Going private effects

The impact of going private on earnings per share and firm value

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Preface

Hereby, I present my master thesis on the effects of going private on quarterly earnings and firm value. This master thesis is the final work of the Master Accountancy, Auditing & Control at the Erasmus University Rotterdam. I started this master in September 2015, due to the opportunity to travel around the world, I postponed the thesis with one year.

At first, I would like to thank Dr. Ying Gan from the Erasmus University for supervising, helping and giving me a critical review of my thesis during last period. Furthermore, I would like to thank EY for the opportunity to write my thesis as an intern. Thirdly, special thanks to my fellow interns for discussing problems and helping each other with the thesis. At last, I would like to thank my friends and family for their help and support during this period.

Rotterdam, August 2017

Abstract

This thesis investigates the relation of the going private of a firm and the quarterly earnings and firm value by measuring the effect of the going private announcement on the earnings per share and firm value measured with Tobins q.

To find the effects, this thesis uses two different samples, one with data of the quarter before and data from the quarter of the announcement and one with data of the quarter before, after and data from the quarter of the going private announcement. The main findings do not provide significant evidence to conclude that there is a relation between going private and quarterly earnings or firm value. Differences in quarterly earnings or firm value surrounding a going private are not caused by the going private announcement. The advantages of being a private firm occur after delisting. Due to the lack of information it is difficult to observe firms after delisting.

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I. Introduction

A public company that delist is called a going private firm. To be a public company also has disadvantages. A company is then able to delist and go private. In the last couple of decades little research is done about the effects of going private. Therefore, this research tries to find answer on the following research question.

RQ: Does going private affect EPS and firm value?

The SEC defines a going private firm as "when a publicly held company is eligible to deregister a class of its equity securities, either because those securities are no longer widely held or because they are delisted from an exchange". If the firm reduces its shareholders to less than 300 it does not require to report with the SEC and can delist. Not having to require with the strict regulation of the SEC lead to some advantages. A private firm can use the gained time and money to focus more on long-term goals (DeAngelo, 1984). A firm, thus, can consider going private when the firm is close to the public/private margin. That is, whenever the net benefits of being public are rather small (Ellen, 2006).

Throughout the years, different researches found evidence that stockholders create significant gains with going private transactions. DeAngelo (1984), Lehn (1989) and Marais (1989) all found different sources of going private gains for shareholders. Furthermore, Wruck (1989) found that the announcement of private sale of equity increases shareholders wealth with 4,5%. In addition, research suggests that investors base their decisions on quarterly earnings (May, 1971) and the information content of quarterly earnings increased over the years (Landsman, 2002). With possible going private gains and the importance of quarterly earnings, it might be interesting for investors to take decisions based on the fact that a firm is going private. Therefore, this research tries to find if going private effects earnings per share.

Research also suggests that firm value increases if the percentage of ownership within the board of directors increases (Morck, 1987). The research of Wruck (1989) suggests that the change in ownership associated with a private sale is correlated with the change in the firm value. This research tries to find additional evidence of a change in firm value due to a going private announcement.

The sample used in this master initially consists of 453 going private companies. These companies are randomly selected within a timeline of twenty years. The sample is based on filings of the SEC Schedule SC13e-3. These filings have a strict criterion for what it means to go private. To exclude repurchases or buyout call back, I also use Form 15 (Notice of termination of registration) and Form 25 (Notice of the removal from listing and registration of matured, redeemed or retired securities). To have longest possible research period, I hand collect the moment where the company announce their agreement of the going private transaction, the GP announcement. Furthermore, I excluded companies that went bankrupt, liquidated or merged with another than a North-American based company. At the end there are two samples, one with 65 going private firms (afterGP) and one with 92 going private firms (sameGP). The going private announcement could be in the beginning of the fiscal quarter, what could mean that the quarterly data of that quarter includes the GP effect, however the announcement could also be at the end of the fiscal quarter. To take both possibilities into account, this research uses two samples.

To test my hypotheses, I perform difference in difference regressions. Difference in difference tests uses a treatment group, which includes the firms that announced a going private transaction, and a control group, which have the firms that did not announced a going private transaction. The interaction, or differences, are considered the effects of the going private announcement. The afterGP sample uses three quarters: (1) the quarter before the GP announcement quarter, (2) the quarter of the GP announcement and (3) the quarter after the GP announcement quarter, whereas the model investigates differences between (1 & 2) and (3) The sameGP sample uses two quarters: (4) the quarter before the GP announcement quarter and (5) the quarter of the GP announcement, whereas the model investigates differences between (4) and (5). In addition, the model controls for: return on assets, return on equity, free cash flow, assets, book-to-market ratio and leverage.

With regard to the first hypothesis, the main results indicate an increase of EPS after a going private announcement. The results, however, are not significant. There is no significant evidence to accept or reject the first hypothesis. The results show that there is no significant relation between a going private announcement and EPS. The difference in EPS around a going private announcement is not solely caused by the going private announcement. These results are the same for the afterGP regression as well as for the sameGP regression.

The main results for the second hypothesis indicates an increase of Tobins q after a going private announcement. The results, however, are again not significant. There is no significant evidence to accept or reject the second hypothesis. The results show that there is no significant relation between a going private announcement and Tobins q. The differences in Tobins q around a going private announcement is not solely caused by the gong private announcement.

This thesis contributes to different streams of literature. First of all, research shows that investors base their decisions on quarterly earnings and the information content of those quarterly earnings increased over time. Research also suggests possible gains for shareholders with going private transactions. With regard to this research, the results indicate that the investors should not change or base their decisions on the fact that a firm announced a going private transaction. Secondly, research suggests that firms close to the public/private margin have relatively low earnings per share. A going private announcement could have an additional negative effect on EPS. However, the results indicate that a going private announcement does not effects EPS. In addition, prior research shows that firm value is positively correlated with capital expenditure plans and firm value rises if the percentages of ownership within the board of directors is big. The results of this thesis are somewhat in contrast with prior literature, because there is no significant evidence of a relation between firm value and a going private announcement. Furthermore, this thesis contributes to research in the field of going private firms. The research gives an update to researches around going private firms, as most researches about going private are relatively old.

There are several limitations and future research possibilities for this thesis. First of all, the final samples are rather small, which makes it difficult to draw solid conclusions. Secondly, the advantages of a going private firm occurs after the firm delist. It is difficult to measure effects after a firm delists due to lack of public information. Intensive field research could lead to more accurate observations and results. In addition, the research did not take into account different incentives to go private. Future research could focus more on the incentives and do more field research to find out about the incentives and try to find results for similar incentives.

The remainder of the thesis is organized as follows. The next section provides prior literature and some theoretical background. Section three elaborates on the research question and the hypothesis development. The following section discusses the data gathering and sample selection. After the sample selection I discuss the research methodology. The section after the methodology elaborates on the research results. The final chapter of this thesis provides the overall conclusion.

II. Key related literature and prior research

This section provides key related literature for this research. First of all, I discuss the definition of going private and discuss going private in general. Secondly, paragraph 2.2 elaborates on the prior research done whether shareholders receive gains or not in going private transactions. Paragraph 2.3 elaborates on the literature which relates to quarterly earnings announcements. Furthermore, paragraph 2.4 discusses the literature which relates to the value of the firm and Tobin's q as measurement.

2.1. Going private

According to the website of the SEC, the definition of a firm going private is "when a publicly held company is eligible to deregister a class of its equity securities, either because those securities are no longer widely held or because they are delisted from an exchange"[1]. Going private replaces public stock interest with equity owned by an incumbent management and thus restructures corporate ownership (DeAngelo, 1984). A private firm does not have to comply with strict regulations and can use the gained time and money to focus more on long-term goals, whereas a public company has to comply with quarterly earnings expectations and can focus less on the growth and prosperity of the firm. A firm might consider going private if the company is close to the public/private margin. The public/private margin is whenever the net benefits of being public are rather small (Ellen, 2006). It is also possible for a firm to deregister from the SEC but continue trading shares. These firms are referred as having "gone-dark". They continue trading on the less liquid Pink Sheets (Leuz, 2006).

