main population of distressed investments that have been executed. The factors that would be analysed are based on the criteria that were identified in the empirical section of this study. For the overall case studies, an overall analysis of the criteria would be performed, with further details being explored in the next section where the cases will be divided into their three buyout classification groups, and developed further.

All of the investments that were analysed were in developed countries with developed economies. As mentioned previously, there were significantly less investments in developing countries which signify the importance of the legal and accounting environment criteria that were analysed in the empirical portion of this study. In the case studies, there could be identified various barriers to entry with a large majority of investments. This is in line with previous literature in that barriers to entry present themselves as an effective measurement of competitive advantages for a company (Lee and Lieberman, 2010; Arruda-Filho and Lennon, 2011).

Top management of the target companies were typically replaced. This however, does not mean that most levels of management were replaced in the target company after the buyout. Deeper analysis into the manpower practices of the individual companies would be extremely difficult to analyse due to the extensiveness of employees, as well as the depth of secrecy regarding employment data. However, the takeaway from this point it that top management is likely to be replaced in the event of a buyout by private equity companies. This could vary in reason from placing in private equity professionals who will undertake the turnaround of the company, or to place in a professional with a track record in the industry of the target company.

Market growth and size was varying for the different companies in the case studies. Some of the companies had unique propositions and business lines that potentially could extend to an extending number of customers, like Allion and Ducati. Other companies were well established in the market and had global reach of customers which extended the importance of market size, like Bausch and Lomb and Tommy

Hilfiger. It was noticed that this variable tied in to the branding of the company as well (Morgan, Slotegraaf, and Vorhies, 2009), which further extends the intertwining importance of both criteria.

For the financial factors, the new value attributors at pre-buyout were utilized as part of the analysis. This would allow the study to determine if there was a relationship between the pre-entry attributors, and the ensuing percentage gained in exit equity. Due to the small sample size of the number of cases, a regression analysis would not be able to produce meaningful results. Hence, in order to analyse the cases, a correlation study was conducted. The diversity of the number of industries, private equity companies as well as profitability was expected to give a good generalization for the new value attributors in distressed buyouts. The results of the correlation between the exit multiple, the exit equity CAGR and the pre-buyout value attribution would allow for a comparison to determine which factors are inter-related. The expected result should be a significant correlation if there is an effect of the attribution variable on the exit equity CAGR, or alternatively, the exit multiple. Should this exist, then a relationship exists between the variables, and can be used as a criterion to determine investment selection.

	1	2	3	4	5	6	7	8
1. Exit Multiple	1.00							
2. Exit Equity	0.82**							
3. Operating Liquidity	0.54	0.778**						
4. EBITDA Margin	-0.21	-0.18	0.05					
5. Revenue Efficiency	-0.68*	-0.82**	-0.86**	0.04				
6. Multiple Expansion	0.05	-0.06	-0.22	-0.89**	0.17			
7. Leverage	-0.14	0.00	0.30	-0.55	-0.24	0.54		
8. Revenue	-0.15	0.07	0.44	0.16	0.08	-0.13	0.18	1.00

Statistically significant at ** $p < 0.01$ (2-tailed); * $p < 0.05$ (2-tailed);

Fig. 40: Correlation between Exit Multiple and Exit Equity CAGR with pre-buyout value attributors

Source: Author’s own from data collection

Expectedly, there would be high and significant correlations amongst certain value attributors. It would be expected that Operating Liquidity and Revenue Efficiency, as well as EBITDA Margin and Multiple Expansion, would have high and significant correlation due to sharing a variable, working capital and EBITDA respectively, in their attribution. This was confirmed in the correlation matrix which showed both high significant correlations, -0.86 and -0.89, respectively at the 0.01 level. Operating Liquidity and Revenue Efficiency were expected to have a negative correlation as

well because of the balancing effect of using excess working capital to drive revenue growth. Interestingly, only Operational Liquidity and Revenue Efficiency had significant correlation with both the exit multiple and the exit equity CAGR. This find perpetuates that working capital is an important metric for distressed buyouts. However, as 4 of the case studies used assumptions for future pay-out, it was decided to remove these cases and to measure the correlation again.

	1	2	3	4	5	6	7	8
1. Exit Multiple	1.00							
2. Exit Equity	0.90**							
3. Operating Liquidity	0.66	0.81*						
4. EBITDA Margin	-0.17	-0.34	-0.17					
5. Revenue Efficiency	-0.70	-0.86*	-0.90**	-0.01				
6. Multiple Expansion	-0.13	-0.05	-0.12	-0.87*	0.31			
7. Leverage	-0.21	0.04	0.43	-0.43	-0.23	0.54		
8. Revenue	0.04	0.04	0.39	-0.41	0.04	0.38	0.50	1.00

Statistically significant at ** $p < 0.01$ (2-tailed); * $p < 0.05$ (2-tailed);

Fig. 41: Correlation between Exit Multiple and Exit Equity CAGR with pre-buyout value attributors with removal of future projection cases

Source: Author's own from data collection

As there was no significant change in the variables, it was then prudent to say that the assumptions made for the partial exits were reliable and in line with past exits performed for distressed buyouts. The incidence of Operational Liquidity and Revenue Efficiency being the only two correlated variables could lead to the understanding as to why Loos (2006) was not able to perform a regression analysis for his study on buyout exits. This could be due to low correlation, or non-significant correlations existing for the old value attributors that were chosen.

Since there were high correlation for the two new value attributors suggested in this study, it was prudent to say that these factors are a new positive step towards identifying important criteria for distressed buyouts. The Operational Liquidity value attributor has strong positive correlation with the Exit Equity CAGR. What this would mean is that private equity professionals look for high liquidity in their target investments. This could form from having the ability to pay down debt, and could also signal that the company has the ability to generate high cash flows from their operations. If this is the case, a target company with lower Operational Liquidity CAGR should be less desirable as compared to one with higher CAGR. The opposite applies to Revenue Efficiency, which has a highly negative correlation with Exit

Equity CAGR. What this implies is that private equity companies look for target companies that have lost operational efficiency in their working model, hence require operational turnaround capability which can be provided by private equity professionals. These finding also represents a move away from financial value creation, to operation value creation as a strategy to turnaround companies. Typically, this would also signify that the value creation from operational turnaround benefits the target companies financially as well, hence adding dual benefit by concentrating on underlying performance and capital management of the company.

5.3.2 Case Analysis by Buyout Industry Classification

Analysis across the three categories was based on the buyout industry classification as indicated by the PREQIN database. While this is not an indication of the direct end business of the company, it is still a measure of the type and classification of the business as it is within the private equity industry. In addition, this classification methodology allows for a summarization of the multitude of industry types that exist, allowing for reduced number of classes and industries where a generalization can be made for various selection criteria, and indicators for selection of investment. However, due to the reduced number of cases, it would be difficult to make concrete generalizations about the correlation of the new value attributors. Within the buyout sectors, it would be prudent to analyse the other factors which have contributed to the selection of the company for investment. However, industry comparables which were traded publically during the same periods are used where possible to analyse the efficacy of the buyouts.

Healthcare

In the healthcare classification, there were four companies within the case studies. Each was unique in their sub-industry types, had varying form of size, investment periods and private equity sponsors which helped with the generalization for the healthcare class as a whole.

For these companies, two of the companies, Allion and National Home Health Care Corporation, were providing unique services which would be difficult to emulate without large capital investments. As well, these companies had potentially first

mover advantage into their unique proposition markets, giving them an edge in terms of reputation as well. The other two health care companies, Bausch and Lomb, and Biomet, were conglomerate sized and had limited competition in their respective fields. In addition, they were both in growing demand sub-industries which added to their might within their fields. Biomet however had multiple working lines that were underperforming and needed to be unwound. This presented an operational opportunity to increase the efficiency of the company by channelling change efforts on the best producing lines, and to consolidate cash from unwound lines to pay down debt.

