Master Thesis

Determinants of Going Private Announcement Returns

Written by: Vicky Samantha (456794)

Supervisor: Y. Gan

Second Reader: R. van der Wal

Accounting, Auditing, and Control

Accounting and Finance

Erasmus School of Economics

Erasmus University Rotterdam

Abstract

The purpose of this thesis is to examine the relationship between firm characteristics in going private firms and shareholders' return around the going private announcement date in the period 2010 – 2016 for US companies. By running univariate and multivariate regressions on two sample groups, this thesis finds that shareholders in firms announcing a going private transaction are experiencing significantly positive returns around announcement dates. Additionally, according to previous literature, the magnitude of the returns in these transactions are affected by the level of board independence, management ownership, risk, as well as growth opportunity one year prior to the announcements. This thesis attempts to expand the established empirical literature on going-private transaction, and to define the importance of the firm characteristics in those returns.

Acknowledgements

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Introduction

Different to other corporate restructuring, going private transactions do not combine two previously different companies, instead, the large block of controlling shareholders initiates to take the firm delisted from the public stock exchange. Furthermore, going private transactions forces the non-controlling shareholders to make a difficult settlement[1]. As stated in DeAngelo et al. (1984), when the transaction is concluded, it leaves the surviving shareholders challenging to trade their investment, as there will be restricted trading market available.

Although there is significant benefit related to the new company structure, the going private process is considered complicated and risky. Before the announcement and the privatization take place, the company has to perform due diligence practices, so that the transactions are fair to all related parties. It is also common that shareholders in these transactions are seeking litigation cost if the transaction is deemed unfair to them. When outweighing the benefit and the cost of being private, some eligible firm chooses to remain public because it is possible that the cost exceeds the benefit, resulting in a relatively small amount of transactions.

Regardless of the rare occurrence of going private transactions, several literature have reported a relatively consistent increase in going private transaction following the 2000s credit crunch, and relatively low number in the going private transactions in the 1900s, which draws the second wave of the buyout activities in the past decades, following the first wave occurred in the 1980s (Baran et al., 2010). Additionally, Hurduzeu and Popescu (2015) find that there is some movement in the buyout market following the 2008 great recession. Additionally, several literatures (Renneboog et al., 2007; Gerranio & Zannoti, 2012) has reported an increase of going private transaction in the UK and continental Europe in the recent decades, further highlight the importance and the recent trends in the evolution of going private transactions.

This thesis examines the relationship between voluntary going-private announcement and shareholders reaction around announcement dates after the recent great recessions that takes place between the years 2007 – 2009. Although, earlier studies have investigated the relation between shareholders return following a voluntary going private announcement; however, there are still limited literature that examine the relationship between the firm's characteristics of the voluntary going private firm prior the announcement to the shareholders return around announcement dates, specially after the 2008 housing bubble.

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[1] As quoted under Going Private section in *SEC.gov*

Given the change in economic environment and the increasing trends in going private transactions, this thesis is intended to answer the following research questions.

RQ 1: Is shareholders' wealth is experiencing an increase around voluntary going private announcement?

RQ 2: Do prior year firm characteristics affect the shareholders' return in around voluntary going-private announcement?

By utilizing two samples, the result of this thesis shows that shareholders return in voluntary going private announcement are experiencing a more significant increase in comparison with the control sample. The result for the first hypothesis, which examines voluntary going private announcement to shareholders return in general, shows that there is a positive relationship between announcements to shareholders return, measured by the cumulative abnormal return around announcement date, inferring that the shareholders in going private firms do benefit from the change in corporate structure. However, the result of examining the effect of prior characteristics to the magnitude of change in shareholders wealth have shown to have a somewhat surprising result than those previously reported in prior literature, providing new evidence in going private literature.

The findings of this thesis might be useful to some interested parties and might provide an alternative outcome to the previous studies in the first and second buyout wave. First, the examination of the shareholder returns following voluntary going-private announcement and understanding of the firm characteristics to the magnitude of those returns is critical for the shareholders and management, related to the development of going-private transactions in the recent years. The finding might be useful for the related parties to anticipate the positive or negative returns on the announcement as well as comparing the stock price movements to it peer. If the finding shows negative shareholders return following a going private announcement, then it can help the management to make tactical decisions to avoid any cost associated with those negative returns. Additionally, the shareholders could also anticipate the negative returns with shareholders protection rights.

Additionally, since going private might have significant effect on market competition, economic growth, and social welfare in general, this result might be useful for regulators as well as for investment & legal advisors. The regulators could use the finding in this thesis as a guideline to adjust the flexibility as well as the establishment of regulations that is representative of the current market and economic environment. Additionally, investment and legal advisor might find the finding useful for advising purposes in the transaction process and due diligence practices.

Lastly, this thesis will further extend the existing literature on the examination of shareholders return following a going private announcement and contributes to the literature examining the determinant of the returns about going-private announcement.

The rest of this thesis is arranged as follows. Chapter 2 provides the prior literature on going-private transactions; Chapter 3 describes the hypothesis development; Chapter 4 describes the data and methodology used in this thesis; Chapter 5 reports the empirical result and analyses; Chapter 6 provides the additional robustness analyses to verify the robustness of the findings in this thesis; and finally chapter 7 deliberates and conclude the thesis.

Literature Review

     This following section presents the literature review about going private transactions. In this section, I will first define the term going private. Afterwards, I will explain the various ways and financial structure, which firms can use to delist from the stock exchange, and finally, I will explain the reasons on why firms choose to delist from the stock exchange.

Going Private Transaction

     It is essential to differentiate the nature of the going private transaction when assessing the returns provided to its shareholders. There are two circumstances where a firm could go private, compulsory going private and voluntary going private. Under compulsory going private, the firm is required to delist from the stock exchange, as there are problems related to the stock listings. While, voluntary going private refers to delisting transactions initiated by management or large equity owner, to take the firm delisted from the stock exchange. The literature loosely ties going private transaction to delisting; however, this thesis will refer going private transaction as voluntary going private transactions.

     The traditional understanding of going private transaction is often referred as a major organic corporate transaction (Nealis, 2004). Going private transaction restructures corporate ownership by replacing the entire public stock interest with full equity ownership of the incumbent managers, which typically alters the control, capitalization and the composition of a public company (DeAngelo et al., 1984; Nealis, 2004). Additionally, the transaction itself tends to be quite complicated, risky, and costly, as it usually requires a new infusion of new capital and involves legal complexities (Leuz et al., 2008).

     Before the company can delist from the stock exchange to go private, the management and the financial advisor should engage in preliminary due diligence to determine whether the going private is feasible, as the company's ability to deregister depends on the number of holders of record of its stock (Miller & Frankenthaler, 2003). Under SEC and its rule, a company with a class of securities registered under the SEC act of 1934 may choose to terminate the registration of any such class of securities if the securities have less than 300 holders of records, or fewer than 500 holders of the record if the company's total asset have not exceeded $10 million at the end of the company's three most recent fiscal year (Leuz et al., 2008). Furthermore, the firm should also inspect all the required and applicable documents to determine whether there's a restriction on their ability to take their firm private (Miller & Frankenthaler, 2003)

     Going private transactions starts when a firm files Schedule SEC SC 13 E-3 to the Security Exchange Commission (SEC), followed by filing Form 15 and Form 25, indicating the completion

of going private transaction and the deregistration of the stock. Form 15 reports on the number of holders for the class of securities, and to indicate the provision(s) of the 1934 Act under Rules 12g – 4, 12h – 3, or 15d-6 that were relied upon to suspend the duty to file a report[2]. According to Leuz et al. (2008), following this step will eliminate the probability of mistakenly taking going dark as going private.

Going dark transaction is often seen as going private transaction, as the firms in both transactions are delisting itself from the stock market. However, these transactions incorporate two dramatically different events. The difference between these two transactions lies in the ability to trade the firm's equity after the firm went private. While the newly private firm continues to trade in the pink sheet under the OTC market in going dark transactions, under the going-private transaction, the firm is not able to trade in any stock market once it went private (Leuz et al., 2008).

Differences in Going Private Techniques & Type

Traditionally, there are four techniques that management can take when taking a firm private: (1) cash out merger; (2) a sale of all asset by incumbent management; (3) a tender offer, and (4) a reverse stock split (DeAngelo et al., 1984).

As specified in DeAngelo et al. (1984), in a going-private merger, a Delaware Corporation (shell corporation created for going private purposes), merges with the firm announcing going private transaction. Under the new merger agreement, the current manager from the previous public firm becomes the sole equity owner of the surviving corporation. This technique requires the public shareholder to surrender their shares in return for cash compensation (The transactions can also be paid in debt or preferred shares). Under the going-private merger, the stockholder of the public firm must approve the merger agreements (Rau, 2008). This specific technique makes the surviving investor hard to trade their stock because of the limited number of the market available to trade.

In going-private asset sales, the current manager, as the sole owner of a shell corporation, purchases the firm's entire asset for cash and distributes the cash to the public shareholders. Furthermore, the current management will also distribute non-cash distribution to the public shareholders. However, in cases where the current management decided not to distribute the cash following the asset repurchase, the surviving fund typically makes a cash tender offer immediately following asset sales. These first two techniques require approval from at least 50 % of the outstanding voting stock, where the required percentage depends on the state law and any modifications specified in corporate authority (DeAngelo et, al., 1984).

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[2] Descriptions of forms and filings are derived from SEC.gov

In contrast with the first and second techniques, the third technique, going-private tender offers do not require a vote and do not require the public shareholders to surrender their shares involuntarily (Rau, 2008). According to Leuz et al. (2008), like tender offer in general, these offers may be for cash, or they are maybe in exchange for offers for nonconvertible debt or preferred stock. Typically, the firm itself makes a cash offer for all shares and the management relinquish any right to participate. In some of the cases, the offer is made directly by insider-manager, or by a corporation wholly owned by the management group.