Going private became popular around 1980 where the number of firms that went private increased in size and amount (Lehn 1989). The sample of Lehn (1989) shows this increase. The total sample of 263 going private transactions grew from 98 in the first four years to 165 in the last four years of the sample period.

[1] https://www.sec.gov/answers/gopriv.htm

Before a firm goes private there are "going private transactions". In going private transactions shareholders of the public firm are bought out. To finance these buyouts debt is often used and therefore a going private transaction is often called a leveraged buyout (hereafter LBO). LBO is a financing method which relies heavily (almost 80%-90%) on debt. The assets are used as collateral for the loan. Investors can easily take over a company with little own capital. Unfortunately, the acquired company has large debts. A LBO where the management takes over the company is called a management buyout (hereafter MBO) (Lehn 1989).

2.2. Going private gains

The first stream of literature relates to literature that states that stockholders receive of do not receive gains in going private transactions. Throughout the years different researches found evidence that stockholders create significant gains with going private transactions.

Lehn (1989) searches evidence consistent with the hypothesis of Jensen's (1986), which states that a major source of stockholder gains in going private transaction is the mitigation of agency problems associated with free cash flow. Lehn (1989) compared going private firms with a control group. The results show that going private directly relates to the ratio of undistributed cash flows to equity value, and inversely related to growth rate in sales. The findings also show that companies with greater free cash flow are more likely to go private and that shareholders earn greater premiums in a going-private deal when there is more free cash flow.

According to DeAngelo (1984), going private transactions are often called freeze outs. In most cases management already has most of the outstanding shares in the public firm and the minority stockholder are cashed out. Because management is both agent for the sellers and purchaser of public shares, going private might lead to unfair treatment of minority stockholders. In addition, securities regulators in the 1980's had a concern that minority shareholders were "frozen out" in going private transaction and suffered losses (DeAngelo 1984). DeAngelo (1984), however, find that going private can generate significant gains due savings of registrations and other public ownership expenses. In addition, the U.S. legal system provides rights to the minority stockholders which should enable to protect themselves and to receive a positive share of the gains in a going private transaction. The research finds evidence of significant gains for minority shareholders.

Marais (1989) researches the impact of going-private buyout proposal on the value of debt securities and preferred stock. A LBO could terminate debt and preferred stock contracts by early redemption. In addition, these contracts could also remain outstanding. Marais (1989) found that most securities remain outstanding with a buyout. The research also found positive announcement returns for public convertible securities and nonconvertible preferred stock. Only nonconvertible debt does have insignificant negative abnormal returns. In addition, they found little and weak evidence that nonconvertible debt securities and downgrading securities decrease after successful buyouts.

Not all the researches show that shareholders receive gains with going private transactions. Leuz (2006) shows large negative abnormal returns on the announcement date of going private transactions. However, they research firms which stop reporting to the SEC, but continue trading their shares. This is somewhat different from the other literature, where they research going private transactions where the firm completely stop trading shares. Leuz (2006) have two explanations for the negative abnormal returns. At first, the transactions could be causing reduced future growth of the firm. Secondly, management may want to go dark to receive benefits of control, but fail to internalize the effects of lost liquidity on other shareholders.

Besides shareholders Lehn (1989) suggests four sources/incentives of stockholder gains in going private transactions: tax savings, asymmetric information, redistribution from bondholders, and mitigation of agency problems.

There are three tax incentives proposed which may lead to wealth gains in going private transactions. First of all, the tax deductibility of interest payments on corporate debt. Secondly, increased depreciations deductions associated with step-up assets in going private transactions and the tax advantages of financing going private transactions with employee stock ownership plans. Marais (1989) found that going private premiums and tax savings are correlated in these transactions.

The private information that management has, is often suggested as the reason for corporate stock repurchases. Going private is an extreme form of corporate stock repurchases. This information asymmetry could be an explanation for going private transactions (Dann 1981). Management, for example, expect higher cash flow and therefore repurchases equity when the firm is undervalued. However, there is no evidence that asymmetric information is the primary explanation of going private transactions. In addition, Lehn (1989) found evidence

that going private are preceded by rumours of take overs and competing bids, which is inconsistent with the asymmetric information.

Redistribution from bondholders could cause the gains of stockholders. Going private transactions are often mainly financed by debt. The debt-equity ratios therefore increase significant with these transactions. There is a possibility that the gains of stockholders are a wealth transfers from the bondholders of the firm. The research findings are mixed; however, different results suggest that losses from bondholders are far less than the gains of stockholders with going private transactions (Marais 1989), (Lehn 1988).

There is a potential conflict of interest between managerial incentives and stockholders' interests in publicly trades firms. Going private transactions can mitigate this conflict by concentrating on residual claims of management or third party. Kaplan (1988) found evidence that firms have significant increasing accounting profit rates thanks to going private transactions. These transactions, therefore, internalize the wealth consequences of management decisions and can enhance the productivity. Jensen (1986) suggests that going private transactions mitigate an agency problem in firms with substantial free cash flow. Pointing out that firms which are likely to go private because they are close to the public/private margin have relatively low growth prospects and substantial cash flow, Jensen (1986) describes the specific incentive problem that arises in these firms: free cash flow is the cash flow that is the remainder of what is required to pay all projects that have positive NPV[2] when discounted at the cost of capital that is relevant. There arises a conflict of interest between management and shareholders over the pay-out with going private transaction when the firm generates substantial cash flow. Management should disgorge the cash instead of investing it below the cost of capital, but the problem is how to motivate management to do so.

2.3. Quarterly earnings announcements/ earnings per share

The second stream of literature relates to earnings per share (hereafter EPS), which are in the quarterly earnings announcements. The SEC and financial analysts are the primary proponents of interim reports[3]. It gives users updated information on the firm's operations and results. Since 1910 listed firms on The American Stock Exchange are required to make quarterly financial reports to the public. The SEC had some struggles with the introduction of the requirements.

[2] Net present value

[3] Interim financial statements are financial statements covering a period less than one year, in this case quarterly earnings announcements. The statements are often unaudited and condensed.

The SEC was in-between the different groups which were proponents and opponents. This resulted in the withdrawal of requirements in 1953 which were established in 1946. However, after pressure from security analysts, the SEC reintroduced interim reporting in 1955. The reports expanded and become more important over the years (May, 1971). Over the years, there is a lot of research done around the quarterly financial statements (or earnings announcements). Quarterly earnings announcements play an important role in accounting. According to Landsman (2002), which researched the decline of information content in earnings announcement, found that there is no evidence in a decline of information content in earnings announcements. In addition, the results suggest an increase in the information content of quarterly earnings announcements over time. Kross (1999) has the same conclusion. They research the earnings announcements in the 1960's and thirty years later in the 1990's. The outcome of the research was a higher degree of information content of earnings in the 1990's than in the 1960's.

The commonly known equation of EPS is the net income of a firm minus dividends on preferred stock divided by the average outstanding shares. So, without any research it is safely to say that EPS depends on how well a company operates. Earnings are important to a wide range of users like investors, analysts, they are used in debt covenants etcetera, because earnings are seen as a measure of firm performance (Dechow, 1994).

May (1971) researches the influence of quarterly earnings announcements on investments decisions. The research uses common stock prices as variable for investors' decisions. The American Stock Exchange is used for the sample. The result shows that there is a price change in the weeks of the quarterly earnings announcements. So, investors have significant demand for the interim statements because they are used in actual decisions. In addition, May (1971) also found that the price change due to the quarterly announcements is not more or less than the responses to annual earnings announcements. This leads to the conclusion that investors might be unaware or not capable of detecting difference in quality of quarterly and annual data. Improvements of the quarterly earnings announcements could lead to social benefits, because investors, apparently, bases their decisions on these announcements. In addition to May (1971), Chambers (1984) investigates the timeliness of earnings reports and stock price behaviour. The results suggest that there is no significant evidence that stock prices vary due to different timeliness. This is consistent with the outcome of May (1971) which states that stock prices change around earnings announcements.