Correlations within the healthcare sector for the new value attributors with the exit multiple and exit equity CAGR were not significant. This could be due to the reduced number of cases being analysed, increasing the need for more data to be available in order to produce more meaningful data for this sector. This could be done through cooperation with private equity companies that could potentially provide the information required to increase the reliability of a study like this one. However, it is noted that the correlation directions and strength persist for the healthcare sector as for the main case study analysis as mentioned previously.

Industry comparables were used to measure the efficacy of the Bausch and Lomb buyout only as it was the only fully realised investment within the healthcare industry classification. Cooper Companies is a comparable company by both size and industry. In comparison to Bausch and Lomb's pre-entry equity CAGR of -4.7%, Cooper companies had pre equity CAGR of -6.5%. However, unlike Bausch and Lomb, the company had a deeper Equity Margin attribution of -19.6% which was considerably deeper. In addition, the capital structure of the comparable company did not leave much room for leverage should a buyout need to be effected. However, the two companies appeared to be almost identical in the need for operational overhaul. Overall, Bausch and Lomb was a stronger brand name which had strong established products in the market. This could have contributed to the selection of the company for investment. Considering the exit period, Cooper Companies had to accomplish similar CAGRs in revenues, EBITDA, and in working capital to product a 23% Exit Equity CAGR as compared to Bausch and Lomb at 19%. This point highlights that branding of the company appears to present an importance into selection of distressed investments. Interestingly, the Multiple Expansion and Leverage value attributor

contribution to exit equity CAGR was identical for both companies. This represents a similar strategy amongst healthcare companies with an emphasis on driving improvements on the operational front rather than relying on financial value generation.

As it was not possible to find other comparable companies in size for Bausch and Lomb within the industry, Johnson and Johnson was selected as the other comparable. While it is a company that has other diversified lines of business, it would be expected that the company would be able to grow sustainably during the same period as well. Johnson and Johnson had pre equity CAGR of 0.1%. The company as well had a large negative attribution of -9.4% in Operating Liquidity with equity value growth being driven exclusively through Revenue Efficiency. While the company managed to grow working capital in the same period, this was at the extreme expense of Revenue Efficiency. Accompanied by the large size of the company, these factors would not fit into the criteria for investment. This is further shown by the post equity CAGR of 5%, four times less than that of Bausch and Lomb which would represent a better investment. Through this analysis, it is understood that a pre-buyout positive attribution in Operational Efficiency and a Revenue Efficiency that is negative is preferential criteria for investing in distressed healthcare companies.

Consumer Discretionary

In the consumer discretionary classification, there were four companies within the case studies. Each was unique in their sub-industry types, had varying form of size, investment periods and private equity sponsors which allowed for a good generalization for the consumer discretionary class as a whole.

The major difference between the two retail companies, Tommy Hilfiger and Colorado Group, could be pinpointed to the strength of the brand reach. Tommy Hilfiger was a strong brand within and outside of its home market, giving the company a distinctive edge above Colorado Group which had a strong home presence only. Colorado Group depended largely on its own retail stores which ended up underperforming, and having to be closed⁵⁹. Tommy Hilfiger on the other hand diversified their reach through partnering with departmental stores and enlarging their

⁵⁹ Sydney Morning Herald (2011): "Retailer Colorado to close, jobs to go". Retrieved from: <http://www.smh.com.au/business/retailer-colorado-to-close-jobs-to-go-20110614-1g21f.html>

online presence, giving them access to a larger array of customers that they may not have had access to previously.

The other two companies were of different sub-industries completely, Duane Reade being a general convenience pharmacy, and Hilton Worldwide being a hospitality company. Both however were leading brands in their respective fields. Hilton Worldwide had a global reach in the hospitality business and was one of the industry leaders before its own financial difficulties became evident. Duane Reade on the other hand was a company with customer relations issues. The company needed operational value that would be created through proper trainings to staff rather than overhaul of the business lines.

	1	2	3	4	5	6	7	8
1. Exit Multiple	1.00							
2. Exit Equity	0.91							
3. Operating Liquidity	0.82	0.96*						
4. EBITDA Margin	-0.32	-0.68	-0.77					
5. Revenue Efficiency	-0.87	-0.98*	-0.92	0.71				
6. Multiple Expansion	-0.06	0.34	0.37	-0.85	-0.45			
7. Leverage	-0.27	0.15	0.23	-0.79	-0.24	0.96*		
8. Revenue	0.13	0.23	0.46	-0.37	-0.08	-0.07	0.04	1.00

Statistically significant at ** $p < 0.01$ (2-tailed); * $p < 0.05$ (2-tailed);

Fig. 42: Correlation between Exit Multiple and Exit Equity CAGR with pre-buyout value attributors for Consumer Discretionary Classification

Source: Author's own from data collection

With a good variation in industry, a correlation analysis was then conducted to check for significant relationships between the variables. As with the overall case analysis, a strong correlation between Operating Liquidity and Revenue Efficiency with the exit equity CAGR emerged, with a positive strong correlation, and negative strong correlation respectively. This confirms the previous findings that working capital forms an important variable towards a lucrative exit of the investment. Again, private equity professionals look to have short term liquidity as one of their criteria when selecting investments. Concurrently, there are no other significant correlations which lead us to believe that the case for substituting Operational Liquidity and Revenue Efficiency as value attributors as compared to Revenues is verified as an accurate method for selection criteria.

Industry comparables were used for Tommy Hilfiger, Duane Reade and Colorado Group. Unfortunately in the case of Hilton Worldwide, there was not enough financial information from comparable companies to do an analysis. Ralph Lauren was used as the first comparable for Tommy Hilfiger. The company had a large positive attribution from Revenue Efficiency and a negative attribution in Operational Liquidity with pre equity CAGR of 41.4%. These points fail the criteria for selection of distressed investments even though the company was well capitalised and had a capital structure which could afford leverage opportunities as compared to Tommy Hilfiger. This finding was confirmed in the post analysis where Ralph Lauren returned 8% for the same period of the investment as compared to 43% by Tommy Hilfiger. The second comparable used was GAP Inc., which is a similar company to Tommy Hilfiger. The analysis showed the company had a pre equity CAGR of 4.7%. The company had a low positive Revenue Efficiency and slightly positive Operational Liquidity attribution. While a positive Operational Liquidity attribution is favourable, the positive Revenue Efficiency attribution is not a favourable sign for selecting the company for investment. This is further shown through the end period analysis which shows that GAP Inc. has a negative performance of -3% compared to 43% for Tommy Hilfiger. Once again, these findings further solidifies the importance found previously, that a pre-buyout positive attribution in Operational Efficiency and a Revenue Efficiency that is negative is preferential criteria for investing in distressed companies.

For Duane Reade, Walgreens was selected as the first comparable. The company had almost zero pre equity CAGR and had positive signs for being selected as an investment. The company had positive Operational Liquidity attribution of 28.6% and negative Revenue Efficiency attribution of -14.4%. Through these attributes as well as the strong brand name, the company should be selected for investment. However, the end period equity CAGR was -4% which could be attributed to the strategy that the management had taken which was not viable for the company. This highlights the importance of the strategy taken to turnaround the company, which of course would account for the performance during the investment period. It is hence important to understand and implement the correct value generating schemes during the investment period. The second comparable selected was CVS Caremark Corp. This company had pre equity CAGR of -15.6% and positive signs for being selected as an investment. The company had positive Operational Liquidity attribution of 12.9% and

negative Revenue Efficiency attribution of -4.3%. Based on these criteria, the company should be selected for investment. Post the theoretical investment period, it was found that the company had equity CAGR of 22% which was achieved through very high CAGRs in revenue, EBITDA and debt. Even so, the positive outcome highlights the positive effects of the selection criteria which have been identified through the value attributor analysis.