Lastly, as stated by DeAngelo et al. (1984), a firm could go private by declaring a reverse stock split, where for example, 1000 old shares are issued for one new share. Under the reverse stock split, stockholders may choose to redeem their portion shares. Nevertheless, there are some circumstances where shareholders have to redeem their portion of share. However, it is uncommon to use reverse stock split in going private transactions. Depending on the state law, the reverse stock split may require adjustment to the corporate authority, hence requiring stockholders' approval.

The common element in going private transaction is that a small group of investors, including current managers, seeks to acquire all publicly owned shares. However, since not all firms have their cash available to compensate the shareholders, sometimes the transactions usually require funds from private equity to finance the transactions. In their research, they classify the proposals into (1) pure going private transactions, in which incumbent management seeks complete equity ownership of surviving corporation, and (2) leveraged buyouts, in which management proposes share equity ownership in the subsequent private firms with third-party investors (DeAngelo et al., 1984; Leuz et al., 2008).

A management buyout (MBO) is a transaction in which the internal members of managers of the target firm instead of outsiders, themselves buyback all the shares in the company, making them the sole owner of the company. Unlike LBO, in MBO, the management puts up their own money to acquire the full control of the company, allowing them to affect all related activities. According to Amihud (1989), what distinguishes MBO transactions is that the current management acquires a substantially higher proportion of the firms' equity than it previously held and the surviving firm that usually continues to operate the acquired firm as an independent company. Additionally, different from LBO transaction, management in MBO transaction continues to become the management of the surviving firm.

According to Palepu (1990), a leveraged buyout (LBO) is a transaction in which a group of private investors uses debt financing to purchase a corporation or a corporate division, and buyouts are structured, so that management's ownership interest in the firm increases substantially. One of the most significant characteristics of LBO is the increase in the company's financial leverage.

Furthermore, LBO also significantly changes the corporate governance structure by combining the current management with institutional block equity owner that will join the firm's board of director to monitor management's strategy and performance actively. Furthermore, once a firm becomes private, the public shareholders lose their access to the public stock market after the buyout, meaning that they could not trade for their shares anymore in the stock market. Finally, as stated by Palepu (1990), the high leverage, substantial management ownership, effective corporate governance, and loss of investors' access to liquid public equity markets fundamentally distinguish an LBO from a typical public corporation.

Reasons for Going Private

Despite the fact that going private transaction is associated with an increase in financial cost and liabilities, the transaction itself can generate significant benefits to the newly formed firm. As stated in Engel et al,. (2006), a company could choose to go private if the cost associated with being public exceeds the benefits.

According to research by Block (2004), on management's reason in going private transaction, the costs associated with being a public firm is one of the reasons of why a firm chooses to go private. The ability to cover these costs often affects the management decision to go private. Firms with less ability to cover these costs choose to go private. Furthermore, since the private company is not subject to the most requirements of the securities laws, specifically disclosure and reporting requirements, the formerly public company could save those costs, as there is no apparent benefit related to the issuers (Nealis, 2004). Additionally, the government applies this rule to all public firms, increasing dissatisfaction of small growing firms with the public market (Block, 2004). For example, smaller firms have less ability to amortise those costs; the firms prefer to exit the public market as that cost exceeded the benefits of being private (Becker & Pollet, 2008).

Another reason associated with going private is the pressure and time consideration imposed on top management following the passage of SOX 2002. For example, the management thinks that the firms are complying with too many outsiders than insiders, subduing the time and opportunity to focus on the organic growth of the company (Block, 2004). Additionally, the management also thinks that some of the SOX's passage could impose new problem rather than a benefit. For instance, the CEO and CFO of a public company must certify whether the financial statements are free from material misstatement and probability of fraud. The pressure to certify the financial statements is also one of the reasons why a firm chooses to go private, as not all top executives are capable of certifying financial statement, yet they are not protected against criminal liability if there's a fraud in the reports whether it is intended or error (Block, 2004).

The lack of liquidity and secondary market triggers also a formerly public firm to go private. Investors often made an investment decision based on the firm's liquidity, and they are more likely to invest in a more liquid firm. As stated in Ellul and Pagano's (2003), and Pritsker (2006), IPOs should also earn a positive liquidity premium in aftermarket trading; however, if the firm is not able to increase its liquidity by being public, the firm wishes to reverse the transactions. Furthermore, according to Pagano, Panetta, & Zingales (1998); Hanley & Wihelm, (1995), the ability to raise capital in the future is almost as important as the initial fund raised from the IPO. Moreover, the less liquid firm is less able to diversify their risk, resulting them to go private.

Lastly, top executives also believe that the firm could achieve a higher value if it is a private corporation, as it will have a better flexibility to non-public firms in restructuring their operations. Management is often forced to take the less profitable project to act in favour of the shareholders. Related to Lehn and Poulsen (1989) going private might be able to solve agency cost within a firm. For example, once a public firm becomes private, or in the process, a private equity firm is willing to provide more capital to the firm to regrow their business (Block, 2004).

Hypothesis Development

In this section, I will develop the hypothesis related to the effects in shareholders' return following a going private announcement, as well as the factors that might affect the magnitude of those returns, based on the previous streams of literature in going private transactions.

Going private announcement to shareholders' return

The public believes that going private transactions could negatively affect shareholders' wealth as the management is in the role of the buyer as well as the seller of the firm's stock. Many management buyout critics argued that there be numerous loopholes for incumbent management to undercompensate the returns provided to the shareholders in these transactions (Brudney & Chirelstein, 1978; and Stein, 1985). Amihud (1989) suggest that management can apply techniques, [that] are intended directly or indirectly to depress the prices of the company's shares so that the management could benefit from the transactions. Such manipulation could involve holding down current earnings and strengthening future profits by making costly improvements in PPE or by introducing a more conservative accounting procedures[3].

However, according to DeAngelo (1986), Kaplan (1989), and Lee (1992), earnings manipulation prior going private transaction does not affect the shareholder's wealth negatively. In fact, as going private transaction is considered costly and complicated, the scrutiny of public shareholders and litigators regarding the public to private transactions makes it more difficult for the managers to manipulate the returns given to the shareholders following the going private transaction.

Additionally, shareholders in going private transaction can protect their right through their voting power, or threat of litigation if the transaction is deemed unfair to them (DeAngelo et al., 1984). As prevention cost, the management seeks the involvement of investment banker in these transactions, which employs a variety of market- and accounting-based valuation approaches to evaluate whether the compensation offered in going private transaction represents the fair value of the publicly held shares (Rosenbloom, 1981; DeAngelo et.al. 1984). Thus, investment banker, as a mediator in going private transactions reassures that the transaction is fair to all associated parties.

As stated in Travlos and Millon (1987), going private buyouts produce gains by eliminating information asymmetry problem between reasonably uninformed outside shareholders and inside management shareholders. In fact, DeAngelo et al. (1984), Lehn & Poulsen (1989), and Travlos & Millon (1987), find that shareholders' returns are experiencing an increase following the

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[3] Quoted from *The Wall Street Journal*, Dec 29, 1983.

announcement of going private transactions. Additionally, the typical abnormal return at the going private announcement appears to be around 20%, with most buyout information generally incorporated in the share price from one day before until one day after the event date (Renneboog and Simons, 2005). The increase in shareholders' wealth following a going private transaction suggest that managerial organizational form choices do appear to benefit minority shareholders (Engel et al., 2007). Based on the discussion above, the first hypothesis examined in this thesis is, stated as follows:

H1: There is an increase in shareholders' return following a going private announcement.

Factors affecting shareholders' return in going private announcement

Additionally, previous papers speculate that there is significant relation between the board characteristics, ownership structure, firm risk, and growth opportunity of the firm one year before the announcement with the magnitude of the returns provided to the shareholders following a going private announcement.

Board Characteristics

As reported in the previous section, going private transactions are hefty with opportunities for the management to undercompensate their shareholders. One way to alleviate such agency problem is through an effective corporate governance mechanism (Lehn & Poulsen, 1989). The board of directors is a corporate governance device that protects shareholders interest within a firm (Nikoskelainen & Wright, 2007). Jensen (1989) argues that more independent the board of directors, the more they can resist the influence of managers and insiders, by any means the fairer their decisions.

In the case of going private transactions, independent outside directors play a critical role in monitoring the managerial actions in the process of going private transactions. Although the board of director usually consists of independence outside directors, prior studies report that the addition of an independent outside director is associated with a favourable stock returns. Additionally, Lee et al. (1992) show that going private transactions, which board consist of more independent members earn more substantial abnormal returns than those dominated by non-independent members. From the discussion above, I expect the following hypothesis:

H2a: There is a positive relationship between the board director independence in going private firms with shareholders returns following a going private announcement.

Ownership Structure

Furthermore, Bebchuk & Kahan (2000) states that ownership structure is also one of the critical corporate governance schemes in a company. As stated in Thomsen and Pedersen (2000), two critical elements in ownership structures are the ownership concentration and the owner identities. Ownership concentration evaluates the power of equity owner to affect the decision made in the firm, whereas the identity of the owner might affect the objective and the strategy to use their power.

Managerial ownership can affect negotiation power and can align managerial and shareholders' interest (Rau P.R.; Krishnamurti & Vishwanath, 2008). As stated in Jensen and Meckling (1976), when the management equity ownership decreases in the company, the managers see the company as other people money and are consequently more willing to misallocate corporate assets to their advantage, indicates that there might be a possibility of agency conflict.