In contradiction to May (1971) and Chambers (1984), there is evidence that much accounting information is already reflected in stock prices before the information is released (Ball and Brown, 1968). This suggests that there are sources of information other than earnings announcements which affects the stock prices.

Patell (1976) investigated EPS forecasts and the result on stock price behaviour. According to the research, a firm is considered to have to disclose earnings forecast when a firm is quoted in the Wall Street Journal. The sample consists of all kind of announcements, annual and quarterly. Nonetheless, Patell (1976) found that there was a significant upward stock price change during the week of forecast disclosure, beyond the movement of the market. Furthermore, the immediate forecast week was the occasion of upward price revision.

2.4. Firm value

The third stream of literature relates to firm value.

Measuring firm value is difficult. There are multiple methods for calculating the value of the firm. Each method has its own advantages but also problems. The book value, for example, of a firm does not reflect the true value of the firm. The book value is the most readily available measure. However, due to the difference in accounting rules and the importance of fair value nowadays, the book value is not a good reflection of the value of the firm. The market value of a company is a good measurement but is difficult to measure. This research use Tobins q as the measurement of firm value. Tobins q combines market value with accounting values. Tobin's q is the ratio of market value of a firm to the replacement cost of its assets. A high Tobins q could relate to overstatement and a low Tobins q could relate to understatement. (Chung 1994).

Different studies investigate the change in the value of the firm after management decisions. Mc Cornell (1985) investigates the market value of the firm after managerial corporate capital expenditure decisions. The research does an event-time study around the dates on which managements publicly announced their future capital expenditure plans. The sample contains of 658 firms. The statistical analysis of common stock prices around the date of capital expenditure announcements yield two conclusions. First of all, managers reveal information that is relevant to the valuations of their firm by means of announcements about the firm's capital expenditure plans. This is in line with the described literature in section 2.2. Secondly,

the reaction of common stock prices to capital expenditure announcement is positive correlated. The second conclusions of Mc Cornell (1985) is important for this research. If a firm is close or getting close to the public/private margin, it could mean that the firm value decreases.

However, Mc Cornell (1985) does not use Tobins q as a measurement for the value of the firm. Morck (1987) uses Tobin's q as measurement for the value of the firm to investigate the relationship between management ownership and the value of the firm. The research tests multiple things and the influence on or of Tobins q. First of all, they look at the relationship between the shareholdings of the board of directors and Tobins q. The results suggest a positive relation between q and the ownership between the range of 0% and 5% ownership. Furthermore, a negative relation if the board owns between 5% and 25%. More than 25% ownership leads to a positive relation again. Secondly, Morck (1987) splits the board to find out if the results are different with a split between top corporate officers and other members of the board. The outcome is no different from the board as a whole.

Wruck (1989) analyses the private sales of equity and the empirical link between the markets responds on corporate financing decisions and changes in ownership. He found that the announcement of a private sale of equity increases shareholder wealth by 4,5%. This is in line with the above described literature in the first section. The research suggests that the change in ownership associated with a private sale is correlated with the change in firm value at the announcement. Furthermore, the results are in line with the results of Morck (1987), a private sale generally increases ownership concentration. The effect on firm value of this increase is positive, but this happens when the level of ownership concentration is high or low. In some middle range, the change in firm value is negatively associated with the change in ownership concentration. In addition, Wruck (1989) found that the marginal effect on firm value of using a private sale to transfer the control to the purchaser has a negative result.

Going private often means a shift in the percentage of ownership of the board of directors. The results of Mc Cornell (1995) suggests that firm value increases if the ownership percentage of the board of directors is higher than 25%. A private firm does not have a lot of shareholders and often the shareholders are part of the board of the directors (Morck, 1987) This could mean the firm value increases after a going private.

III. Hypotheses development

The previous sections discuss three streams of literature: going private transactions, earnings per share and firm value. The theory has led to the formulation of my research question and two hypotheses. This section emphasizes on the development of the hypotheses to find an answer on the research question.

Summarizing, going private replaces public stock interest with equity owned by an incumbent management and thus restructures corporate ownership. The firm does not have to comply with strict regulations and can focus on long-term goals (DeAngelo 1984). Going private comes with going private transactions. Shareholders of the public company are bought out. As the different researches show, it is likely that shareholders will benefit off the going private transactions. Researchers found different kind of sources for those gains (DeAngelo 1984, Marais 1989, Lehn 1989 & Jensen 1986). However, Leuz (2006) shows large negative abnormal returns on the announcement date of going private transactions.

This research tries to find evidence off the effect of going private on EPS and firm value. Quarterly earnings are important to investors. They base their decisions on these numbers. In addition, firm value is important when the company is taken over and go private. Based on the different streams of literature, the contrast within these theories and the importance of EPS and firm value this research tries to find an answer for the following research question.

RQ: Does going private affect EPS and firm value?

Over the years quarterly earnings announcements became more and more important to a wide range of users (Kross 1999 and Landsman 2002). Research shows that investors base their decisions on the earnings announcements. Stock price changes around announcements dates confirm this result (May 1971). In addition, Patell (1976) found that there was a significant upward stock price change during the week of forecast disclosure beyond the movement of the market. Furthermore, research suggests possible gains for shareholders with going private transactions (DeAngelo, 1984; Wruck, 1989; Lehn, 1989 & Marais 1989). A going private announcement could be of interest for investors. However, EPS depends heavily on the net benefits of the company. If a firm is close to the public/private margin it could mean that the firm's results are not very good and therefore the EPS could be small. After the going private announcement, the firm could already focus more on future plans and therefore focus

less on the short term or quarterly earnings. All of the above considered, the following non-directional hypothesis is conducted.

H1: The earnings per share *increases* after a going private announcement.

Since the firm value is important to shareholders and for a LBO, where the shareholders are bought out, the firm value can be determined using the proxy Tobin's q. Many prior studies where firm value is a variable, Tobin's q is used as proxy. It is an advantage that Tobin's q combines book value with market value. Mc Cornell (1985) concludes that there is a positive correlation with common stock prices and a corporate expenditure plan. This could indicate that the firm value decreases when a company is close to the public/private margin. However, A private sale generally increases ownership concentration (Morck, 1987). In addition, Wruck (1989) found that the change in ownership is correlated with the change in firm value at the announcement. I do not measure board ownership after delisting, therefore I cannot assume board ownership increases. Furthermore, Wruck (1989) found that the marginal effect on firm value of using a private sale to transfer the control to the purchaser has a negative result. A public company has certain costs and benefits being public. This could be the incentive for a company to go private. Going private on the other hand also has costs and benefits. This could lead to a decrease in firm value after a going private announcement. With all of the above considered, I expect a decrease in firm value and lead to the following hypothesis.

H2: Firm value *decreases* after a going private announcement.

The hypotheses above are stated in the alternative form. The corresponding null hypotheses are that there is no change in earnings per share after a going private announcement and no change in firm value after a going private announcement.

An important side note about the going private announcement has to be made. There is a change that there is no available announcement date or multiple dates. If the date is not available, the 8k filing date, press releases or Rule 13E-3 going private transaction filing date can be used. I choose the earliest date of those filings. The 8k filings report important events of the firm. According to the SECs website, ''The Schedule 13E-3 requires a discussion of the purposes of the transaction, any alternatives that the company considered, and whether the

transaction is fair to all shareholders. The word ‘announcement’ in the hypotheses can also be interpreted as ‘filing’. More on the data selection and sample in the next section.