Colorado Group was an example of an investment that was not successful and had to be written off. Billabong was selected as the comparable company. The company had 36.9% pre equity CAGR and had positive signs for being selected as an investment. The company had positive Operational Liquidity attribution of 21.3% and negative Revenue Efficiency attribution of -1.9%. However, the company still had negative post equity CAGR of -14%. It was discovered that the company's value attributors were all negative less Operational Efficiency. Hence this anomaly was attributed to management strategy not being viable to the company. Again, this highlights the importance of implementing proper value generation schemes during the investment period. The second company selected as a comparable was Quicksilver. The company had 21.7% pre equity CAGR and had negative signs for being selected as an investment. The company had both positive Operational Liquidity attribution of 25.2% and Revenue Efficiency attribution of 4.7%. Since there was a failing of one of the value attributor criteria, this investment would not be selected as an investment. This was shown again as the company had a post equity CAGR of -20%. Through these two comparables, there was a highlight the country of investment, Australia, would not have been a good area for investing in consumer discretionary companies, specifically retail clothing companies. This point could highlight that country investments have to be analysed further by scrutinizing the industry level criteria effects within the country itself.

Through the industry comparables study, for the consumer discretionary industry classification, there is further grounding that private equity companies provide value through their strategic value generation schemes. In addition, this highlights advanced selection ability that work in their favour when the afore-mentioned schemes are implemented.

Industrials

In the industrials classification, there were three companies within the case studies. Each was unique in their sub-industry types, had varying form of size, investment periods and private equity sponsors which allowed for a good generalization for the industrial class as a whole. There was only one significant correlation of the value attributors with the exit equity CAGR, which was a strong positive correlation with the EBITDA Margin. This presents a stark difference from the previous two buyout classifications which were consistent with Operational Liquidity and Revenue Efficiency being the significant correlations. Seeing that the correlation was almost perfectly positive, this finding acts an indication that the selection of industrial companies focuses on the inefficiencies in operating cost. This could mean that private equity professionals look for companies that have high operating margins, and seek to cost save during the holding period. However, it is also essential to note that this correlation is based on three case studies, which could be further enhanced with data provided by private equity companies.

	1	2	3	4	5	6	7	8
1. Exit Multiple	1.00							
2. Exit Equity	0.74							
3. Operating Liquidity	-0.01	0.67						
4. EBITDA Margin	0.79	0.99*	0.61					
5. Revenue Efficiency	-0.50	-0.96	-0.86	-0.93				
6. Multiple Expansion	-0.80	-1.00	-0.60	-1.00*	0.92			
7. Leverage	-0.34	0.39	0.94	0.31	-0.64	-0.30		
8. Revenue	-0.76	-0.12	0.65	-0.20	-0.18	0.21	0.87	1.00

Statistically significant at ** $p < 0.01$ (2-tailed); * $p < 0.05$ (2-tailed);

Fig. 43: Correlation between Exit Multiple and Exit Equity CAGR with pre-buyout value attributors for Industrial Classification

Source: Author's own from data collection

In the case of Ducati, the explanation fits with the conditions that the company was in pre-buyout. Ducati was holding on to excessive inventory and required improvements in lead time to produce a motorcycle. Through implementing the kaizen method, the private equity sponsors managed to reduce the lead time by over 15 times, which highly reduced the need for holding inventory (Talmor and Vasvari, 2011). While the analysis for Guilford Mills and Delta Tucker cannot be as extensive as that for Ducati, the analysis on their case studies suggest that the industrial companies still are similar to the previous two buyout classifications. The similarity lies in that a pre-buyout positive attribution in Operational Efficiency and a Revenue Efficiency that is

negative is noted in the case studies. This finding leads us to believe that this anomaly could be due to the availability of data to form cases.

Industry comparables were used for both Ducati and Guilford Mills. Due to the unique nature of business for Delta Tucker, information for industry comparables was not available. For Ducati, Harley Davidson was used as the first comparable. The company had pre equity CAGR of -14.6%, with only Revenue Efficiency as a positive attribution. Based on the previous case studies done, this company would not be selected for investment, even though the brand name was well known globally. An analysis of the post period shows that the company had equity CAGR of -5%, confirming that this would not have been as lucrative an investment as Ducati. The second comparable was Honda Motor. The company had negligible pre equity CAGR of 0.3% and showed positive Operational Liquidity attribution of 25.3% and negative Revenue Efficiency attribution of -14.3%. Based on previous case studies, this company would be ideal to invest in. However, the post performance showed equity CAGR of only 2%. This case illustrates that while the selection ability of private equity companies appears to be superior enough to pick out the “winners” in the market, the value generating strategies that are introduced into their portfolio companies exert a strong influence on alpha produced over the market and comparable company returns.

For Guilford Mills, the first comparable selected was Albany International. This company had strong pre equity CAGR of 40.1% with the strongest attribution from Multiple Expansion and deleveraging as shown by the Leverage attributor. Typically, this would signal a good candidate for investment as there was positive Operational Liquidity attribution and negative Revenue Efficiency attribution. However, the company had post equity CAGR of -5% with a degradation of the Revenue Efficiency attributor. The second comparable selected was Unifi Inc., which had a pre equity CAGR of -22.7% with positive Operational Liquidity attribution and negative Revenue Efficiency attribution. This would signal a good candidate for investment as well, but showed post equity CAGR of -3%. From these two comparables, there can be two different interpretations. Firstly, it could signal the implementation of better strategy by the private equity company that invested in Guilford. However, judging by the lower upside on the investment and long investment period of eight years, it could be argued that this might not be the case. This brings us to the second point that

overall, the fabrics industry, which Guilford Mills and the two comparables operated in, was not resilient to recover from the crisis, which resulted in muted performance overall for the companies within the classification. This would add credence to using industry level criteria to encompass the effects on the selected companies.

5.3.3 Summary of Analysis Results

Through the overall analysis of the case studies, it becomes clear that both Operational Liquidity and Revenue Efficiency selected as attributors have significant relationship with a positive exit of a distressed investment. This becomes apparent in the analysis of both the Healthcare and Consumer Discretionary buyout classifications. However, as a regression analysis could not be achieved with the limited number of cases, a strong attribution case could not be made even though the correlation statistics are statistically strong and significant. Through this analysis, it leads us to reject the null hypotheses, and to partially accept **H16** and **H17**. Operational Liquidity, which signifies short term liquidity of a company, has a strong positive correlation with the exit equity CAGR. This indicates that private equity companies typically look for companies with a sufficient buffer in current assets in order to be able to pay off debt, or to be used to generate revenue through investment in inventory, or revenue generating assets. This brings us to Revenue Efficiency showing a strong negative relationship with the exit equity CAGR. As this attributor measures the ability of the company to generate sales using working capital, it goes hand in hand with the Operating Liquidity.

It then makes sense that an excess of working capital and negative Revenue Efficiency signal that there is operational value to be created by mobilizing the excess working capital to generate revenues. However, an interesting trend as emerged to show that both industry level and firm level criteria form an important part of selecting an investment as well. It is evident that there are specializations for each private equity company, which then determines the kind of company that they invest in. This is further supplemented by the expertise in value generation that private equity professionals provide.

Like the study of Loos (2006) this study could not find sufficient evidence to support the Multiple Expansion and Leverage factors, leading us being unable to accept **H18**,

H19 and **H20**. While it can be argued that a larger sample might yield different results, with low correlation statistics, it is yet to be seen if these factors can be accurately used in investment selection. However, due to the strong influence of the factors in the measurement of company performance metrics, it has been decided to keep them in for the next chapters where we create a framework for investment selection.