Additionally, in the case where management has a rather large concentration of the equity ownership in the company before going private, the management will act in more favour as the shareholders, as the return that is given back to them are significantly affected by their own decisions (DeAngelo et al., 1984). Also, DeAngelo (1984) claims that they found that the average increases in shareholder's return following a going private announcement are higher in firms where management owned the majority of the share. This finding might indicate that the shareholders might expect a higher probability of success of the transactions (DeAngelo et al., 1984). Therefore, I postulate the following hypothesis:

H2b: There is a positive relationship between the levels of management equity ownership of the going private firms.

Firm Risk

Firm risk exhibits the financial uncertainty of shareholders, who holds an investment within a company regarding the consistency of returns provided by their investment. Additionally, a firm that is relatively riskier tends not to be a good going-private candidate[4].

According to Amihud (1989), stock prices exhibited a more significant increase in going private firms, whose risk was lower[5]. Additionally, Grammatikos and Swary (1986) show that the average increase in price[6] was 4.69% greater in low-risk firms. Therefore, I constructed the following hypothesis:

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[4] Quoted from Mergers, Acquisitions, and Corporate Restructuring, Patrick A. Gaughan (Print).
[5] Measured by the standard deviation of the stock traded, up to one-year prior the announcement.
[6] Net of market price.

H2c: There is a negative relationship between the level of risk embedded in the firm and the return provided to the shareholders following a going private announcement.

Growth Opportunity

Growth opportunity exhibits the potential value creation of a firm in the future period. Many analysts implement the price-earnings multiple when valuing a firm growth opportunity, specifically relative PE Ratio. Relative PE ratio measures the current position of performance compared to a set benchmark. When setting the given benchmark to be the industry's, the analyst's control for any given risk to that specific industry.

Relative P/E ratio to industry measures how well a firm is performing compared to its industry. Travlos and Millon (1987b), shows that the price increase was higher the lower the price to earnings (P/E) ratio of the company relative to the P/E ratio of its industry. The result indicates that the market assessed a more significant potential gain in firms whose price performance relative to earnings was below their industries. Ergo, based on the above discussion, I propose this following hypothesis:

H2d: There is a negative relationship between the growth opportunity within a firm and the returns provided following a going private announcement.

Data and Research Design

The following chapter describes the data used and methodology constructed in this thesis. The first section outlines the sample construction, followed by the description of the research design, as well as the figure of the predictive validity framework (Libby Boxes) for this research.

Sample Construction

The following section presents the sample construction criteria and procedure used in this thesis, intended to examine the relation between firms announcing a going private transaction and the return of its pre-transaction shareholders.

The sample in this thesis begins in 2010 when the United States has fully recovered from the great recession and ends in 2016. The going-private sample starts with the identification of completed going-private announcement dates in *Bureau Van Dijk's Zephyr Merger & Acquisition* database for US companies. Additionally, I downloaded the required financial data from *Compustat* and *Orbis* database, ownership structure from *Execucomp*, and daily stock returns from *CRSP*. However, the unavailability of the governance data in the newly private firms requires me to hand collect the interested data by examining the firm's DEF 14A filings on *SEC Edgar* database, while the governance characteristics for control firms are downloaded through *ISS* Database in *WRDS*.

Additionally, the unavailability of the specific information related to the going private transactions in *WRDS* and *Zephyr* databases requires me to inspect each of the company filings manually. Following DeAngelo et.al. (1984), the examination of the company's proxy statements relating to the merger (*DEFM 14A*), current report (*8-K*), as well as *SEC Schedule SC 13 E-3, Form 15* (Notice of termination of registration)*, and Form 25* (Notice of the removal from listing and registration of matured, redeemed or retired securities) managed to exclude companies that meet the following characteristics:

- Firms that were acquired by a foreign country.
- Firms that operate in a foreign country.
- Firms that were not listed on NYSE/NASDAQ.
- Firms that went private because of mandatory circumstances.
- Firms that operate in financial and utility industry.

Additionally, this step will automatically exclude stock repurchases, buyout callbacks, as well as ensure that all of the firms in the sample had voluntary delisted itself from the stock market.

Table 1
Going private sample selection

Going Private Firms	351
Less:	
Firms excluded from examining DEF 14A & DEFM14A	
Firms not listed in NYSE/NASDAQ	(6)
Foreign operating firms	(11)
Firms with foreign acquirer	(18)
Involuntary Going Private Transactions:	
Hostile Takeover	(5)
Bankruptcy	(4)
Liquidation	(2)
Firms in Utility and Financial Industry	(10)
Firms excluded from the sample	(56)
	295
Less:	
Missing accounting data from *Compustat* and *Orbis*	(201)
	94
Less:	
Missing ownership data from *Execucomp*	(19)
	75
Less:	
Firms with missing daily returns from *CRSP*	(11)
	64
Less:	
Firms dropped by Stata for regression	(9)
Going Private firms included in regression	55

Table 1 reports the eliminating procedure of the sample in this thesis. Based on the examination of DEF 14A in *SEC Edgar* database, I have to exclude six firms from the going private samples for companies that are not listed in *NYSE / NASDAQ*; 11 foreign operating firms; and 18 firms with a foreign acquirer. I exclude foreign operating firms and firms with the foreign acquirer, as there might be a possibility that the firm is still listed in the foreign public stock market. Additionally, the examination of DEFM 14A managed to eliminate five firms that went private because of a hostile takeover, four firms for mandatory delisting because of bankruptcy, and two firms because of liquidation. The exclusion of these firms in the sample will assure that the firms are voluntary delisting. The examination of required reports in *SEC Edgar* database managed to exclude 46 firms from the initial sample. Additionally, I exclude firms that operate in the financial and utility industry, four and six, respectively. I opt-out these industries as they have their specific regulation. After dropping the observations based on the sample criterion, the sample drops to 295 unique going private observations. When the remaining observations are merged with accounting data from *Compustat* and *Orbis* database, the results decreased to 94 observations, deleting 201 observations with missing accounting data. Additionally, the unavailability of ownership data in *Execucomp* and missing daily returns data from CRSP database further decreases

the going private sample size by 19 and 11 observation respectively, resulting in 64 observations. Additionally, since the presence of extreme values variable might affect the overall findings of my thesis, I winsorize my data to remove the outlier present in my sample. The winsorizing process managed to drop nine additional samples from the observations, generating the final going private samples, consisting of 55 observations.

The small numbers of observations are quite common across going private literatures. Similar to the sample size in this thesis, previous literature also report a relatively small sample size in their researches. Travlos and Millon (1987), analyzes data of going private transaction from 1975 to 1983. The final sample of the going private transaction in their study consists of 56 observations. In the research of Lee et al. (1992), the final sample of going private used in the research is 58. The research started with 88 going private transactions occur from 1983 to 1989; however, the unavailability of the financial and governance data in the newly private firm decreases the sample size by 30 observations. Furthermore, Kaplan (1989) uses 76 completed management buyout transactions between 1980 and 1986.

Research Design

This section outlines the research design developed in this thesis to test the hypotheses constructed in the previous section. This chapter briefly outlines the control sample construction, followed by the description of the models and variables used in the regression.

To be able to realize the actual difference in shareholders return, I follow previous study (Lehn and Poulsen, 1989) that uses two samples for the examination of the incremental changes in shareholders reaction following a going private announcement. Many earlier studies analyze the effect of going private announcement to shareholders' return using a full non-matched sample; however, a more contemporary approach introduces a matched control sample to econometrically alleviate the possibility of sample selection bias (Rosenbaum and Rubin, 1984). The control sample used in this thesis consists of firms with similar characteristics that remained active during the same period as the going private firms.

The control sample begins with attaining all public firms with available data from *Compustat, Orbis, CRSP, ISS,* and *Execucomp* during 2010 – 2016 period. To have a fair assessment of shareholders return in going-private announcement, the firm in the control group has to have similar characteristics as the firms in going private firms. The matching process is constructed by creating a matching algorithm that matches the going-private firms, with public firms, which are relatively similar in size and performance as well as operating in the same year and industry as the going private firms.

The matching process starts with the division of observations in going private sample and the initial control sample into deciles based on the firm's total asset and ROA. The matching process continues with matching the going private sample with the control sample that is in the same total asset & ROA deciles as well as operating in the same year and industry. Firms that do not have any match are dropped automatically. The process resulted in 56 matching control sample, consisting firms with similar characteristics that remained public. The final sample in this thesis consists of 111 observations, a combination of both going-private sample and control sample, 55 and 56 observations respectively.

Additionally, following Lehn and Poulsen (1989), I use two approaches when examining the shareholder's return around announcement date of going private transactions. The first, I attempt to differentiate whether shareholders firms announcing going private transaction is generating more substantial returns in contrast to a control sample by implementing a univariate t-test. Univariate t-test allows this research to differentiate the average returns generated to the shareholders based on the groupings of the samples.

Second, I implement a multivariate analysis on the full sample to examine the market reaction as well as evaluating the likely causes that contribute to the changes in shareholders return around going-private announcement dates. To examine and measure the differences in shareholders return following a going private announcement, I estimated the following OLS regression:

$$
\begin{aligned}
CAR_{1,2} = \alpha\ +\ &\beta_1\ GP + \beta_2\ BoardComposition + \beta_3\ GPxBoardComp + \beta_4\ TotOwn \\
+\ &\beta_5\ GPxTotOwn + \beta_6\ FirmRisk + \beta_7 GPxFirmRisk + \beta_8\ RelPEIn \\
+\ &\beta_9\ GPxRelPEIn + \beta_{10}\ TotalAsset + \beta_{11}\ ROE + \beta_{12}\ TobinsQ \\
+\ &\beta_{13}\ Leverage + \beta_{14}\ FCF +\ u_i +\ d_t +\ \epsilon_{it}
\end{aligned}
$$

Eq (1)

As presented in Eq (1), the dependent variable $CAR_{(1,2)}$ is cumulative abnormal returns around announcement dates, where CAR_1 is a two days cumulative abnormal return one day prior and on the announcement dates (-1,0). CAR_2 is a 3-day cumulative abnormal return (-1,1), one day prior and after the event dates. Namely, model (1) uses CAR_1, and model (2) uses CAR_2.