IV. Data gathering and sample

According to the SEC, a company is going private "when the company reduces the number of its shareholders to fewer than 300." When the number of shareholders is fewer than 300 the company is no longer required to file reports with the SEC. For this research, I use completed North-American going private transaction in the period 1993-2013. The going private transaction are retrieved using Wharton Research Data Services. The sample needs to contain going private companies that successfully are delisted from the U.S. Stock Exchange. Therefore, the sample is based on filings of the SEC Schedule SC 13e-3 Filings. These filings have a strict criterion for what it means to go private. Companies must disclose complete information regarding the going private transaction. To exclude (partial) repurchases or buyout call backs from the sample, I also use Form 15 (Notice of termination of registration) and Form 25 (Notice of the removal from listing and registration of matured, redeemed or retired securities).

Before the company files Form 15 or Form 25, the going private transactions started already months before the actual delist date with the initial repurchase plan. To measure the longest period possible, I search for the day where the company announced their agreement of the going private transaction, the GP announcement date. The announcement date and the definitive delisting could differ between 1-12 months. Important information will be lost if I only take the delisting date into account. The announcement date can be earlier then the filing of the SEC Schedule SC 13e-3. The Compustat database does not provide the announcement date and therefore I need to hand collect this data. To find the announcement data, often a press release, I used LexixNexix, Factiva and other news sources to find the announcement date of the initial going private transaction.

Based on the information in the press releases or SC 13e-3 filings, I additionally gathered information about the type of going private transaction. There are different methods to go private. According to DeAngelo (1984) there are three methods: merger, tender offer and a reserve stock split. Ellen (2006) describes the three transactions as follows. First of all, with a merger, the public company uses a shell company. After completing all conditions to merge, the shell company is merged into the public firm, and the surviving entity is left with one shareholder and therefore does not have to require to file with the SEC anymore. Secondly, in a going private tender offer, the acquirers purchase shares from other holders. With a minimum of 90% of the shares, the purchasers can execute a so called short form merger and go private.

A tender offer can be executed by different sources, a buyout group or by the company itself. In this research, there is a distinction between a tender offer performed by a buyout group and the company itself. If the company is the purchaser, the tender offer is classified as a self-tender whereas a tender offer by a buyout is classified as a merger. At last, the company sets up a split ratio, e.g. 1 or 500 shares, in a going private reverse stock split. Shareholders with fractional shares need to exchange their shares for cash after the split. The reverse stock split eliminates small shareholders and allows the firm to go private. A reserve stock split requires an amendment of the company's charter. The company need to conduct a shareholders meeting to vote on this amendment.

Also based on the press releases or SC 13e-3 filings, I need to exclude companies from my sample in cases which:

- The going private company is bankrupt and cease to exist
- The issuer or the acquirer is a foreign company
- The going private company sells its assets and then liquidates.

Companies that go private due to bankruptcy or liquidation are probably not random. This research is based on voluntary going private decisions and therefore I exclude firms that go private due to bankruptcy or liquidation. I also exclude companies that are acquired by a foreign company. Those firms can continue trading on another stock exchange and therefore do not actually go private. The additional financial data needed for this research is retrieved from the Compustat database. Table 1 shows the sample breakdown and the final samples I use for this research.

Table 1

Sample breakdown

Sample afterGP	
Going-private firms	453
Less:	
Missing going private information	-149
Exclude bankruptcy, liquidation, international acquisition	-12
Total GP sample	**292**
Missing Compustat data quarterly	-222
Going-private firms included in regression	**65**
Sample sameGP	
Going-private firms	453
Less:	
Missing going private information	-149
Exclude bankruptcy, liquidation, international acquisition	-12
Total GP sample	**292**
Missing Compustat data quarterly	-195
Going-private firms included in regression	**92**

Table 1: sample selection and breakdown of the sample. AfterGP and sameGP are explained in section 5.2.

As discussed above, there are different types of going private transactions. Table 2 gives a breakdown of the different transactions of the total GP sample and the samples which are included in the regression models. The table gives a global view of the distribution of the going private transaction types. The lion's share of the transactions is performed through a merger. The second most used transaction is the reserve stock split, which eliminates small stockholders. The self-tender is the least popular method. The company or often the CEO needs to have a lot of cash to buy out the shareholders, that is why a different method seems to be more feasible.

Table 2
GP transaction type breakdown

	Merger	Self Tender	Reverse stock split	Total
Total sample	197	44	51	292
%	0,6864	0,1359	0,1777	1,00
Regression samples				
AfterGP	35	9	21	65
%	0,5385	0,1385	0,3231	1,00
same GP	54	14	24	92
%	0,5870	0,1522	0,2609	1,00

Table 2: Breakdown of the going private transaction types whereas merger also includes a third party tender offer. The total sample includes all the going private firms with information about the transaction. After GP includes the firms which are included in the regression with available data of the quarter after the announcement quarter. SameGP includes firms which are included in the regression with available data of the quarter of the announcement quarter.

V. Methodology

5.1. Methodology

For this research, I developed two hypotheses to find evidence for the research question which mentioned in chapter III. To understand the structure of the research I use the Predictive validity framework, the so-called Libby boxes. This framework shows the different variables. The following Libby boxes are created:

Figure 1

Predicitive validity framework, Libby boxes

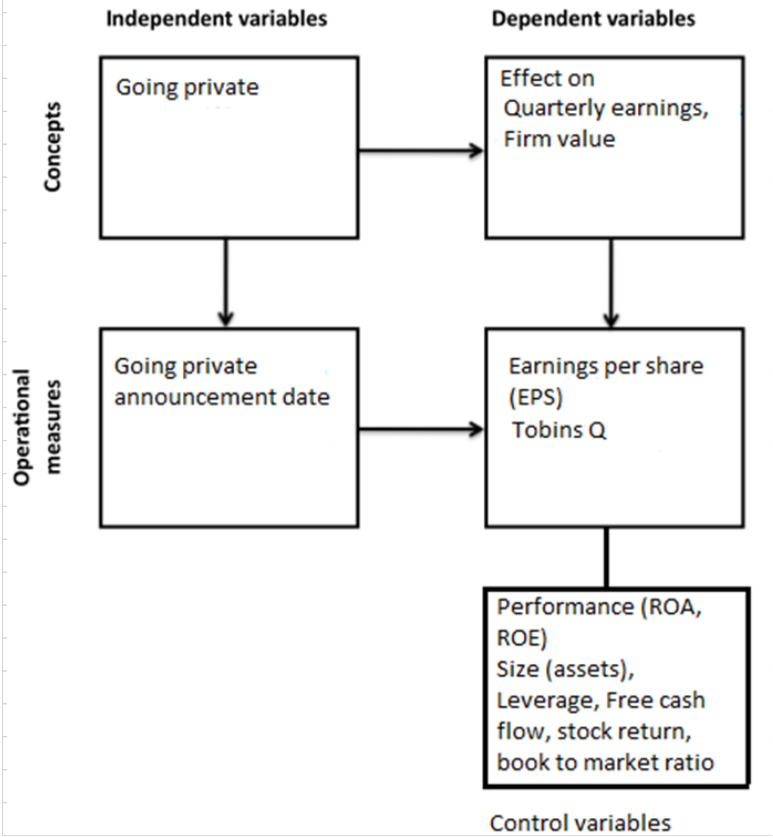

Figure 1: predictive validity framework, Libby Boxes

To find out if a going private affects the value of the firm and EPS, I have to find evidence if the firm value or EPS changes because of the going private announcement. I perform a difference in difference test to do so. A difference in difference test is to measure the effect of a variable on a treatment group compared with a control group which do not have that variable. A classic example of a difference in difference test is the article of Card and Krueger (1994). The research wants to find evidence if the change in minimum wages in the fast food sector of New Jersey results in changes of employment. If the study only research New Jersey, the study

would fail to measure omitted variables, such as weather conditions. Therefore, they also measure the change in employment in Pennsylvania in the same period. Whereas in this research, the going private firms is the employment in New Jersey (treatment group), the date of the going private announcement is the date of the change in minimum wages (event) and the firms that do not go private is the employment in Pennsylvania (control group). For the control group, I used the entire Compustat database. For an accurate measure, the firms in the control group should be similar to the going private firms. Similar to (Dehaan, 2013), which also performs a difference in difference test, I partition the entire database into groups with similar characteristics. To match the control group with the treatment group, I decile the data based on firm size (assets), stock return and ROA. The data is portioned into ten groups based on average assets. The ten created groups are each divided into ten new groups based on the average return on assets. At last, all the groups are again divided into ten groups based on average stock return. In total, there are 1000 groups with firms. Groups without any GP firms are left out in the regression.