5.4 Framework for Selecting Target Firms

5.4.1 Creation of Framework

This chapter is dedicated to resolving the final research question that was formulated, and to create a framework that can aid in investment selection of target firms:

4. *How can private equity professionals use these criteria as a framework to select profitable distressed investments?*

In order to aid selection of distressed buyouts, the criteria identified in the empirical study were first categorized into Firm, Industry, and Country level criteria. This would allow for the study to be able to form a cohesive framework that was in specific order to allow for easy comprehension and understanding. Once completed, theoretical studies on Country level (Groh et al., 2010; Watson and George, 2010), Industry level, and Firm Level (Pehrsson, 2009; Lenz, 2010) were added into the framework as a basis for the study.

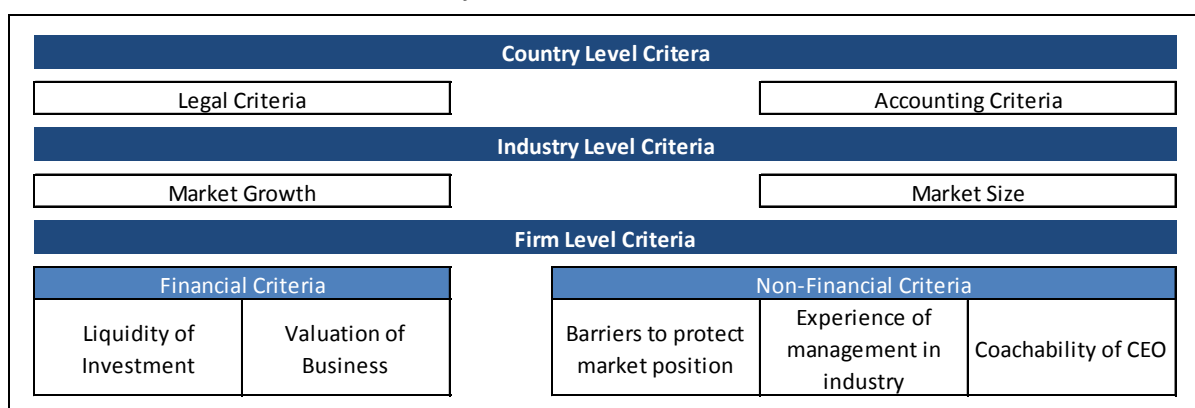


Fig. 44: Criteria breakdown into different levels

Source: Author's own

Upon completion of the level analysis for the framework, the new value attributors were included as part of the checklist. In addition, the measurement of valuation by the private equity companies was added in as well. Due to the different methodologies of valuation of a potential investment, it was decided that this checklist criteria is left flexible in order for the private equity professionals to determine if the investment is in an acceptable investment range. The result is the below framework which shows the criteria which should be used to determine if a company should be invested in.

At the Country level, most developed countries should be able to cover the majority of the criteria points. However, certain jurisdictions would have better conditions. For example, Switzerland would have better corporate taxes as compared other jurisdictions. This point may be a deciding factor if a Swiss private equity company wanted to perform a transaction in a jurisdiction where the corporate tax is not as favourable. Industry level criteria would have strong influence to decide if the conditions that the company operates within have possibility for growth or consolidation, which in turn can help decide if the company should be invested in. Typically, sunset industries, for example photograph printing, do not have strong reasons for investment. This portion of the checklist allows for the private equity professional to decide if the target company's industry is an enabling factor to the turnaround of the company. For the firm level criteria, the private equity professional should be prudent in deciding which factors are of more importance than others. This will drive to the point that operational value creation can come in many forms which each professional would have experience in. Hence, a company with lagging operational lines may be an interesting investment for a professional with experience in consolidating lines, but not for a professional with experience in turning around single product companies.

It would be suggested to use various sources to triangulate data that can be used to come to an answer to the criteria that have been posed. Hence, it would be encouraged to utilize due diligence sources which have access to data on all levels of the criteria⁶⁰. This would allow for a congruent base of information that will aid in the selection of the company for investment purposes.

⁶⁰ Suggested list of databases that can be used to consolidate data has been provided in the Appendix.

Criteria Checklist		Company
		A
Country Criteria		
1	a high level of business freedom in a country	
2	a high level of trade protection in the country	
3	attractive corporate taxes in the country	
4	a stable large government in place	
5	strong legal regulation in the country	
6	free labor regulation in the country	
7	strong economic growth in the country	
8	a developed capital market in the country	
Industry Criteria		
1	low bargaining power of customers in the industry	
2	industries where the customer switching cost is high	
3	low bargaining power of suppliers in the industry	
4	industries where the number of competitors are low	
5	low substitutability of products in the industry	
6	an industry where there is low rivalry amongst the competitors	
7	an industry that has high growth rates for the past 3 years	
8	an industry that has growing market demand	
9	an industry that has many potential customers to provide mass-marketing opportunity	
10	an industries where there is a lower need for R&D or Patents	
Firm Criteria		
1	Stable and good management in place	
2	Absolute or variable cost advantages	
3	Product differentiation	
4	Brand image	
5	Access to distribution channels	
6	Costs independent of scale	
7	Advertising costs	
8	Sales promotion costs	
9	Price competition in the market	
Financial Criteria: Pre-buyout		
1	Operational Liquidity	
2	EBITDA Margin	
3	Revenue Efficiency	
4	Multiple Expansion	
5	Leverage	
6	Valuation of company in pre-defined range	

Fig. 45: Framework for Selection of Distressed Buyouts

Source: Author's own

5.4.2 Test of Framework

To ensure that the framework will be useful to practitioners, a test on a recent distressed buyout investment was developed. A selection of a recent distressed

buyout was used to analyse the efficacy of the framework and how it can be used to improve investment selection for private equity professionals.

Introduction

Rue21 Incorporated is an apparel store for teens which has over 900 stores in malls and proprietary centres. Rue21 was known to be in trouble before, filing for bankruptcy in 2002, and eventually re-emerging the next year, and going public in 2009. However, the company was still facing stagnant sales and rumours in the market of over inflated sales. In 2013, the company agreed to be acquired by Apax Partners in a USD 1.1 billion deal⁶¹.

Information about the buyout and financials were gleaned from Preqin, Bloomberg and Thomson Reuters databases respectively. This was still a live deal at the point of the analysis.

Pre-Buyout Analysis and Suggestions

Using the newly created framework, the company was analysed at the Country Level first, finding that as the company was in a highly developed country, the United States, all of the criteria were positive at the level. This is in-line with the previous findings that most of distressed buyouts were transacted in developed countries. At the Industry level, there were negative points. Due to the company operating in the retail industry, there is high substitutability of the products as well as lower bargaining power for the company. However, it is noted that the growing affluence amongst the customer segment of teenagers could be a possibility for the company to attain market share and growth. At the Firm level, the company had many positive points that private equity companies could capitalize on. They could potentially change management, which had not been able to capitalize on growing trends in the retail space, capitalize on growth in the Internet marketing sphere to increase range of customers, and as well work on expanding more aggressively into international markets which would open up a new array of customers for them.

The valuation of the company was assumed to be in acceptable range since the company was already bought out. Hence, using the Value Attribution formula, analysing 3 years prior to the buyout, it was found that equity value growth was

⁶¹ Bloomberg (2013) : “Rue21 Agrees to Be Acquired by Apax in \$1.1 Billion Deal”. Retrieved from: <http://www.bloomberg.com/news/2013-05-23/rue21-agrees-to-be-acquired-by-apax-in-1-1-billion-deal.html>

decreasing at a CAGR of -2% with revenue growth of CAGR of 35%. With this anomaly, a deeper analysis of contribution was done and it was found that:

1. The company was hoarding a large amount of current assets, which was evident due to Operating Liquidity being the largest attributor to equity value. This could indicate a mismanagement of short term liquidity and cash hoarding by the company. This is a positive sign for investment as indicated by previous case studies.