The dependent variable CAR is calculated using the market-adjusted event study methodology.[7] I measure the cumulative abnormal return related to the going private announcement identified by the filings of SEC 13 E-3 in SEC Edgar database for observations in going-private

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[7] Stock return data are downloaded from the CRSP using the company 9-Digit CUSIP codes and calculated using Event Study Tools in *WRDS*. See Brown and Warner (1985) & Fama and Jensen (1967).

sample and control sample[8]. Additionally, given that NYSE and NASDAQ average 250 trading days in a year, this thesis uses 250 trading days before the announcement of going private as the estimation window when calculating the CAR. I will utilize two variations of event windows when calculating the expected average returns, CAR_1 and CAR_2 respectively. The variation in the event window is intended to verify the robustness of my findings.

Additionally, to examine the determinants that influence the change in shareholder's return around going-private announcement dates, I implemented several test variables in this thesis. To test the first hypothesis, which examines the incremental changes in shareholder's return following a going private announcement, I utilize the first test variable GP. Since the full sample consists of observations from both going-private sample and control sample, dummy variable GP is included to differentiate the privatization cases in the entire sample.

To measure the effectiveness of first corporate governance mechanism in going private firms examined in this thesis, I start by constructing the variable board composition as a proxy for board independence in going private and control firms. As a modification of previous going-private literature (Lee et al., 1992) that uses binary variable insider-dominated[9] in their study, I follow Yermack (1997) that uses the continuous variable board composition as a proxy of board independence. Additionally, since this thesis focuses on the determinant of the returns in going private firms, I utilize the interaction of independent variables GP and Board Composition (*GPXBoardComp*) to individually measure the effect of board composition to abnormal returns around announcement dates of firms that went private.

Following previous studies (Travlos and Millon, 1987; DeAngelo et al., 1984; and Grammatikos and Swary, 1986), I use the total management equity ownership invested in the firm one-year prior the announcement as the proxy of firm's ownership structure. Identical to the second firm characteristic tested in this study, I constructed interaction of independent variable GP and total management equity ownership (*GPXTotOwn*) as the interested independent variable to test the hypothesis relating the management equity ownership in going private firms with the return provided to its shareholders.

To test the fourth hypothesis examined in this thesis, I follow the work of French, Schwert, and Stambaugh (1987) and Amihud (1989) that uses firm's stock volatility to measure of risk embedded in the firm. Moreover, since this thesis focuses on the effects of firm risk embedded in going private firms, I constructed the independent interaction variable GP and firm risk

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[8] Control firms are given artificial announcement dates based on the matched going private sample as the filing date of SEC Schedule 13-E3.

[3] Equals to 1 if it the board is dominated by independent directors, and 0 otherwise (Lee et. al., 1992).

(*GPXFirmRisk*) to individually measure the effect of the level of risk embedded in going private firm to the shareholders return around the announcement dates.

As for the fifth test variable, I follow Travlos and Millon (1987) that uses relative firm's P/E ratio to the industry as a proxy for firm growth opportunity. Similar with the interested independent variable used for the previous hypothesis, I constructed the interaction variable between GP and relative P/E ratio to industry (*GPxRelPEInd*) that measures the effect of growth opportunity in going private firms explicitly, and the shareholders return around announcement dates.

Given the broad variations in firm characteristics in the full sample examined in this thesis, it was deemed essential to control for any potential firm characteristics that might inflate or deflate returns generated to shareholders around announcement dates. Following previous literature (Gerranio & Zannoti, 2012; Goh et al., 1999; & Morck et al., 1988), I utilize the firm-specific control variables comprise of the firm prior year *TotalAsset, ROE, TobinsQ, Leverage,* and *FCF*. Lastly, I included the year and industry[10] fixed effects in my regression models, to control for any year and industry differences that might affect the findings in this thesis. The full definitions and calculation of independent and control variables are presented in the table below.

Table 2
Variable definitions

Independent Variables		
Variables Name	Definition and Measurement	Source
GP	Dummy variable equal to 1, if the company is going private and 0, if the company belongs to the control sample.	
Board Composition	Proportion of Independent Directors to the number of directors served on the board as recorded in the most recent proxy statement	SEC EDGAR: DEF 14A for going private samples; ISS Database for Control Sample
GPxBoardComp	Interaction variables equal to the value of the board composition if the company is going private and 0 for firms that belong in the control sample	
TotOwn	Natural logarithm of total management equity ownership one year prior the transaction.	EXECUCOMP
GPXTotOwn	Interaction variables equal to the value of the natural log of total management equity ownership if the company is going private and 0 for firms that belong in the control sample	
Firm Risk	Stock volatility measured by the standard deviation of	CRSP

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[10] Using 2-digit US Primary SIC codes

	stock price measured over one year period prior going-private announcement dates.	
GPxFirmRisk	Interaction variables equal to the value of the stock volatility for the firms in going-private sample, and 0 for firms belonging to the control sample.	
RelPEIn	The ratio of Firm's PE ratio compared to the PE ratio of the corresponding industry.	COMPUSTAT
GPxRelPEIn	Interaction variables equal to the value of Relative PE Industry for the firms in the going-private sample, and 0 for the firms that belong in the control sample.	

Control Variables		
Variables Name	Definition and Measurement	Source
Total Asset	Natural logarithm of total asset as a measure of firm size	COMPUSTAT
ROE	Return on Equity, calculated as net income in the prior year over the common stock equity value	COMPUSTAT
TobinsQ	TobinsQ ratio, calculated by dividing the market value of the firm with the book value of the total asset	COMPUSTAT
Leverage	Total long-term debt divided by total asset	COMPUSTAT
FCF	FCF = INC- TAX - INTEXP - PFDDIV - COMDIV[11]	COMPUSTAT

The following figure represents the predictive validity framework (Libby Boxes) of the conceptual and operational level of the research design constructed for this thesis.

Figure 1: Predictive Validity Framework (Libby Boxes)

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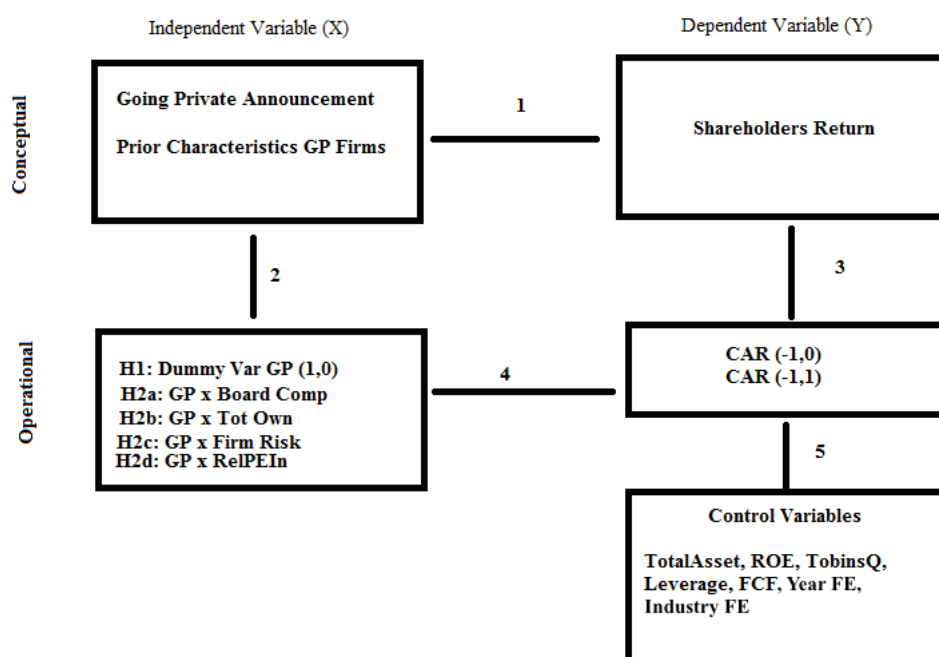
[11] See Lehn and Poulsen (1989), Free Cash Flow and Stockholder Gains in Going Private Transaction.

Empirical Result and Analysis

This section represents the analyses of the samples and regression results related to the hypothesis examined in this thesis. The chapter begins with the descriptive statistics of the samples and correlation of the variables, followed by the result of the univariate and multivariate analyses that examine the effect in shareholders return for going private firms as well as the determinant of the changes in shareholders' return following the announcement of the transaction.

Descriptive Statistics

Table 3 displays the analyses of the samples used in this thesis based on the yearly and industry distribution, as well as the comparison of the mean and median difference between sample groups.