5.2. Regression models

To capture the full effect, this study measures quarterly data before and after the announcement date. The timeline will be from the quarter before the quarter of the announcement date and the quarter of the announcement date. There is a possibility that the announcement date is close or at the same date of the end of the fiscal quarter. To get more accurate results I also do a test whereas the post quarter is the quarter after the quarter of the announcement date. However, this results in a decrease of the sample because the firms could already be delisted before there is any available data, see table 1. To take into account all of the above, for each hypothesis I perform two tests.

For this research, the following regression models are constructed.

$$Quarterly\ Earnings_{it} = \alpha + \beta_1\, GPcom + \beta_2\, afterGP + \beta_3 Goingprivate * GPpost + \beta_4 ROA + \beta_5\, ROE + \beta_7 LNassets + \beta_8 BTMR + \beta_9 Stock\ return + \beta_{10} FCF + \varepsilon$$

$$Firm\ value_{it} = \alpha + \beta_1\, GPcom + \beta_2\, afterGP + \beta_3 GPcom * afterGP + \beta_4 ROA + \beta_5\, ROE + \beta_7 LNassets + \beta_8 BTMR + \beta_9 Stock\ return + \beta_{10} FCF + \varepsilon$$

Whereas GPcom is a dummy which is equal to 1 if the firm goes private and afterGP is a dummy which is equal to 1 if the observation is the quarter after the GP announcement date quarter. The interaction coefficient $\beta_3 GPcom * afterGP$ is referred as interGPafter. Hereafter this regression will be referred as afterGP regression. Quarterly earnings are based on EPS and the firm value is measured with the Tobins q.

$$Quarterly\ Earnings_{it} = \alpha + \beta_1\ GPcom + \beta_2\ sameGP + \beta_3\ GPcom * sameGP + \beta_4 ROA + \beta_5\ ROE + \beta_7 LNassets + \beta_8 BTMR + \beta_9 Stock\ return + \beta_{10} FCF + \varepsilon$$

$$Firm\ value_{it} = \alpha + \beta_1\ GPcom + \beta_2\ sameGP + \beta_3\ GPcom * sameGP + \beta_4 ROA + \beta_5\ ROE + \beta_7 LNassets + \beta_8 BTMR + \beta_9 Stock\ return + \beta_{10} FCF + \varepsilon$$

Whereas GPcom is a dummy which is equal to 1 if the firm goes private and sameGP is a dummy which is equal to 1 if the observation is the quarter of the GP announcement date quarter. The interaction coefficient $\beta_3\ GPcom * sameGP$ is hereafter referred as interGPsame. Hereafter this regression will be referred as sameGP regression. Quarterly earnings are based on EPS and the firm value is measured with the Tobins q.

Difference in Difference tests have a possibility of correlated omitted variables (Dehaan, 2013) and therefore I include quarterly control variables to the regression model. Ellen (2006) researches the effect of The Sarbanes-Oxley Act on firms' going private decisions. I use similar control variables. First of all, I need to control for performance because performance have impact on EPS and firm value. To control for performance, I use return on assets (ROA) and return on equity (ROE). Secondly, I control for size with the logarithm of total assets. Furthermore, I control for book to market ratio (BM) and free cash flow (FCF). At last, I also control for leverage (total liabilities divided by total assets)

VI. Results

This section provides the results of the different regressions and ultimately the result on the hypotheses. First of all, the summary statistics are provided. The second section provides a multicollinearity analyses and the correlation between the variables of the regression. At last, the third section provides the results of the different regression analyses.

6.1. Summary statistics

This section provides information about the summary statistics. Table 3 provides the summary statistics of the afterGP regression. The summary statistics are divided in information about GP firms and control firms. Conform table 1 of the total GPfirm sample is 65. However, the total sample quarters is 195. In this regression, every GPfirm has 3 quarters of information, which totals the entire sample to 195 quarters. Figure 2 shows the timeline that explains the quarters which are used in the afterGP and sameGP regression. The afterGP regression takes three quarters into account: (1) the quarter before the quarter of the GP announcement, (2) the quarter of the GP announcement and (3) the quarter after the GP announcement quarter. The afterGP regression observes the differences between quarters 1 & 2 (dummy 0) and quarter 3 (dummy 1). The sameGP regression takes two quarters into account: (4) the quarter before the quarter of the GP announcement and (5) the quarter of the GP announcement. The sameGP regression measures the difference between the quarter 4 (dummy 0) and the quarter 5 (dummy 1).

Figure 2

Timeline regression and dummy variables

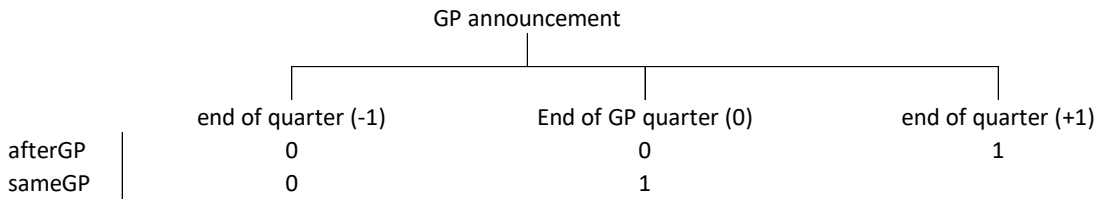

Figure 2 shows the timeline of the regression models. Besides, the figure also shows the dummy variables used in the regression and the difference approach between afterGP and sameGP.

The mean of EPS of the GP firms increases after the GP announcement which can mean that the GP announcement causes this increase. The mean of EPS of the control firms on the other hand decreases. The mean of the TOBINSQ decreases for the GP firms but the TOBINSQ of the control firms increases slightly, which can mean that there is an effect of the GP announcement on the TOBINSQ and thus firm value.

Table 4 provides the summary statistics of the sameGP regression. The mean of the EPS of GP firms increases whereas the EPS of control firms decreases. The mean TOBINSQ of GPfirms decreases, the same for the control firms which, thus, differs from the afterGP summary statistics.