2. While there was increase in working capital, Revenue Efficiency was deeply reduced, indicating management inefficiency in fully utilizing working capital to drive revenue growth. This observation aligns the understanding that the management was not fully apt at working capital management. This is also a positive sign for investment as indicated by previous case studies.

3. The increase of enterprise value was fully through leverage, which did not appear to have an enhancing effect on the revenues. This indication would appear to show a lack overall strong financial management within the company.

Largely, from the analysis, the issue appeared to be mounting operating costs with a lack of management expertise in working capital management. The clear lack of Revenue efficiency has to be analysed and clearly driven to increase revenues for the company. It would be suggested that the clear channelling of working capital management to increase revenues, and to increase debt utilization through the buyout are the clear areas of success for the deal. Based on these findings from the framework, the company should be selected for investment.

Criteria Checklist	Company	Comments
	Rue21 Inc.	
Country Criteria		
1 a high level of business freedom in a country	Pass	US has high business freedom rates and are conducive for growing businesses
2 a high level of trade protection in the country	Pass	No strong trade protection exists for the country
3 attractive corporate taxes in the country	Pass	Company is already situated in the country, so corporate tax is non-issue
4 a stable large government in place	Pass	Country has stable and large government
5 strong legal regulation in the country	Pass	Legal protection for investors is high. Also strong regulation exists for the regulation of contact lens and optometry solutions which prevents quick entry into the market.
6 free labor regulation in the country	Pass	Country has free labor regulation
7 strong economic growth in the country	Pass	US is a growth country during the investment consideration period. Approximately 3% growth previous years and forecast.
8 a developed capital market in the country	Pass	Large developed capital market with ease of access to financing
Industry Criteria		
1 low bargaining power of customers in the industry	X	Customers have large choice of clothing with many mid tier luxury brands as competitors
2 industries where the customer switching cost is high	X	Customers have large choice of different cost clothing in from various brands with low switching costs
3 low bargaining power of suppliers in the industry	Pass	Large fragmented number of suppliers to the clothing companies which present an opportunity to consolidate in order to reduce costs
4 industries where the number of competitors are low	X	Large number of competitors where the customers have a large range and choice for switching.
5 low substitutability of products in the industry	X	Substitutability is high and can be obtained from many various companies
6 an industry where there is low rivalry amongst the competitors	X	High rivalry in a large fragmented market
7 an industry that has high growth rates for the past 3 years	Pass	Affluence growth increasing spending power for discretionary items like clothing
8 an industry that has growing market demand	Pass	Strong demand of quality products which has a larger growth opportunity as compared to low end products
9 an industry that has many potential customers to provide mass-marketing opportunity	X	Reach of clients increasing through the use of internet which serves as a mass marketing opportunity
10 an industries where there is a lower need for R&D or Patents	X	Patents, R&D costs are lower than tech companies due to nature of business
Firm Criteria		
1 Stable and good management in place	Pass	Weak management in place which has not been able to capitalize on growth, marketing and strategic opportunities
2 Absolute or variable cost advantages	-	Cost advantages are neutral due to large amount of suppliers in the industry
3 Product differentiation	Pass	Quality of product can be matched with large competitors in the market and can be easily differentiated with lower end products
4 Brand image	Pass	Strong brand image in home which has not been fully capitalized on in international markets
5 Access to distribution channels	Pass	Opportunity to grow distribution through use of internet which has not been fully exploited yet; Use of large distributors like mall operators not exploited
6 Costs independent of scale	-	No specific cost advantage
7 Advertising costs	Pass	Opportunity to reduce costs through utilizing internet and outsourcing of distribution instead of flagship stores
8 Sales promotion costs	Pass	
9 Price competition in the market	X	Strong competition on high end quality brands with pricing in-line with competitors
Financial Criteria: Pre-buyout		
1 Operational Liquidity	Pass	Underperforming equity value growth CAGR of -2% High attribution of 58.5% which can be utilized to paydown debt, or used to invest in revenue enhancing inventory
2 EBITDA Margin	Pass	Increased EBITDA at a lower rate than revenues, with EBITDA Margin attribution of -0.4% representing opportunity for cost reduction
3 Revenue Efficiency	Pass	Low revenue efficiency with attribution of -28.6% which represents a value creation opportunity in conjunction with Operational Liquidity
4 Multiple Expansion	Pass	Negative attribution of -25.4% which is due to under-leveraged position and negative equity growth. Represents overall Enterprise Value growth opportunity
5 Leverage	Pass	Negative attribution of -5.7% due to growth in leverage but no growth in equity. Represents opportunity to utilize leverage in buyout of company first, then grow equity post-buyout which will positively add to deleveraging effect
6 Valuation of company in pre-defined range	Pass	Assumed in range since investment was made

Fig. 46: Framework for Rue21 Incorporated

Source: Author's own

Framework Analysis

Using the newly created framework, the company was analysed and accepted as a buyout deal. Through using the framework, it was possible to focus on the criteria

where value creation could be potentially produced, and also to eliminate factors that are negative, but may not be of an impact to the buyout. Following previous case studies, it can be shown that Operational Liquidity and Revenues Efficiency play an important role in the selection of the investment. The two attributors serve as indicators by which selection of investments can be made easier in conjunction with the checklist framework proposed. As shown in the case studies analysis, industry specialization also plays a part in the selection of investments. These criteria should then be analysed per the specialization of the professionals undertaking the selection of these investments. As well, the inclusion of firm level criteria allows for the private equity professionals to compare the company against comparables in the market. Through these criteria, the company can be analysed for comparative advantages or areas that have not been explored in order to improve the bottom-line. This methodology allows for the value generating strategy to be identified prior to entering the investment.

Due to the different methods used by private equity companies in valuing a company, this portion is left to the professional to determine if the valuation meets the criteria. It is understood that a valuation range is determined using each of the different methods, which determines the price that the private equity company is willing to pay. Since there is different concentration from mid-market to larger firms, this valuation technique is bound to vary. As there is no way to conclude on which methods were or will be used, this portion should be supplemented by the value attributors, particularly the Operational Liquidity and Revenue Efficiency attributors, which allow for a uniform method of analysing a company for investment.

It is noticed that while there are factors that rely on the capability of the private equity company to perform due diligence, the factors also depends also on the type of value generating strategies that the private equity companies intend to implement in their portfolio companies. This is in line with Hotchkiss, Smith and Strömberg (2011) that suggest private equity firms with higher reputational capability lead to better recovery of the portfolio company. It is hence recommended that the criteria to be analysed using data from the previously suggested databases which have stored research about the companies, and give a congruent basis for analysis on the country, industry and firm research side. While internal research can be deployed to analyse the companies, this can be time consuming and extend the lead-time for investment. Overall, the

framework for selecting distressed investments simplifies the due diligence process and allows for a critical view of the company with selected criteria that have been tested with private equity professionals.