Table 3

Panel A: Distribution of Going Private Transaction per year

Year	N	GP	Control
2010	8	4	4
2011	19	10	9
2012	6	4	2
2013	16	6	10
2014	13	6	7
2015	25	12	13
2016	24	13	11
Total	111	55	56

Panel B: Distribution of Going Private Transaction per Industry

SIC 2	Industry	GP
20-39	Manufacturing	25
50-51	Wholesale Trade	1
52-59	Retail Trade	22
73-87	Services	3
90-99	Public Administration	4
Total		55

Panel C: Mean and Median Firm Characteristics

	CS	GP	Diff t-stat	CS	GP	Diff z-stat
BoardComp	0.83	0.83	0	0.83	0.83	0

TotOwn	4.65	4.84	-0.19	4.65	4.84	-0.19
OwnExclOpts	4.14	4.22	-0.08	4.14	4.22	-0.08
FirmRisk	1.4	0.93	0.47	1.4	0.93	0.47
RelPEIn	-0.08	0.59	-0.67	-0.08	0.59	-0.67
TotalAsset	7.3	6.96	0.34	7.3	6.96	0.34
MarketValue	7.7	6.99	0.71	7.7	6.99	0.71
ROE	-0.01	0.02	-0.02	-0.01	0.02	-0.02
TobinsQ	1.86	1.28	0.58	1.86	1.28	0.58
Leverage	0.17	0.2	-0.02	0.17	0.2	-0.02
FCF	0.1	0.11	0	0.1	0.11	0

***,**,* Indicates 10%, 5%, 1% significance levels, respectively, using two-tailed t-test of differences in means and two-tailed z-test of differences in medians assuming unequal variances.

Panel A of Table 3 exhibits the yearly sample distribution of the going private transaction announcements. The table shows that there was a twofold increase in going private announcement for the year of 2010 and 2015 in comparison to the prior year. Furthermore, the table documents the highest number of the going-private announcement of 13 in the year 2016. The relatively small number of announcement shows that event is rare from occurring. According to Morgenstern, Nealis, and Kleinman (2004), the infrequency of the transaction is related to the benefits achieved after the transactions. Despite the appealing incentives of going private transactions, some firms choose to remain public because of the related cost imposed on the transaction.

Panel B of Table 3 exhibits the industry classification of the sample in this thesis. As presented on the table, manufacturing and retail industry has the most going private transaction in the sample of 25 and 22 respectively. The relatively large number of going private transactions in manufacturing industry could be related to the ability of the firm to survive in the current market trends. Meeting the market trends has been a challenge for manufacturing company; the ever-changing dynamics of consumer demands and innovation creates a competitive market for the manufacturing industry, resulting in a more competitive industry. Moreover, the relatively large number of going private transactions in the retail industry might occur because of the decreasing need of traditional retail companies. For example, the appealing combinations between consumer experience and seller's efficiency achieved from e-commerce companies create less-profitable trends for the traditional retail industry, increasing the number of going private transactions. Companies like amazon.com can generate more significant returns in the recent year compared to a traditional retail company while keeping their cost relatively low[12]. In contrast, the wholesale industry has the least number of going private transaction of one throughout 2010 – 2016. Furthermore, going private transaction spread reasonably evenly on services and public administration industry.

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[12] As presented in McKinsey & Co, PoR&CG (2015)

Panel C of Table 3 exhibits the comparison of means and median of the variables used in this thesis across going private sample and control sample. According to the table, I find that board composition (*BoardComp*) in going private firms and control sample are relatively similar. Concerning management ownership proxies, I find that total management ownership (*TotOwn*) and management ownership excluding options (*OwnExclOpts*) are slightly higher in going private firms than in control firm, .19 and .08 in differences, respectively. About firm risk (*FirmRisk*), the table reports that firms that went private are less risky compared to the control sample, exhibiting .47 in differences. As for firm characteristics, I find that Relative PE firm compares to industry (*RelPEIndustry*) is .67 higher in going private firms compared to control firms, showing that there are fewer growth opportunities for the firm. Additionally, total firm asset (*TotalAsset*) and total market value (*MarketValue*) is lower in going private firms compared to control firms, .34 and .71 in differences respectively. As for the firms' accounting profitability measure, I find that firms going private transaction have a relatively higher ROE compared to the control firm. When comparing the equity multiple in both firms, I find that going private firm has a smaller TobinsQ ratio (*TobinsQ*), .58 in difference. Concerning the firm's leverage (*Leverage*), the table reports that firms that went private in the sample have a relatively higher leverage. Moving to Free Cash Flow as a measure of agency conflict, I find that the level of agency cost embedded in the firms measured by the undistributed cash flow in both samples is relatively the same.

Table 4 displays the Pearson correlation matrix for independent and control variables used in this regression analysis. As reported in the table, correlation coefficient marked with (*) is reported to be significant at 5% significance level. Additionally, none of the correlation coefficients is below -1 and above 1, indicating that there are no multicollinearity problems existing between the independent and control variables.

To further analyze the multicollinearity relationship in this thesis, I perform VIF test for all the variables used in this thesis. The outcome of VIF tests display the severity of multicollinearity problems between variables used in an OLS regression analysis. The VIF result (Appendix 1) for this thesis exhibited a relatively low value, which indicates that multicollinearity problem can be ruled out from the regression.

Table 4
Correlation Analysis

		1	2	3	4	5	6	7	8	9
1	GP	1								
2	Board Comp	0.011	1							
3	GP x Board Comp	0.009	0.660**	1						
4	Tot Own	0.056	-0.172	-0.124	1					
5	GP x Tot Own	0.046	-0.129	-0.198**	0.624**	1				
6	Own Excl Opts	0.024	-0.230**	-0.145	0.874**	0.519**	1			
7	GP x Own Excl Opt	0.020	-0.150	-0.229**	0.514**	0.824**	0.630**	1		
8	Firm Risk	-0.228**	0.064	0.105	-0.094	0.047	-0.165	-0.009	1	
9	GP x Firm Risk	0.515**	0.086	0.126	0.070	0.089	0.010	0.006	0.530**	1
10	RelPEIn	0.079	0.031	0.057	0.192**	0.009	0.123	-0.032	-0.076	0.047
11	GP x Rel PE In	0.098	0.053	0.080	0.010	0.012	-0.027	-0.045	-0.014	0.059
12	Total Asset	-0.120	0.173	0.148	0.171	0.103	0.099	0.103	0.468**	0.214**
13	Market Value	-0.239**	0.145	0.201**	0.086	0.057	-0.014	0.034	0.630*	0.254**
14	ROE	0.019	-0.059	0.040	0.045	0.062	0.055	0.103	0.010	0.089
15	TobinsQ	-0.246**	-0.060	0.124	-0.085	-0.034	-0.162	-0.070	0.406*	0.081
16	Leverage	0.054	0.231**	0.036	0.061	0.044	0.074	0.102	0.206**	0.097
17	FCF	0.034	0.019	-0.033	-0.210**	-0.054	-0.132	0.093	0.251**	0.267**

Table 4: Continued

		10	11	12	13	14	15	16	17
1	GP								
2	Board Comp								
3	GP x Board Comp								
4	Tot Own								
5	GP x Tot Own								
6	Own Excl Opts								
7	GP x Own Excl Opt								
8	Firm Risk								
9	GP x Firm Risk								
10	RelPEIn	1							
11	GP x Rel PE In	0.715**	1						
12	Total Asset	0.113	0.076	1					
13	Market Value	0.015	0.023	0.877**	1				
14	ROE	0.037	0.006	0.073	0.163	1			
15	TobinsQ	-0.187	-0.082	-0.157	0.290**	0.152	1		
16	Leverage	0.232**	0.241**	0.39*4*	0.166	-0.316**	-0.382**	1	
17	FCF	-0.084	-0.132	0.099	0.178	0.015	0.123	0.241**	1

***,**,* Indicates 10%, 5%, 1% significance levels, respectively

The Impact of going private announcement to shareholders return

This following section represents the result of running univariate and multivariate analysis when examining the determinant and the effect in shareholder returns in going private announcement.

The univariate analysis examines whether the shareholders in going private firms are experiencing a more significant increase in returns around the announcement dates of transactions when it is compared to the control firm The cumulative abnormal returns are measured around the announcement of going private transactions[13].

Table 5
Univariate analysis of cumulative abnormal returns

Event Window	Going Private Mean	Control Sample Mean	Diff t-stat	Going Private Median	Control Sample Median	Diff z-stat
(-1,0)	0.110	-0.01	0.12***	-0.01	0.11	-0.12
(-1,1)	0.120	-0.01	0.13***	-0.01	0.12	-0.13

Table 5 represents the outcome of univariate analysis for testing the first hypothesis in this thesis. It displays the excess returns generated by the shareholders in the going private sample and the control sample around the announcement date[14]. I find shareholders in going private firms generate significantly positive and more substantial returns around the announcement date in comparison with the control firm in all event windows. As presented in the table, on average, firms that announce a going private transaction generates significantly larger returns to its shareholders compared to the control firms. The mean of shareholders' return in going private firms ranges from 11% for event window (-1,0), to 12% for event window (-1,1), denoting that going-private announcement generates a significant and positive shareholders reaction. Additionally, when comparing the returns generated in both sample, I find that going private firms generate 12% larger returns when it is measured by CAR (-1,0), and 13% larger when it is measured by CAR (-1,1) in comparison with the control sample. The outcome provided from this analysis is in support of hypothesis 1 examined in this thesis.

Additionally, to examine the determinants of the shareholders return following a going private announcement, I conduct a multivariate analysis by running the regression formulated as Eq (1) in this thesis. To mitigate any problems related to OLS analysis, I run an additional test to alleviate such problem from affecting the findings in this thesis. I first perform the Breusch-Pagan test to examine for the presence of heteroskedasticity problem. The outcome shows that the

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[13] Identified by the initial filing date of SEC Schedule 13 E-3 in SEC Edgar database.
[14] Control firms are given artificial announcement dates, derived from the matched going private firms.

heteroskedasticity cannot be ignored since the results are significant at 1% significance level. To fix for such problem, I implement robust standard error in the regression models.