Table 3

Summary statistics: GP firms & control firms afterGP

	Going-private sample quarters (N=195)			Control sample quarters (N=1259)		
	Data total GP sample			Data total control sample		
	Mean	Median	Std. Dev.	Mean	Median	St. Dev.
EPS	0,0722	-0,0100	0,6628	0,0955	0,0300	0,4344
TOBINSQ	1,6850	1,2227	1,5433	2,6831	1,6543	3,1012
ROA	-0,0573	-0,0018	0,2674	-0,0269	0,0027	0,1579
ROE	0,0433	0,1449	0,3952	-0,0007	0,0157	0,3533
MTBR	1,5820	1,0267	5,0215	2,4819	1,6289	6,8792
FCF	-0,0207	0,0064	0,1756	-0,0044	0,0070	0,1049
LNassets	4,3560	3,9075	2,3830	4,2705	3,7858	2,5572
Stockreturn	0,0721	0,0003	0,4926	0,0628	0,0000	0,4437
LEV	0,9105	0,6946	1,3246	0,6143	0,4779	0,9205
	Going-private sample quarters (N=130)			Control sample quarters (N=847)		
	Data before and of GP announcement			Data before and of GP announcement		
	Mean	Median	Std. Dev.	Mean	Median	St. Dev
EPS	0,0493	-0,0100	0,6512	0,1023	0,0300	0,4358
TOBINSQ	1,7170	1,2271	1,6798	2,6820	1,6712	3,1022
ROA	-0,0594	-0,0028	0,2503	-0,0296	0,0028	0,1644
ROE	0,0491	0,0094	0,4068	-0,0035	0,0162	0,3851
MTBR	1,6148	1,0389	4,3505	2,4437	1,6187	7,2023
FCF	-0,0183	0,0059	0,1622	-0,0054	0,0065	0,1040
LNassets	4,3603	3,9334	2,3590	4,2266	3,7613	2,5476
Stockreturn	0,0457	0,0005	0,4512	0,0477	-0,0023	0,4316
LEV	0,8421	0,6523	1,0534	0,6109	0,4818	0,9088
	Going-private sample quarters (N=65)			Control sample quarters (N=412)		
	Data after GP announcement			Data after GP announcement		
	Mean	Median	St. Dev.	Mean	Median	St. Dev
EPS	0,1180	0,0000	0,6882	0,0816	0,0300	0,4318
TOBINSQ	1,6211	1,2227	1,2350	2,6854	1,6340	3,1027
ROA	-0,0529	0,0013	0,3006	-0,0215	0,0026	0,1437
ROE	0,0317	0,0177	0,3737	0,0052	0,0145	0,2770
MTBR	1,5165	0,9758	6,1868	2,5605	1,6504	6,1696
FCF	-0,0257	0,0070	0,2010	-0,0024	0,0081	0,1069
LNassets	4,3475	3,9075	2,4487	4,3607	3,8362	2,5775
Stockreturn	0,1250	0,0000	0,5667	0,0937	0,0133	0,4665
LEV	1,0472	0,7255	1,7475	0,6212	0,4648	0,9452

Table 3: Full sample includes the quarters before the quarter of the GP announcement, the quarter of the GP announcement and the quarter after the quarter of the GP announcement. All variables are based on quarterly data. EPS = earnings per share (net profit / shares outstanding). TOBINSQ = Tobins Q (total liabilities + market value) / (total liabilities + equity). ROA = Return on Assets (net profit / assets). ROE = Return on Equity (net profit / equity). FCF = Free cash flow (Operating income before depreciation – income tax expense + deferred taxes – dividends)/ assets. LNassets = the logarithm of total assets. Stock return = (share price end of period – share price start of period + dividends) / share price start of period. LEV = leverage (total liabilities / total assets) All the data is winsorized for the smallest and biggest 1% of every variable.

Table 4

Summary statistics: GP firms & Control firms sameGP

	Going-private sample quarters (N=184)			Control sample quarters (N=1195)		
	Data total GP sample			Data total control sample		
	Mean	Median	St. Dev	Mean	Median	Std. Dev.
EPS	0,0292	-0,0100	0,6235	0,0915	0,0300	0,3959
TobinsQ	1,6432	1,2714	1,5244	2,6136	1,6695	3,0358
ROA	-0,0679	-0,0028	0,2439	-0,0313	0,0031	0,1538
ROE	0,0555	0,0157	0,3782	-0,0185	0,0162	0,3855
MTBR	1,2107	0,9331	4,0187	2,5561	1,5782	6,9059
FCF	-0,0164	0,0046	0,1451	-0,0069	0,0067	0,1013
Lnassets	4,1125	3,8935	2,3672	4,0199	3,7053	2,4060
Stockreturn	0,0642	0,0124	0,4320	0,0587	0,0000	0,4551
LEV	0,8218	0,6247	0,9850	0,5967	0,4753	0,8153
	Going-private sample quarters (N=92)			Control sample quarters (N=612)		
	Data before GP announcement			Data before GP announcement		
	Mean	Median	St. Dev.	Mean	Median	St. Dev.
EPS	0,0229	-0,0200	0,5588	0,0996	0,0300	0,4213
TobinsQ	1,6755	1,2733	1,6744	2,6341	1,6567	3,1127
ROA	-0,0489	-0,0057	0,1369	-0,0295	0,0035	0,1389
ROE	0,0405	0,0110	0,4138	-0,0215	0,0173	0,3892
MTBR	1,3543	0,9331	5,2814	2,7784	1,5770	6,9215
FCF	-0,0133	0,0006	0,1028	-0,0055	0,0068	0,0948
Lnassets	4,1190	3,8686	2,3103	4,0106	3,6981	2,4219
Stockreturn	0,0290	0,0000	0,3329	0,0673	0,0000	0,4546
LEV	0,7768	0,6235	0,8751	0,5795	0,4757	0,7361
	Going-private sample (N=92)			Control sample (N=583), data both quarters		
	Data of GP announcement			Data of GP announcement		
	Mean	Median	St. Dev.	Mean	Median	St. Dev.
EPS	0,0355	0,0000	0,6851	0,0830	0,0300	0,3672
TobinsQ	1,6109	1,2689	1,3666	2,5920	1,6865	2,9547
ROA	-0,0869	-0,0015	0,3165	-0,0332	0,0028	0,1683
ROE	0,0705	0,0204	0,3405	-0,0153	0,0139	0,3818
MTBR	1,0670	0,9335	2,1314	2,3209	1,5800	6,8876
FCF	-0,0194	0,0059	0,1782	-0,0084	0,0066	0,1078
Lnassets	4,1060	3,9266	2,4355	4,0297	3,7154	2,3912
Stockreturn	0,0995	0,0242	0,5119	0,4964	-0,0066	0,4559
LEV	0,8668	0,6275	1,0868	0,6150	0,4744	0,8917

Table 4: Full sample includes the quarters before the quarter of the GP announcement and the quarters of the GP announcement. All variables are based on quarterly data. EPS = earnings per share (net profit / shares outstanding). TOBINSQ = Tobins Q (total liabilities + market value) / (total liabilities + equity). ROA = Return on Assets (net profit / assets). ROE = Return on Equity (net profit / equity). MTBR = market-to-book-ratio (Market value of the firm / total assets. FCF = Free cash flow (Operating income before depreciation – income tax expense + deferred taxes – dividends)/ assets. LNassets = the logarithm of total assets. Stock return = (share price end of period – share price start of period + dividends) / share price start of period. LEV = Leverage (Total liabilities / total assets). All the data is winsorized for the smallest and biggest 1% of every variable.

6.2. Multicollinearity analysis and correlation

This section provides an analysis of possible multicollinearity issues. Furthermore, the correlation between the variables are discussed. Both the multicollinearity analysis and correlation are described for both sameGP and afterGP regressions.

6.2.1. Multicollinearity analysis

It is important that there shall be no perfect linear relationship between independent variables. If those variables have or approach such a relation, it could lead to multicollinearity problems. According to Field (2009), multicollinearity problems can be an unreliable β coefficient, limitation of the R size and the determination of the effect of a predictive variable to a dependent variable can be difficult.

This research determines multicollinearity for the variables in the different regressions by the variance inflation factor analysis (VIF). The analysis gives an estimation how much the variance of a coefficient of the regressions is "inflated" because of the dependence on other variables. According to Hair (1998), the VIF level is acceptable when the VIF is less than 10 and a tolerance higher then 0,1. Table 5 shows the results of the tests for both regressions. All variables have a VIF reasonable lower than 10 and a tolerance higher then 0,1. Therefore, no multicollinearity is assumed in both the regressions.