6. Conclusion

6.1 Summary of Results and Discussion

Thoroughly, the interest in distressed private equity has risen over the years following the Credit Crisis⁶². Even though commitment has been shown into the asset class as respective strategy, the unveiling of the methods of selecting portfolio companies by these firms has just begun to be unveiled. The objective of this study is to show that certain parameters have been established by private equity companies to decide on investing in distressed portfolio companies. With the assistance of industry practitioners, this study has managed to identify these criteria, and further explain how they can affect selection decisions based on the experience of the private equity team. Below, we find the summary of the hypotheses and ensuring results from the analysis in this study:

Hypotheses		Results
H1	The more experience the investor has in selecting distressed investments, the fewer write-offs the investor will incur.	Accepted (Sig @ 0.01)
H2	The experience of management in the industry is an important criterion for private equity companies when selecting distressed investments.	Accepted (Rank 5; Mean: 3.94)
H3	The coachability of the company CEO is an important criterion for private equity companies when selecting distressed investments.	Accepted (Rank 7; Mean: 3.81)
H4	The depth of board of directors is an important criterion for private equity companies when selecting distressed investments.	Rejected (Rank 11; Mean: 3.07)
H5	The existence of barriers to entry is an important criterion for private equity companies when selecting distressed investments.	Accepted (Rank 2; Mean: 4.24)
H6	The existence of patents for the company is an important criterion for private equity companies when selecting distressed investments.	Rejected (Rank 10; Mean: 3.09)
H7	The market growth of the industry is an important criterion for private equity companies when selecting distressed investments.	Accepted (Rank 6; Mean: 3.85)
H8	The size of the market is an important criterion for private equity companies when selecting distressed investments.	Accepted (Rank 8; Mean: 3.7)

⁶² Prequin, Private Equity Investor Survey August 2009 shows that interest in Distressed Private equity exceeds most private equity investment strategies.

H9	The valuation of the investment is an important criterion for private equity companies when selecting distressed investments.	Accepted (Rank 1; Mean: 4.7)
H10	The liquidity of the investment is an important criterion for private equity companies when selecting distressed investments.	Accepted (Rank 4; Mean: 4.04)
H11	The referral source of the investment is an important criterion for private equity companies when selecting distressed investments.	Rejected (Rank 13; Mean: 2.3)
H12	The location of the distressed investment is an important criterion for private equity companies when selecting distressed investments.	Rejected (Rank 12; Mean: 2.81)
H13	The legal environment surrounding the investment is an important criterion for private equity companies when selecting distressed investments.	Accepted (Rank 3; Mean: 4.23)
H14	The accounting environment surrounding the investment is an important criterion for private equity companies when selecting distressed investments.	Accepted (Rank 9; Mean: 3.69)
H15	A syndication or co-investment opportunity for the investment is an important criterion for private equity companies when selecting distressed investments.	Rejected (Rank 14; Mean: 2.15)
H16	Operating liquidity factor is significantly correlated to, and demonstrates significant value to the performance of distressed investments.	Partially Accepted
H17	Revenue efficiency factor is significantly correlated to, and demonstrates significant value to the performance of distressed investments.	Partially Accepted
H18	EBITDA margin factor is significantly correlated to, and demonstrates significant value to the performance of distressed investments.	Rejected
H19	Multiple expansion factor is significantly correlated to, and demonstrates significant value to the performance of distressed investments.	Rejected
H20	Leverage factor is significantly correlated to, and demonstrates significant value to the performance of distressed investments.	Rejected

Fig. 47: Summary of Hypotheses Results

Source: Author's Own

An overview of what private equity is has been described in the start of this study, following up by the decision of choosing distressed investments as a focus due to the enlarged interest from investors. After interviewing market professionals and review,

14 criteria were determined to strongly influence the selection decisions of distressed private equity companies. Through an industry survey done through mailing private equity professionals, the study managed to nail down the importance of experience in selection, and also confirm the importance of certain criteria found.

Firstly, it was important to determine the effect of experience on write-offs of investments for private equity companies. This would allow for an understanding if the more experience the private equity professional has, the better they are at selecting investments that are viable. Through the data collected from the industry practitioners, it was determined that experience accounted for 50% of the variation in write-offs, and that the more experience the private equity company had, the less write-offs they would incur. This finding highly supports that the more experienced investors would have better methods of selecting distressed portfolio companies as compared to less experienced investors.

Overall, taking into account the mean scores of the criteria, we take scores above 3.5 as important criteria for distressed private equity investors. This would cover 9 of the 14 tested criteria with distressed buyouts, showing that these criteria hold an importance in selecting distressed portfolio companies. Valuation of the business will always remain an important criteria for comparison of investment viability, and adds value through the decision making process by quantifying the investment itself. This factor has been shown to be of utmost importance to the private equity companies through the interviews, criteria portion, and the open ended question of the questionnaire. However, due to the different methodologies employed by private equity companies, this study would recommend using the new value attributors, concentrating on the Operational Liquidity and Revenue Efficiency, to determine if the selection of the investment. As shown in the case study analysis, a high correlation between two value attributors and the exit equity CAGR has been established, emphasising the usage of these factors as a selection criteria.

Barriers to protect market position came in second on importance, and were shown to have strong importance for private equity companies across experience. This was an essential finding that could be expanded due to the multitudes of sub-levels that could exist for the criterion. Through the case study analysis, it has been shown that there are various forms of barriers that are employed by companies in order to protect their

market standing. Through this point, it is important to review these barriers for the selected companies, and to determine the extent to which these barriers are strong enough to be effective in growing, or maintaining, market share.

The legal environment came in third and was found to be important for private equity companies across experience. As one of the respondents expanded, the labour environment and laws also play a part in selection, hinting to various sub-categories of the legal environment that can be explored as well. The case study analysis also unfolded the extent of distressed investments are mostly concentrated in the developed countries. This finding highlights that with precarious investments, like distressed investments, it is essential to have a supportive environment that protects the investor in case of adverse situations that impede the exit of the company post-buyout.

Liquidity was high on the list of importance at fourth and was shown to be important across private equity companies. This is an essential finding that shows that the exit procedure can and should be determined at the selection stage of the portfolio company in order to create a swift and efficient exit. Experience of management in the portfolio company was also found to be of importance to private equity investors. However, there was only partial support to find that the management experience was of more importance to experienced investors. Through the statistical analysis, there could be importance across experience of investors and also show that there are certain investors that would prefer to have bad management, so that the handling of the portfolio company could be started afresh. This was as well expounded in the case study analysis where it could be found that top level management turnover was high and occurred across industries.

Market growth came in sixth in the rankings, with importance found across private equity companies across experience. The importance of this criterion is really based on the products that the portfolio company holds and how each product can be exploited to maximise the profits, and increase positive cash flow. This ties this criterion highly with the valuation of the business, making it an essential tying-in factor for selecting of distressed firms.

While coachability of the CEO came in seventh, there was partial evidence to support that the most experienced private equity companies find that this criterion more important. This could be due to the costs and time involved with the changing of CEOs and hence is a driving force to make private equity companies work with the existing CEO to work execute turnarounds. However, it can be said that the overall importance of this criterion was emphasised by most private equity companies that responded to the questionnaire.

Market size for the products of the portfolio company came in eighth and is one that is highly tied to the growth of the market as well. It was found that there was a tapering importance downwards with increased importance. This could indicate that the more experienced private equity companies find that market size is less important due to their ability to turnaround companies, are able to transcend the market size, hence placing more emphasis on the valuation and barriers of entry instead.

Lastly, the accounting environment takes the ninth place with partial support towards more experienced investors finding the accounting environment more important. Those that had gone through 2 cycles of investments had a higher rating for this criterion, which could indicate that the importance of having proper accounting rules in place in the country where the portfolio company was located. However, as many of the companies only invested in countries where they had base operations, there could be an indication as well that some of these private equity companies may be looking to expand their interest overseas.

Altogether, 5 of the 14 criteria were found to be neutral or less important as compared to the above 9 that were just described. It was found that these criteria could be partially important to specific private equity companies, but were not significant across the companies in order to strongly affect selection.