Table 6
Multivariate analysis of the determinant in shareholders return around going private announcement dates

VARIABLES	(1) CAR (-1,0)	(2) CAR (-1,1)
GP	0.099*	0.102*
	(0.053)	(0.056)
BoardComposition	-0.405**	-0.370*
	(0.184)	(0.193)
GPxBoardComp	0.856***	0.910***
	(0.305)	(0.327)
TotalOwnership	-0.009	-0.008
	(0.009)	(0.010)
GPxTotOwn	0.041**	0.043**
	(0.019)	(0.019)
FirmRisk	0.054	0.067*
	(0.034)	(0.036)
GPxFirmRisk	0.002	0.004
	(0.036)	(0.038)
RelPEIn	-0.003	-0.002
	(0.004)	(0.004)
GPxRelPEIn	0.003	0.003
	(0.005)	(0.005)
TotalAsset	-0.000	-0.006
	(0.012)	(0.013)
ROE	0.029	0.027
	(0.017)	(0.019)
TobinsQ	-0.029	-0.043**
	(0.018)	(0.019)
Leverage	0.073	0.007
	(0.085)	(0.095)
FCF	-0.101	-0.105
	(0.224)	(0.245)
Year and Industry FE	Yes	Yes
Observations	106	106
R-squared	0.511	0.523
Adjusted R-squared	0.244	0.263
F test	1.930	2.442
Prob >F	0.00942	0.000708

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5 represents the result of the multivariate analysis for the change in shareholders' return around announcement dates using both going-private sample and the matched control sample. To test the hypotheses examined in this thesis, the dependent variable is evaluated using two different event windows, while keeping the independent variables constant in all alternative models. Model (1) uses 2-days CAR (-1,0) to measure the effect of going private announcement to shareholders return. Additionally, to further examine the relation of shareholders' return to the going-private announcement in a more prolonged event window the alternative Model (2) uses 3-days CAR (-1,1), centering on the announcement dates.

As presented in the table, Model (2) exhibits the highest R-squared value of 52.3%, compared to Model (1) exhibiting a value of 51.1%. I find that when extending the event windows to three days, the R-square value increases by 1.1%, showing that 3-days CAR has a better explaining power than 2-days CAR. The increase in the R-square might infer that there might be an earnings announcement drift possibility (Ball and Brown, 1968). It indicates that the buyout information might not be entirely developed into the price when measured by 2-days cumulative abnormal returns. In line with Lehn and Poulsen (1989), I find that 3-days cumulative managed to fully develop the information in the price. This result implies that Model (2), using 3-days CAR, is a better-fit model compared to Model (1).

As reported in the table, dummy variable *GP*, which examines the effect of going private announcement to shareholders' return, is positive and significant at 10% significance levels across alternative models. The result shows that there is a significant increase in shareholders' return following a going private announcement in comparison to the control firms. In model (1), the coefficient for GP, .099, indicates that firms in going-private sample react more positively around announcement period compared to the control firms, generating 9.9% increase in returns. In comparison, model (2), the coefficient for variable GP, .102, indicating that there is an increase in shareholders return for 10.2% around announcement dates for going private firms compared to the control firms. Additionally, the finding in this thesis is in line with the outcome reported in the previous literature (DeAngelo et al., 1984; Travlos & Cornett; 1987), which shows that there is a significant gain to the firm's shareholders following a going private announcement.

The significantly positive coefficient β_3 for interaction variable *GP x BoardComp* in both alternative models, indicates that the board composition, as a proxy of board independence in going private firms has a positive relation with shareholders' return around going private announcements compared to the control firms. As exhibited on the table, model (2) exhibit the coefficient of .910, indicating that on average a 1% incremental increase in board composition, will result in an increase of the cumulative abnormal return around announcement dates for going private firm approximately by .910 unit. This result supports the findings of Lee et al. (1992), which reveals that

level of board independence in going private firms is positively correlated with shareholders' return generated after the announcement. Additionally, board composition has proven to mitigate the agency conflict between firms that went private to its shareholders, and proven to increase shareholders return around the announcement (Braun & Latham, 2007).

Regarding the independent interaction variable *GP x TotOwn,* the coefficient β_5 is positive and significant indicating that the total management share ownership prior going private announcement is positively correlated with shareholders' return in going private announcement compared to the control firm. The coefficient in model (2), .043, indicates that on average a 1% increase of management's total equity ownership, will result in an incremental increase of the cumulative abnormal returns around announcement date for going private firms approximately .043 units. This result verifies DeAngelo et.al. (1984) & Travlos and Cornett (1987) prediction, that postulate a positive relation between management ownership in firms announcing going private and its' shareholders' return. Additionally, the positive and significant coefficient might infer that when there is an increase in management share equity ownership, it reduces their incentive to shirk, making them acting in more favor of the shareholders (Jensen & Meckling, 1976). The findings of testing H2b provides an evidence in the mixed empirical evidence regarding the level of management ownership prior going private announcement to the returns provided to shareholders around announcement dates.

As for the interaction variable *GP x FirmRisk*, the coefficient is insignificantly positive across both models. The positive sign might infer that riskier going private firms, measured by higher stock volatility might provide more return to its shareholder to bear the high risk embedded in the firm. The result is partially in line with French et al. (1984) that reports volatility has a positive relationship with the returns provided back to shareholders. However, the finding differs than the outcome reported in Amihud (1988), which find a significantly negative relation between the volatility of the stock price and the returns around announcement date in going private firms. However, the insignificant result might be affected by the newly private company structure, which makes estimating real resource gain is more difficult to observe in private company compared to the control firm (DeAngelo, 1984). Thus, there is no verdict that I can conclude from this result.

Regarding the independent interaction variable *GP x RelPEIn*, the coefficient shows an insignificantly positive correlation between the firm's relative P/E ratios – to – Industry in all models. The positive coefficient might indicate that going private firms with more considerable growth opportunity might generate more significant returns to its shareholders. The outcome differs with the findings reported in Travlos & Cornett (1987) that exhibits going private firms with lower relative PE ratio – to –Industry generates significant increases in shareholders return, as there is more room for improvements once a firm becomes private. Additionally, the insignificant result

might be contributed to the lack of testing power. Thus, there are no inferences that can be made related this finding.

As for the control variables, the findings in this thesis can only support the previous literature to a certain degree. Similar to Travlos and Millon (1987), I find that total asset as a measure of firm size, and leverage as a measure of debt ratio is negatively insignificant to shareholders returns following a going-private announcement. The insignificant result might infer that size of the company is not related to the shareholders return around the announcement dates. However, since these results are insignificant; thus there's no conclusion that we can draw from this result. Furthermore, I find that apart from control variable TobinsQ in Model (2) all control variables are reported to be statistically insignificant. The negative and significant coefficient in control variable TobinsQ in the second model shows that the lower the investor perceived the value of the firm's stock one year prior the announcement dates, the more significant returns generated for the shareholders around the announcement date.

Additional Robustness Analysis

This chapter aims to confirm the robustness of the findings examined in this thesis, by running an additional analysis with several modifications made to Eq (1). The result in this analysis provides additional evidence in the going private literature.

Many public corporations in the United States have implemented stock option compensation in executive equity packages. Board of directors might introduce employee stock options as a compensation plan distributed to employee and management, to tie their performance to their wealth (Thompson et al., 1992). As stated in the previous section, the increase in management share ownership will decrease the agency cost in the company. Executive compensation and management ownership structure often incorporates the stock options that could be exercised under specific circumstances. In contrast with common stock, the owner of stock options does not by any means, implying that the owner has the voting power of the company, but the owner might have control over the company if they can exercise the options (Rosen, 2008). Following Thompson et al. (1992), I modify the proxy of management ownership to management ownership without options, to specifically examine the management share of ordinary-equity. Employee stock options allow the management to purchase the company's equity at an exercisable price, increasing the management equity ownership of the company. The additional exercisable options show the increased management incentives incorporated in the company (Thompson et al., 1992).

Additionally, as mentioned in the earlier section, the ability of the firm to go private is related to the size of the company when the announcement occurs. Previous literature, such as (Goh et al., 1999; Amihud, 1988) utilizes market value as the proxy of control variable firm size. Market value is often used as a proxy of firm size as it measures the firm's market equity value.

Based on the discussion above, I estimated the following regression equation to conduct the additional robustness analysis for this thesis:

$$
\begin{aligned}
CAR_{1,2,3} = \alpha +{} & \beta_1\, GP + \beta_2\, BoardComposition + \beta_3\, GPxBoardComp + \beta_4\, OwnExclOpt \\
& + \beta_5\, GPxOwnExclOpt + \beta_6\, FirmRisk + \beta_7 GPxFirmRisk + \beta_8\, RelPEIn \\
& + \beta_9\, GPxRelPEIn + \beta_{10}\, MarketValue + \beta_{11}\, ROE + \beta_{12}\, TobinsQ \\
& + \beta_{13}\, Leverage + \beta_{14}\, FCF + u_i + d_t + \epsilon_{it}
\end{aligned}
$$

Eq (2).

The additional test will utilize the same control group based on the matching algorithm mentioned in the research design section. The modified equation changes the proxy of management

ownership as the natural log of management ownership excluding options. As well as changing the measurement of firm size into the natural log of the firm market value, while keeping everything else constant. Additionally, the test will also be measured over the same variations of estimation windows as it was done in the initial test, model (4) using 2-days CAR_1 (-1, 0) around announcement date, whilst model (5) using 3-days CAR_2 (-1, 1) centering on the announcement date.