Table 5

Multicollinearity test

VIF-analysis regression afterGP			**VIF-analysis regression sameGP**		
Variable	VIF	1/VIF	Variable	VIF	Tolerance
ROA	2.93	0.341370	ROA	2.32	0.431750
FCF	2.87	0.348431	FCF	2.23	0.447460
interGPafter	1.67	0.597557	interGPsame	2.16	0.463008
LEV	1.56	0.642288	GPcom	2.01	0.498612
GPcom	1.52	0.658290	LEV	1.32	0.758615
afterGP	1.16	0.861059	sameGP	1.15	0.866360
LNassets	1.10	0.912479	MTBR	1.11	0.898271
MTBR	1.06	0.946488	LNassets	1.10	0.908228
Stockreturn	1.03	0.972788	ROE	1.08	0.924500
ROE	1.03	0.973286	Stockreturn	1.01	0.988788
Mean VIF	1.59		Mean VIF	1.55	

Table 5: Determination of possible multicollinearity. The above table shows the results of the variance inflation factor analysis (VIF). Columns 1-3 are the results of the VIF for the regression where the quarter of the quarter

of the GP announcement is used. Columns 4-6 are the results of the VIF for the regressions where the quarter after the quarter of the GP announcement is used. All the independent and control variables are ranked from highest VIF to lowest VIF. ROA = Return on Assets (net profit / assets). ROE = Return on Equity (net profit / equity). MTBR = market-to-book-ratio (Market value of the firm / total assets. FCF = Free cash flow (Operating income before depreciation – income tax expense + deferred taxes – dividends)/ assets. LNassets = the logarithm of total assets. Stock return = (share price end of period – share price start of period + dividends) / share price start of period. LEV = Leverage (Total liabilities / total assets).

6.2.2. Correlation

This section provides the correlation matrixes of the regression variables for both regressions. The correlations are based on the Spearman rank correlations.

Table 6 shows the correlation of the afterGP regression variables. The correlations between the dummy variables and EPS or TOBINSQ are not high. The biggest correlation is -0.1406 between GPcom and TOBINSQ. The highest correlation between the control variables and EPS or TOBINSQ is 0.7124, which is between ROA and EPS. The second largest correlation is between ROE and EPS with a correlation of 0.6039. The biggest correlation between control variables is 0.6892, which is between ROA and FCF. The second largest correlation of 0.6592 is between the two performance variables ROE and ROA.

Table 7 shows the correlation matrix of the sameGP regression variables. The correlations between the dummy variables and EPS or TOBINSQ are again not very high. The largest correlation is -0.1331 between GPcom or TOBINSQ. Furthermore, the biggest correlation between the control variables and GPcom or TOBINSQ is again between ROA and EPS with a correlation of 0.7183 and the second largest is again between ROE and EPS with a correlation of 0.5869. The largest correlation between control variables is between the performance variables ROA and ROE with a correlation of 0.6305.

Table 6

Correlation matrix AfterGP

	EPS	TOBINSQ	GPcom	afterGP	interGPafter	ROE	ROA	MTBR	FCF	Lnassets	Stockreturn	LEV
EPS	1,0000											
TOBINSQ	0.1595	1,0000										
	(0.0000)											
GPcom	-0.0837	-0.1406	1,0000									
	(0.0014)	(0.0000)										
afterGP	-0.0008	-0.0051	0.0081	1,0000								
	(0.9744)	(0.8459)	(0.7565)									
interGPafter	-0.0238	-0.0813	0.5541	0.3116	1,0000							
	(0.3645)	(0.0019)	(0.0000)	(0.0000)								
ROE	0.6039	0.0502	0.0037	0.0172	0.0235	1,0000						
	(0.0000)	(0.0556)	(0.8879)	(0.5128)	(0.3708)							
ROA	0.7124	0.3270	-0.0691	0.0086	-0.0167	0.6509	1,0000					
	(0.0000)	(0.0000)	(0.0084)	(0.7423)	(0.5249)	(0.0000)						
MTBR	0.1353	0.5636	-0.1756	0.0085	-0.0983	-0.0686	0.1365	1,0000				
	(0.0000)	(0.0000)	(0.0000)	(0.7447)	(0.0002)	(0.0089)	(0.0000)					
FCF	0.5398	0.2099	-0.0105	0.0244	0.0026	0.4296	0.6892	0.1078	1,0000			
	(0.0000)	(0.0000)	(0.6904)	(0.3529)	(0.9223)	(0.0000)	(0.0000)	(0.0000)				
Lnassets	0.3638	0.1677	0.0208	0.0209	0.0067	0.1466	0.1303	0.1463	0.1633	1,0000		
	(0.0000)	(0.0000)	(0.4287)	(0.4268)	(0.7981)	(0.0000)	(0.0000)	(0.0000)	(0.0000)			
Stockreturn	0.1955	-0.0820	0.0051	0.0469	0.0106	0.1440	0.1984	-0.1078	0.1375	-0.0088	1,0000	
	(0.0000)	(0.0018)	(0.8457)	(0.0736)	(0.6872)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.7382)		
LEV	0.0757	-0.5103	0.1556	0.0046	0.0957	0.2018	-0.1957	-0.1537	-0.0569	0.3364	-0.0041	1,0000
	(0.0039)	(0.0000)	(0.0000)	(0.8614)	(0.0003)	(0.0000)	(0.0000)	(0.0000)	(0.0300)	(0.0000)	(0.8757)	

Table 6: Correlation matrix of all the variables including the dummy variables: GPcom, afterGP and interGPafter. All variables are based on quarterly data. Correlation matrix includes data of the quarter before the quarter of the GP announcement, the quarter of the GP announcement and the quarter after the quarter of the GP announcement. EPS = earnings per share (net profit / shares outstanding). TOBINSQ = Tobins Q (total liabilities + market value) / (total liabilities + equity). ROA = Return on Assets (net profit / assets). ROE = Return on Equity (net profit / equity). MTBR = market-to-book-ratio (Market value of the firm / total assets. FCF = Free cash flow (Operating income before depreciation – income tax expense + deferred taxes – dividends)/ assets. LNassets = the logarithm of total assets. Stock return = (share price end of period – share price start of period + dividends) / share price start of period. LEV = Leverage (Total liabilities / total assets). P-values are listed below the correlation coefficients between parentheses.

Table 7

Correlation matrix sameGP

	EPS	TOBINSQ	GPcom	sameGP	interGPsame	ROE	ROA	MTBR	FCF	LNassets	Stockreturn	LEV
EPS	1											
TOBINSQ	0.2082	1										
	(0.0000)											
GPcom	-0.1038	-0.1331	1									
	(0.0001)	(0.0000)										
sameGP	0.0048	0.0003	0.0095	1								
	(0.8576)	(0.9925)	(0.7227)									
interGPsame	-0.0589	-0.0929	0.6817	0.2724	1							
	(0.0278)	(0.0005)	(0.0000)	(0.0000)								
ROE	0.5869	0.0848	0.0170	-0.0042	0.0278	1						
	(0.0000)	(0.0015)	(0.5268)	(0.8753)	(0.3002)							
ROA	0.7183	0.3282	-0.0855	-0.0054	-0.0462	0.6305	1					
	(0.0000)	(0.0000)	(0.0014)	(0.8391)	(0.0848)	(0.0000)						
MTBR	0.1240	0.5534	-0.1928	-0.0151	-0.1371	-0.0967	0.1077	1				
	(0.0000)	(0.0000)	(0.0000)	(0.5743)	(0.0000)	(0.0003)	(0.0001)					
FCF	0.5707	0.2141	-0.0131	0.0177	0.0141	0.4363	0.7106	0.0956	1			
	(0.0000)	(0.0000)	(0.6249)	(0.5102)	(0.5986)	(0.0000)	(0.0000)	(0.0004)				
Lnassets	0.3735	0.2638	0.0234	0.0085	0.0151	0.1230	0.1430	0.1261	0.1970	1		
	(0.0000)	(0.0000)	(0.3818)	(0.7515)	(0.5720)	(0.0000)	(0.0000)	(0.0000)	(0.0000)			
Stockreturn	0.1163	-0.0391	0.0245	-0.0130	0.0293	0.1032	0.1395	-0.1006	0.1184	0.0287	1	
	(0.0000)	(0.1442)	(0.3606)	(0.6265)	(0.2737)	(0.0001)	(0.0000)	(0.0002)	(0.0000)	(0.28340		
LEV	0.0299	-0.4684	0.1289	0.0182	0.0927	0.1723	-0.2014	-0.1741	-0.0468	0.2528	-0.0094	1
	(0.2642)	(0.0000)	(0.0000)	(0.4961)	(0.0005)	(0.0000)	(0.0000)	(0.0000)	(0.0806)	(0.0000)	(0.7265)	

Table 7: Correlation matrix of all the variables including the dummy variables: GPcom, afterGP and interGPafter. All variables are based on quarterly data. Correlation matrix includes data of the quarter before the quarter of the GP announcement and the quarter of the GP announcement. EPS = earnings per share (net profit / shares outstanding). TOBINSQ = Tobins Q (total liabilities + market value) / (total liabilities + equity). ROA = Return on Assets (net profit / assets). ROE = Return on Equity (net profit / equity). MTBR = market-to-book-ratio (Market value of the firm / total assets. FCF = Free cash flow (Operating income before depreciation – income tax expense + deferred taxes – dividends)/ assets. LNassets = the logarithm of total assets. Stock return = (share price end of period – share price start of period + dividends) / share price start of period. LEV = Leverage (Total liabilities / total assets). P-values are listed below the correlation coefficients between parentheses.