Patents were found to be less important than initially postulated, but were found to have partial support towards importance to more experienced private equity companies. This could be due to their understanding and possible ability to exploit the use of these patents in their efforts to bring the portfolio company out of distress. In addition, this criterion, while a more formal form of barrier to competition and new entrants, could be an eliminated form of formal barriers. As well, the depth of board

of directors was not found to be as important across the experience of private equity companies, coming in eleventh overall. There was a general neutral rating for this criterion, which could add to the understanding of private equity companies having representatives on the board to direct and control the direction of the turnaround of the portfolio company.

The location of the investment was as well not as important as initially postulated. While private equity companies were generally neutral about this point, there could be support that diversifying across borders has little benefit (Lossen, 2006) and may not be as important a criterion as initially thought so. As well the referral source was not found to be as important to selection. This could be due to the existence of existing connections to trustworthy referral sources, which eliminates the necessity to explore beyond the range of the existing network for referrals. As well, it could be suggested that the sourcing capabilities of the private equity companies can be extensive enough to eliminate additional referral sources.

While syndication and co-investment opportunities came in last in the ratings, there can still be importance gathered from the activity for less experienced private equity companies. With the finding that experience can account for fewer write-offs, less experienced private equity companies can take the opportunity of co-investment to learn and understand the difference in selection between the two types of companies.

Finally, through the case study analysis, this study has created a framework for selecting distressed investments. This framework was created through the use of case studies which were tested using value attributors analysed in the theoretical chapters. The framework was further validated using a separate case study which found the framework to be congruent and viable for usage by practitioners. The framework incorporates both theoretical aspects, as well as practical valuation aspects which allow for a marriage of the two in assisting with the due-diligence of potential investments. The new value attributors created to assist with investment selection has shown that Operational Liquidity and Revenue Efficiency are highly correlated with the performance of the distressed buyout. This study has found that private equity companies frequently look excess working capital and low Revenue Efficiency in an investment. This combination of factors have shown to be lucrative, as well as presenting an avenue to truly effect operation value creation in an investment.

Through this study, it has been found that working capital is an essential measurement tool towards the success of a distressed buyout, presenting a leap towards understanding operational value creation that private equity companies effect in their investments.

6.2 *Suggestions to Improve Value Creation Situations*

In this section, this study will explore the various possibilities that can help with a speedy exit of an investment through the improvement of value creation situations. Through these methods, it is envisioned to reduce the costs associated with an exit, and to be able to introduce methodologies to enhance the attractiveness to potential buyers of the investment.

6.2.1 *Reducing Future Signalling Costs through New Corporate Governance*

The first method to be explored would be the reduction of signalling costs associated with corporate governance of the company. With corporate scandals that have wrecked the society in the United States, many corporate governance proponents have listed short sighted views of management, termed as a top-executive value orientation (Hilb, 2005), and the lack of proper governance adherence. Depending on the difference in management ideologies, and how the career paths of management affect their decisions, institutional contexts have different characteristics such as a top down approach as opposed to a more democratic style.

The “New Corporate Governance” aspect introduced by Hilb (2005), provides a brief outline and congruency with the practices of private equity companies. Utilizing the situational dimension, the private equity companies reorganize the boards of the companies that they have stakes in. This is a clear case of board optimization and weaning out of the non performing board members, replacing them with younger or experienced directors (Bantel and Jackson, 1989). This methodology not only adds on outside perspective to the operational management of the portfolio company, but also allows the private equity company to control the board expense which could have been previously overly bloated.

For the strategic dimension, the private equity companies have to be highly focused towards the benefits that can be derived from an efficient board of directors. The

private company could act as a form of supervisory board, which governs its employees which are usually on the portfolio companies. This may act as a form of nepotism towards the employees on the board, but it keeps them strategically aligned towards the interests of improving the portfolio company. This form has to be gradually weaned from the company in order to place other capable board members. This will then ensure a stable flow of capability on the board.

The integration dimension is one that is used closely by the private equity companies. The employee from the private equity companies on the board of directors of the portfolio company can maintain monitors of remuneration and evaluation of the other directors. Similarly, the employee himself is under supervision of the private equity company. Hence, the controls for supervision and integration are closely linked to the way private equity companies operate their portfolio companies. Private equity companies have strong roots in the controlling dimension of “New Corporate Governance”. The main investment point for the private equity companies is to audit, and to be able to influence the risk management of the portfolio companies. Through rigorous checks and overall supervision of turnaround management of portfolio companies, private equity companies review all aspects of their portfolio companies, and ensure their leanness and efficiency. However, private equity professionals should impart these skills to their successor as well in order to enhance and maintain the governance of the company. This would allow for potential buyers an avenue where past improvements can continue forward when an integral member has been replaced.

Hence, “New Corporate Governance” shows to be a promising model for the governance of portfolio companies. The aspects that have been discussed show the efficacy in the usage of this model in the application of governance codes, to the running of a portfolio company. Through this, private equity companies can imprint a strong business model on the investment, and fully utilize their personnel to be able to control turnaround, hence increasing the positive visibility of the investment. Therefore, aspects of the operations of a portfolio company should follow or emulate the standards of “New Corporate Governance” as depicted by Hilb (2005) in order to increase the attractiveness of the portfolio company to potential buyers.

6.2.2 Value Creation through Consolidation

Another method that has not been commonly seen in private equity holdings is to incorporate consolidation methods that can further yield value creation possibilities. The first of these consolidation methods is the consolidation of competition. In this method, private equity companies seek to merge various companies that they are invested in, in order to create a larger, better rounded entity. This can also lead to various cost savings through integrating production lines from both companies, or to be able to reduce staffing in departments through the merger. This methodology is not without its risks of course. Cerberus performed a consolidation of firearms manufacturers⁶³ which created an entity too large and expensive to exit quickly as compared to the competition⁶⁴. While this case involves controversial products, it highlights an importance to prudently consolidate when the possibility arises.

The other form is the consolidation of the supply chain. This methodology encompasses the elimination of third parties from the manufacturing line. Through this methodology, cost savings can be achieved by incorporating bottom line manufacturers into the parent company. An example where this method can be employed is Cerberus purchases of Tower automotive, Chrysler and Guilford mills. This marriage of the three companies would encompass the structural production, design, and interior of automobile production. A merger of these companies could potentially create an entity with front to end capability, making it possible to also extend exit possibilities through IPOs. While possible, this method is also an expensive way of consolidation. The companies could also eliminate clients of their products by taken over by a competitor firm. Hence, it is also prudent to understand the underlying company thoroughly in order to perform such a consolidation.

6.3 Limitations

As with all studies, there are limitations to the degree in which the study could be analysed. One of the limitations covers the depth that the study has been able to cover. As mentioned previously, this study is meant to be a stepping stone towards the

⁶³ Bloomberg (2014): From Out of the Blue, a \$1 Billion Bid for America's Biggest Gun Company. Retrieved from: <http://www.businessweek.com/articles/2014-03-12/cerberus-gets-a-1-billion-bid-for-americas-biggest-gun-company>

⁶⁴ CNN (2013) : Why Cerberus still hasn't sold its gun giant. Retrieved from: <http://finance.fortune.cnn.com/2013/12/09/cerberus-guns-freedom-group/>

identification of the criteria for selection, of which they have been identified. This helps to cover the limitation of depth for the study.

In addition, with any studies, there could be biasness towards certain criteria as compared to others. However, with a large coverage of the population of distressed private equity companies, it could be suggested that there could be enough exposure to private equity companies of various sizes, experience, and also geographically. As well, the methods of collecting of the data could only be verified by Internet Protocol address (IP address), which indicated the location of the respondent. However, many of the respondents emailed back to inform of their completion of the questionnaire, and also left email addresses to verify their submission. These could be cross checked to ensure the authenticity of the data collected.