Table 7
Additional Robustness Analysis

VARIABLES	(3) CAR (-1,0)	(4) CAR (-1,1)
GP	0.0994*	0.0982*
	(0.0517)	(0.0543)
BoardComposition	-0.417*	-0.391*
	(0.212)	(0.219)
GPxBoardComp	0.927***	0.972**
	(0.347)	(0.369)
OwnExclOpts	-0.00977	-0.0116
	(0.0133)	(0.0143)
GPxOwnExclOpt	0.0434*	0.0442*
	(0.0246)	(0.0255)
FirmRisk	0.0625*	0.0721*
	(0.0371)	(0.0394)
GPxFirmRisk	0.00665	0.0135
	(0.0358)	(0.0385)
RelPEIn	-0.00189	-0.000463
	(0.00407)	(0.00405)
GPxRelPEIn	0.00170	0.000820
	(0.00571)	(0.00554)
MarketValue	-0.00571	-0.0122
	(0.0124)	(0.0140)
ROE	0.0232	0.0222
	(0.0165)	(0.0194)
TobinsQ	-0.0260	-0.0365**
	(0.0164)	(0.0173)
Leverage	0.102	0.0432
	(0.0929)	(0.107)
FCF	-0.248	-0.278
	(0.263)	(0.285)
Year and Industry FE	Yes	Yes
Observations	105	105
R-squared	0.521	0.528
Adjusted R-squared	0.256	0.268
F test	1.556	1.834
Prob >F	0.0578	0.0155

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 7 presents the result of running an additional robustness analysis done in this thesis. The table reports that the signs and significance of the all the interested independent variable presented in the findings of the additional robustness analysis are much alike when it is compared to the findings in the initial analysis. As for the fitness of the model, the R-squared for the robustness regression models reported in table 7 are relatively similar with those reported in the initial regression models, 52.1% for Model (3), and 52.8% for Model (4). The increase in statistical fitness between models in the robustness analyses further indicates that shareholders are experiencing more significant returns when it is measured over three-days cumulative abnormal returns. This result suggests that announcement news is still developing to price up to one day after the announcement date. This result corroborates with Lehn and Poulsen (1989), that finds announcement news are still incorporating to stock prices as far as one day after the announcement. However, when comparing the p-value of the robustness test to the initial test, the table reports that the alternative model (4) and model (5) are significant at 10% and 5% significance level, while both of the alternative models in the initial test are significant at 1% level. The modification of some independent variables might result in the decrease of p-value in the robustness analyses., indicating that the initial variables used to test the hypotheses are more representative.

Comparable with the initial analyses in this thesis, the variable GP in the robustness analyses are positive and significant, suggesting that shareholders in firms announcing going private transactions are experiencing more substantial returns compared to the control group. Additionally, identical to the initial test, I find that there is a positive relationship between the levels of board independence one-year prior the announcement to the shareholders return generated around announcement dates.

As for the interested interaction variable *GPxOwnExclOpts*, a modification of management ownership proxy is statistically positive in all modified models, the higher the management ordinary-equity ownership, the higher the returns generated around announcement dates for shareholders in going private firms. The coefficient of *GPxOwnExclOpts* in model (4), .0442, indicates that on average, every 1% incremental increases of management equity ownership; it leads to an increase in cumulative abnormal returns around announcement date for going-private firms approximately about .0442 units. The result corroborates with the findings in Thompson et al. (2012) that report a significantly positive correlation between the fraction of management ordinary-equity ownership and shareholders return for going private firms.

Additionally. *MarketValue*, as a proxy of firm size also shows an insignificantly negative coefficient. The signs and significance of the coefficient market value as a proxy of firm size in the robustness test corroborate the findings shown in the initial test and those reported in previous literature (Goh et al., 1999; Amihud, 1988). The insignificant result might show that there is no

relation between the size of the firm before the announcement, and to the shareholders return around the announcement dates. Ergo, the insignificant result implies that there is no conclusion that can be drawn from this finding.

The decrease in the statistical fitness indicates that the initial model is the better fit model compared to the robustness model. The decrease in model significance in the robustness test might occur due to the modification of the independent and control. It is possible that the modification in robustness test does not have a better explaining power compared to the variables used in the initial model. However, the overall outcome of the robustness analysis done in this thesis verifies the outcome of the test conducted for the initial analysis. Hence, the consistency of the result presented in both analyses indicates that the models specified for the examination of the hypothesis are representative.

Conclusion

Summary of findings

Vast streams of literature have reported that going-private announcement gains a significant increase in shareholders returns around announcement date. Using U.S. voluntary going-private announcement in the period 2010 – 2016, the findings in this thesis corroborate those reported in previous literature, indicating that going-private announcement is positively correlated with the returns provided to shareholders around announcement dates.

To show the consistency of the result, I constructed the dependent variable, CAR, measured over two different event windows, calculated over two-days (-1,0), and three-days (-1,1) event windows, respectively, and then analyzed together in one regression model with the independent and control variables. Additionally, to mitigate sample selection bias, this thesis uses a matched control sample to differentiate the effects of shareholders reaction compared to the firms in control sample with similar characteristics that remained private. The control sample, are matched using the deciles method, that matches the going-private firms with publicly listed firms with similar asset and accounting profitability measures, which operates in the same industry and year.

The first hypothesis in this thesis examines the going private announcement to shareholders return around announcement dates. The finding is in line with those reported in previous literature (Lee et al., 1992; Travlos & Millon; 1987; DeAngelo, 1984; Amihud, 1988). It indicates that shareholders in going private firms are experiencing a more significant returns around announcement dates compared to control firms, further verifies that shareholders returns do benefit from going private transactions. The result is in line with the hypothesis H1 proposed in this thesis. Thus, I accept H1.

However, the thesis could only partially support the second hypotheses to a certain degree. As reported in previous literature (Lee et al. 1992; Thomson, 1992), board independence and ownership structure are proven to be an efficient governance mechanism in going private transactions. This thesis find that going private firms with a more independent board, and higher management equity ownership prior the transactions, have a positive relationship with the shareholders return around announcement dates. The result on testing the hypothesis related to the level of board independence is in line with findings reported in Lee et al. (1992). As for the findings for testing the hypothesis related to the level of management equity ownership, the positively significant findings shed some new evidence related to the empirical evidence on the level of management equity ownership prior the transactions. Thus, these result supports the hypothesis H2a and H2b constructed for this thesis, respectively.

As for the result from testing the level of the firm risk and growth opportunity, this thesis reveals the inverse relation from those reported in the previous literature (Amihud, 1988; Travlos & Cornett, 1987). The outcome of this thesis reports an insignificantly positive relation between the level of risk embedded in the firm and the returns generated by the shareholder around announcement dates. The positive coefficient might show a more significant increase in shareholders reaction for going private firm, whose risk was higher. It might indicate that going private firms compensate more for shareholders if the firm embbeded more risk. The findings differ from Amihud (1988), that find a significantly negative relationship between firm risk and shareholders return around announcement date for going private firms. Additionally, the insignificant coefficient indicates that no definite conclusion can be made from this result, differs from the predicted hypothesis H2c.

For testing the prediction related to the level of growth opportunity, this thesis finds that the result is insignificantly positive. The positive coefficient might infer that going private firm might compensate their shareholders more; concerning the relatively high growth prospect after the company went private. This result differs from the finding reported on Travlos and Cornett (1987), which finds a significantly negative relation between the level of growth opportunity and the shareholders return around announcement dates. The insignificant result might also be due to the lack testing power of the variable. Ergo, based on the above discussion, the finding of this test differs from the predicted hypothesis H2d.

In conclusion, the result of running the univariate and multivariate analyses proves to verify three out of five predictions postulated in this thesis. This thesis finds that shareholders in going private firms are experiencing more substantial returns around announcement dates compared to control firms, inferring that shareholders returns do benefit from going private transactions. Additionally, going private firms with better corporate governance mechanism, measured by the level of board independence generates more massive result compared to the control firms. I also find that going private firms, which management has more substantial equity ownership invested in the prior year generates more significant returns to its shareholders following the announcement of going private. This finding is relatively new in going private literature, as previous literature report a statistically insignificant coefficient when examining shareholders' return based on the firm's ownership structure. However, the statistically insignificant result when testing the fourth and fifth hypothesis indicates that more research is needed to examine the relation between firm risk and firm growth opportunity in going private firms

Limitations

Although the findings of this thesis might be beneficial to understand the current environment, some limitations are connected to the research. The unavailability and the inaccessibility of the private company data limit the numbers of observation that is adequate to do a multivariate regression.

Additionally, the relatively small sample size of this thesis describes the rarity of the transactions occurred in the current economic environment. The limited number of transactions could lead to insufficient samplings, increasing the possibility of sample selection bias. Hence, it is quite hard to inspect whether the sample is generating real and practical gain to shareholders in going private firms.

Furthermore, there might be omitted variables that are left out from the regressions, which could affect the empirical result presented in this thesis. It is possible that the control variables, industry, and year FE could not be able to capture the underlying correlation between variables used in the regression.

Lastly, this thesis focuses on the internal firm characteristics of going private firm rather than controlling for external firm characteristics, which might affect the returns provided back to the shareholders in these transactions.

Further Research

The limitations of this thesis suggested that more research is needed to get a more robust finding. First, the subsequent research could expand the period as well as the geographic area, since the transactions might vary across a period and geographic area. Additionally, the extended research might be able to observe any firm characteristics differences between period and across countries. Second, further research could utilize variables that control for the external firm characteristics in going private firms. The addition of control variables will be useful in controlling for any external impact on the findings.

References

Amihud, Y. (1989). Leveraged Management Buyout. New York: Dow Jones-Irwin.

Ball, R., & Brown, P. (1968). An Empirival Evaluation of Accounting Income Number. Journal of Accounting Research , 6 (2), 159-178.

Baran , L., & King, T. (2010). Going Private Transactions, Bondholders Return, and Wealth Transfer Effects. Journal of Banking and Finance , 1856-1872.

Bebchuck, & Kahan. (2000). Adverse Selections and Gains to Controllers in Corporate Freezeout. In R. K. Morck, Concentrated Corporate Ownership (p. 387). Chicago : The University of Chicago Press.

Becker, B., & Pollet, J. (2008). The Decision to Go Private. Unpublished Paper .

Behrenbeck, K., Peter, B., Peter, C., Rugholm, J., Frank, S., Wachinger, T., et al. (2015). Perspective on Retail and Consumer Goods. McKinsey & Co.

Block, S. (2004). The Latest Movement to Going Private: An Empirical Study. Journal of Applied Finance , 36-44.

Braun, M., & Latham, S. (2007). The Governance of Going Private Transaction. Management Decision .

Brown, S. J., & Warner, J. B. (1985). Using Daily Stock Returns: The Case of Event Studies. Journal of Financial Economics , 14 (1), 31-1.

Chirelstein , M., & Brudney, V. (1978). Restatement of Corporate Freezeouts. Faculty Scholarship Series .

Cumming , D., Siegel, D., & Wright, M. (2007). Private Equity, Leveraged Buyouts and Governance. Journal of Corporate Finance , 13 (4), 439-460.

DeAngelo, H., DeAngelo , L., & Rice, E. (1984). Going Private: Minority Freezeout and Shareholders Return. Journal of Law and Economics .

DeAngelo, L. (1986). Accounting Numbers as Market Valuation Substitues: A Study of Management Buyout of Public Stockholders. The Accounting Review , 61 (3), 400-420.

Ellul, A., & Pagano, M. (2006). IPO Underpricing and After-Market Liquidity. The Review of Financial Studies , 381-421.

Engel, E., Hayes, R., & Wang, X. (2007). The Sarbanes-Oxley Act and Firms' Going-Private Decisions. Journal of Accounting and Economics , 116-145.

Fama, E. F., Fisher, L., Jensen, M. C., & Roll, R. (1969). The Adustment of Stock Prices to New Information. International Economic Review , 10, 1-21.

Fama, E. J., & MacBeth, J. D. (1973). Risk, Return, and Equilibrium: Empirical Tests. The Journal of Political Economy , 607-636.

Frankfurter , G. M., & Gunay, E. (1993). Management Buyouts and Anticipated Gains to Shareholder - Theory and Testing. International Review of Financial Analysis , 33-50.

French, K. R., Schwert, G. W., & Stambaugh, R. F. (1987). Expected Stock Return and Volatility. Journal of Financial Economics , 3-29.

Geranio, M., & Zanotti, G. (2012). Equity Market Do Not Fit All: An Analysis of Public-to-Private Deals in Continental Europe. European Financial Management , 867-895.

Goh , J., Gombola, M., Liu, F.-Y., & Chou, D.-W. (2002). Going-Private Restructuring and Earnings Expectations: A Test of the Release of Favorable Information for Target Firms and Industry Rivals. Working Paper .

Halpern, P., Kieschnick, R., & Rotenberg, W. (1999). On The Heterogeneity of Leveraged Going Private Transactions. Review of Financial Studies , 281-309.

Hanley, K., & Wilhelm, W. (1995). Evidence of Strategic Allocation of Initial Public Offering. Journal of Financial Economics , 239 -257.

Hite, G. L., & Vetsuypens, M. R. (1989). Management Buyouts of Divisions and Shareholders Wealth. The Journal of Finance , 953-970.

Hurduzeu, G., & Popescu , M. (2015). The History of Junk Bonds and Leveraged Buyouts. Procedia Economics and Finance , 1268-1275.

Jensen, M. (1986). Agency Cost and Free Cash Flow, Corporate Finance and Take-over. American Economics Review , 323-329.

Jensen, M., & Meckling, W. (1976). Theory of the Firm: Managerial Behavior, Agency Cost, and Ownership Structure. Journal of Financial Economics , 305-360.

Kaplan, S. (1989). The Effects of Management Buyout on Operating Performance and Value. Journal of Financial Economics , 217-254.

Krishnamurti, C., & S.R., V. (2008). Mergers, Acquisitions and Corporate Restructuring. New Delhi: Vivak Mehra for Response Books.

Lee, C., Rosenstein, S., Rangan, N., & Davidson, W. N. (1992). Board Composition and Shareholder Wealth: The Case of Management Buyout. Financial Management , 58-72.

Lehn, K., & Poulsen, A. (1988). Free Cash Flow and Stockholder Gains in Going Private Transactions. The Journal of Finance , 771-787.

Leuz, C., Triantis, A., & Wang, T. Y. (2008). Why Do Firms Go Dark? Causes and Economic Consequences of Voluntary SEC Deregistration. Journal of Accounting and Economics , 181-208.

Lowenstein, L. (1985). Management Buyout. Columbia Law Review , 85, 730-784.

Marais, L., Schipper, K., & Smith, A. (1989). Wealth Effects of GOing Private for Senior Securities. Journal of Financial Economics , 155-191.

Mehran , H., & Perstiani , s. (2010). Financial Visibility and the Decision to Go Private. Review of Financial Studies , 519-547.

Miller, D. A., & Frankenthaler, M. J. (2003). Securities Registration: Delisting/Deregistration of Securities Under The Securities Exchange Act 1934. Insight , 17 (10), 7-12.

Morck, R. K. (2000). Concentrated Corporate Ownership. Chicago: The University of Chicago Press.

Morck, R., Shleifer, A., & Vishny, R. W. (1988). Management Ownershp and Market Valuation: An Empirical Analysis. Journal of Financial Economics , 20 (2), 293-315.

Morgenstern , M., & Nealis, P. (2004). Going Private; A Reasoned Response to Sarbanes-Oxley. Small .

Newell, A., & Rosenbloom, P. (1980, September). Mechanism of Skill Acquisition and The Law of Practice. Pittsburgh, Pennsylvania, United States.

Nikoskelainen, E., & Wright, M. (2007). The Impact of Corporate Governance Mechanism on Value Increase in Leveraged Buyout. Journal of Corporate Finance , 511-537.

Pagano, M., Panetta, F., & Zingales, L. (1998). Why Do Companies Go Public? An Empirical Analysis. The Journal of Finance , 53 (1), 27-64.

Palepu, K. (1990). Consequences of Leveraged Buyouts. Journal of Financial Economics , 247-262.

Pour, E. K., & Lasfer, M. (2013). Why Do Companies Delist Voluntarily from Stock Market? Journal of Banking and Finance , 4850-4860.

Rau, P. R. (2008). The Empirical Evidence on Mergers. In C. Krishnamurti, & V. S. R, Mergers, Acquisition, and Corporate Restructuring. New Delhi.

Renneboog , L., & Simons, T. (2005). Public-to-Private Transactions: LBOs, MBOs, MBIs, and IBOs. ECGI Working Paper Series in Finance , 1-55.

Rosen, C. (2008). Employee Share Ownership Plans. In C. Krishnamurti, & V. S. R, Mergers, Acquisition, and Corporate Restructuring (p. 410). New Delhi.

Stein, B. (1988). Where Are The Stockholders' Yachts? But John Kluge Pockets Billions From Metromedia's LBO. Barron's , 6-7.

Thompson, R. S., Wright, M., & Robbie, K. (1992). Management Equity Ownership. Scottish Journal of Political Economics , 413-430.

Thomsen , & Pedersen . (2000). Ownership and Economic Performance in the Largest European Company. Strategic Management Journal , 21 (6), 689-705.

Torabzadeh, K., & Bertin, W. (1987). Leveraged Buyouts and Shareholders Returns. Journal of Financial Research , 313-319.

Travlos, N. G., & Cornett, M. M. (1987). Going Private Buyouts and Determinant of Shareholders' Return. Journal of Accounting, Auditing, and Finance .

Yermack, D. (1996). Higher Market Valuation of Companies With a Small Board of Directors. Journal of Financial Economics , 40 (2), 185-211.

Appendix

Appendix 1

Multicollinearity

Variable	VIF	1/VIF
GP	3.43	0.29191
Board Composition	2.73	0.366018
GP x BoardComp	2.99	0.334986
Total Ownership	3.39	0.295375
GP x Tot Own	2.95	0.338572
Firm Risk	7.12	0.140392
GP x Firm Risk	6.23	0.160392
Rel PE In	3.21	0.311769
GP x Rel PE In	3.58	0.279063
Total Asset	2.76	0.362086
ROE	1.39	0.719633
TobinsQ	3.15	0.31775
Leverage	3.23	0.309892
FCF	1.96	0.510245
Mean VIF	3.43	

This table displays the VIF (Variance Inflation Factor) analysis to further examine the underlying multicollinearity problem between independent and control variables. As reported on the table, the existence of multicolinearity can be ruled out as all of the VIF values are below 10. Thus, this thesis does not violate the multicolinearity assumptions.

Appendix 2

<div align="center">

Homoskedasticity

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```
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
        Ho: Constant variance
        Variables: fitted values of car101

    chi2(1)       =    127.52
    Prob > chi2  =    0.0000
```

```
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
        Ho: Constant variance
        Variables: fitted values of car100

    chi2(1)       =    160.24
    Prob > chi2  =    0.0000
```

The outcome of the heteroskedascity test shows that both p-value are less thatn .05, indicates that there is no constant variance in the residuals. To alleviate such problem, I use robust standard errors in the regression models.