As performance data was not available across the investors, there could not be a cross comparison check to find out if experience was correlated to increased performance as well. This metric was substituted by the write-off variable which was self-reported as well. However, with the inclusion of some of the largest, well known, and reported performance for some of the experienced investors, this would suggest to be an alleviation of the limitation as well.

Analysis of the questionnaire data was also done according to different various studies that had been done by Van Osnabrugge and Robinson (2000) and Sudek (2007), who had also employed ranking of criteria. As well, Povaly (2007) was consulted for the usage of statistical and research methods for analysis that has been used in private equity studies. These studies helped to form the grounding of the acceptable methods to analyse the data, helping to alleviate the concerns over this limitation.

The limitation of the number of case studies was also mitigated through the use of various industries and companies in order to encompass a large range of distressed corporations. It is also noted that the value attributors cannot cover entire industries such as financial, due to the difference in working models, as well as food and beverage, which typically has negative working capital due to minimised account receivables from upfront payments. While this is a sign of efficiency, it can also mask underlying difficulties of the company such as reduced interest in the product.

6.4 *Implications for Practitioners and Proposals for Future Studies*

The importance of this study for practitioners has been reiterated repeatedly in the course of this study. The importance of selection to the private equity company as well has been shown through the investigation of the criteria. While private equity companies can only gain experience with time and investing over a range of distressed companies, there can be suggestions from this study to help increase the efficacy of selecting distressed portfolio companies.

Firstly, there can be a deeper focus on the identified 9 criteria that have been found important for selecting investments. As well, while there is an importance of having had longer investment selection experience to choosing various selection criteria, there could also be an exploration of the methodology of selection that is done by more experienced investors. Especially with the top criteria investigated, there exist sub-factors that can be further explored to understand the difference between the methods used between the companies. It would be proposed that this can be attempted through co-investment opportunities that could arise from the larger flow and interest in distressed investing.

Experienced investors can as well take this opportunity to spread risk and expertise with investors that are less experienced, but could have large open balance sheets. Through this, it could be postulated that larger firms with more experience can as well share their expertise with smaller, or less experienced firms, with the aim to acquire these firms in the future. This could lead to an enlarged pool of professionals to expand private equity companies, and to consolidate within the industry.

Most importantly, the created framework presents itself as a uniform tool for practitioners to utilize during the selection phase. This creates portability of analysis across different industries which private equity companies are interested in, as well as a blanket measurement which can be used as a comparison of companies. Furthermore, the value attributors can be used as a measurement of success and timing for exit, and could present the viability of the underlying portfolio company.

Herein contains several possibilities for the expansion of this study, and to be able to expand the research of venture capital studies as well through the extension of this

study. There as well contains many opportunities for cross fields of studies that can further expand on this work.

Firstly, it would be interesting to study the criteria in their actual singular form, further exploring the depth of sub-levels of the criteria. Valuation of investments for one would be interesting for finance academics who should be able to pick apart the different methodology entailed by Damodaran (2012), which can allow the researcher to determine the exact methodologies preferred by experienced investors. The same can be said for the barriers criterion which can be further broken into multiple sub-factors and investigated individually. Through deeper studies of the criteria, there could be a deeper understanding of the exact difference in criteria, as well as the most effective criteria for selection of distressed portfolio companies. As well, there is an opportunity to combine this study to explore the criteria across the different stages of private equity that have yet to be explored. Doing so would be able to merge the studies of early stage and late stage private equity selection criteria, which could be potentially interesting to both academia and practitioners alike.

Additionally, the value attributors that have been identified can be measured against other buyout strategies, which could yield interesting results. Should the findings in this study be able to be ported to other buyout strategies, the framework created can then also be extended across. This would add value to the selection phase through the creation of a uniform methodology of selection. By this, we help to unveil the secrecy, and mystery behind this industry that remains both academically, and practically intriguing.

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8. Appendix

Questionnaire

Q1: Please indicate the average experience of your distressed investments selection team (in years)

Ans: _____

Q2: Please indicate which form of control your firm usually invests in (more than one answer can be chosen)

Ans: Control (ie. Sit on board of directors, assist in turnaround) _____

Non-Control (ie. Influence only through senior debt; debt trading) _____

Q3: In your past exits, how long did the exit stage typically last (in months – starting when concrete exit process preparations begin):

Ans: _____

Q4: Please indicate how many writeoffs of distressed investments your firm had to do in your past investments (in %):

Ans: _____

Q5: Please indicate the average size of past investments (in USD millions):

Ans: _____

Q6: Please indicate the importance your selection team places for the bottom criteria when selecting distressed investments

Distressed Investments Selection Criteria	Importance					N/A
	(1:Not Important; 2:Not so Important; 3:Neutral; 4:Somewhat Important;5:Very Important;N/A: Not Applicable)					
	1	2	3	4	5	
Quality and Experience of Management Team/Board						
1. Experience of Management in the Industry						
2. Coachability of CEO						
3. Composition of Board of Directors (ie availability of technical skills or market experience)						
Product or Market Capability						
1. Differentiation of product						
2. Existence of Patents						
3. Barriers to protect market position (ie cost or distributions channels, policies or product differentiation)						
4. Market Growth						
5. Market Size						
Financial Aspects						
1. Valuation of business						
2. Liquidity of Investment: Exit Opportunities						
Other Criteria						
1. Referral Source						
2. Location of Investment: Proximity						
3. Legal Environment						
4. Accounting Enviroment						
5. Syndication or Co-Investment Opportunity						

Q7: Are there any criteria that you feel this survey has left out that you place an importance on when selecting distressed investments?

Ans: _____

Q8: Please leave the name of your company so that you will not be contacted again for reminders to complete this survey (all survey data will be anonymous)

Ans: _____

Q9: Should you like a copy of the results from the thesis, please leave your email address as well (optional):

Ans: _____

List of Participating Firms

Redacted at request of participants.

List of databases for use to consolidate research for Framework criteria

Country Databases

IHS Global Insight

IRIS Dataset

LexisNexis

WDI Online - World Development Indicators (World Bank)

World Competitiveness Yearbook

EIU - The Economist Intelligence Unit

Euromonitor - Passport GMID

Industry Databases

GBI Research - industry reports

Business Insights - MarketLine Advantage

Frost and Sullivan

LexisNexis

Euromonitor - Passport GMID

Firm Databases

Wiso

Global Markets and Companies

ThomsonOne Reuters

Bloomberg

List of Interviewees

<u>Interviewee</u>	<u>Company</u>	<u>Date</u>	<u>Time</u>	<u>Firm Location</u>
xxx	Axx Mxxxxxxx	27.07.2012	45 mins	Switzerland
xxx	Ax Fxxxx Gxxxx	14.09.2012	30 mins	Saudi Arabia
xxx	Mxxxxxxx	19.09.2012	1 hr	United Kingdom
xxx	Oxxxxxx Cxxxxxx	14.03.2013	35 mins	United Kingdom
xxx	Dxxxxxx Bxxx	20.03.2013	50 mins	United States
xxx	Kxxxxxx Cxxxxxx	07.10.2013	1 hr	United States
xxx	Bxxxxxx Cxxxxxx	08.10.2013	1 hr	United Kingdom
xxx	Mxxxxxx Cxxxxxx	09.10.2013	1 hr	United States
xxx	Nxxxxxx Hxxxx	11.10.2013	45 mins	Germany

*Interviewee and company names redacted at the request of interviewees

Interview Transliteration

Redacted at the request of interviewees.

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Singapore Management University **Singapore**
Bachelor of Business Management August 2007

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UBS AG **Singapore**
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Activities: Student Ambassador and Advocate (Represented Singapore Management University in front of Lee Kuan Yew and Li Ka Shing), Asurion Young Entrepreneurs Challenge - First place winner.