6.3. Results

This section provides the results of the regression analyses. First of all, the results of the two hypotheses based on afterGP are discussed. Secondly, the results of the two hypotheses based on sameGP are discussed.

6.3.1. Results afterGP

Table 8 shows the results of the difference in difference regression of hypothesis 1. The important coefficient is the interaction variable, interGPafter. This coefficient shows the difference in mean of EPS before and after the quarter of the GP announcement of the GP firms minus the difference of EPS before and after the quarter of the GP announcement of the control firms. The interGPafter coefficient of 0.0955 is positive which indicates that the EPS increases after a going private announcement. However, the coefficient is not significant, which means you cannot accept or reject the hypothesis. There is not a significant effect of a going private announcement of a firm on the EPS of that firm.

In addition, the signs of all the control variables are positive, whereas the ROA ROE and LEV are significant at the 1% level. In this sample, the EPS increased. It is expected that the performance variables also increased due to the correlation between EPS and ROA & ROE, see table 6.

Table 8

Regression results

	EPS	
Variable	Coefficient	P>t
GPcom	-0,0669	0,2380
afterGP	-0,0376	0,1140
interGPafter	0,0955	0,3380
ROE	0,1568	0,0020 ***
ROA	0,3944	0,0090 ***
MTBR	0,0004	0,7200
FCF	0,0229	0,9130
Lnassets	0,0628	0,0000
Stockreturn	0,0730	0,0190 **
LEV	0,0388	0,0010 ***
_cons	-0,1790	0,0000
Observations	1454	
R^2	0,1677	

Table 8: AfterGP regression results of hypothesis 1. All variables are based on quarterly data. All variables are measured the quarter before the GP quarter, the quarter of the GP quarter and the quarter after the GP quarter. EPS = earnings per share (net profit / shares outstanding). TOBINSQ = Tobins Q (total liabilities + market value) / (total liabilities + equity). ROA = Return on Assets (net profit / assets). ROE = Return on Equity (net profit /

equity). FCF = Free cash flow (Operating income before depreciation – income tax expense + deferred taxes – dividends)/ assets. LNassets = the logarithm of total assets. Stock return = (share price end of period – share price start of period + dividends) / share price start of period. LEV = leverage (Total liabilities / total assets). (*) significant at the 10% level. (**) significant at the 5% level. (***) significant at the 1% level.

Table 9 shows the results of the difference in difference regression of hypothesis 2. The interaction coefficient is positive. However, the coefficient has a very high significance level and thus I cannot say if there is any effect of a going private announcement on the firm value measured with Tobins q. In contrast with the other regression result, this regression does not have many significant control variables. The only variable that is significant at the 5% level is ROE.

Table 9

Regression results

	TOBINSQ		
Variable	Coef.	P>t	
GPcom	-0,7817	0,0000	
afterGP	0,0205	0,9070	
interGPafter	0,0094	0,9740	
ROE	0,5064	0,0190	**
ROA	0,3068	0,6920	
MTBR	0,1173	0,0000	
FCF	-0,9270	0,4450	
Lnassets	0,0000	0,9990	
Stockreturn	-0,6564	0,0000	
LEV	-0,4601	0,0000	
_cons	2,7135	0,0000	
Observations	1454		
R^2	0,1295		

Table 9: AfterGP regression results of hypothesis 2. All variables are based on quarterly data. All variables are measured the quarter before the GP quarter, the quarter of the GP quarter and the quarter after the GP quarter. EPS = earnings per share (net profit / shares outstanding). TOBINSQ = Tobins Q (total liabilities + market value) / (total liabilities + equity). ROA = Return on Assets (net profit / assets). ROE = Return on Equity (net profit / equity). FCF = Free cash flow (Operating income before depreciation – income tax expense + deferred taxes – dividends)/ assets. LNassets = the logarithm of total assets. Stock return = (share price end of period – share price start of period + dividends) / share price start of period. LEV = leverage (Total liabilities / total assets). (*) significant at the 10% level. (**) significant at the 5% level. (***) significant at the 1% level.

6.3.2. Results sameGP

Table 10 shows the results of the difference in difference regression of hypothesis 1. Again, the coefficient of the interaction variable interGPsame is positive but the results are not significant. The coefficient is smaller than of the afterGP regression and the significance level of the sameGP regression is worse. The same control variables are significant at the 1% level: ROA, ROE and LEV.

Table 10
Regression results

	EPS		
Variable	Coefficient	P>t	
GPcom	-0,0858	0,1410	
sameGP	-0,0169	0,4060	
InterGPsame	0,0384	0,6730	
ROA	0,4200	0,0050	***
ROE	0,1178	0,0100	***
MTBR	0,0011	0,3850	
FCF	0,0853	0,6840	
Lnassets	0,0573	0,0000	
Stockreturn	0,0257	0,3780	
LEV	0,0360	0,0030	***
_cons	-0,1407	0,0000	
Observations	1394		
R^2	0,1683		

Table 10: SameGP regression results of hypothesis 1. All variables are based on quarterly data. All variables are measured the quarter before the GP quarter and the quarter of the GP quarter. EPS = earnings per share (net profit / shares outstanding). TOBINSQ = Tobins Q (total liabilities + market value) / (total liabilities + equity). ROA = Return on Assets (net profit / assets). ROE = Return on Equity (net profit / equity). FCF = Free cash flow (Operating income before depreciation – income tax expense + deferred taxes – dividends)/ assets. LNassets = the logarithm of total assets. Stock return = (share price end of period – share price start of period + dividends) / share price start of period. LEV = leverage (Total liabilities / total assets). (*) significant at the 10% level. (**) significant at the 5% level. (***) significant at the 1% level.

Table 12 shows the results of the difference in difference regression of hypothesis 2. The results are similar to the afterGP regression. The interaction coefficient is positive but has a very high significance level. I cannot say that there is any relation between a firm's going private announcement and the change in firm value. In contrast with the afterGP regression, two control variables are significant. LNassets is significant at the 5% level and LEV is significant at the 1% level.

Table 11

Regression results

Variable	TOBINSQ Coefficient	P>t	
GPcom	-0,7506	0,0000	
sameGP	0,0192	0,9060	
InterGPsame	0,0144	0,9580	
ROA	0,2888	0,7270	
ROE	0,8560	0,0000	
MTBR	0,1271	0,0000	
FCF	-0,7342	0,5610	
Lnassets	0,0702	0,0150	**
Stockreturn	-0,4547	0,0000	
LEV	-0,5324	0,0010	***
_cons	2,3612	0,0000	
Observations	1394		
R^2	0,1414		

Table 11: SameGP regression results of hypothesis 2. All variables are based on quarterly data. All variables are measured the quarter before the GP quarter and the quarter of the GP quarter. EPS = earnings per share (net profit / shares outstanding). TOBINSQ = Tobins Q (total liabilities + market value) / (total liabilities + equity). ROA = Return on Assets (net profit / assets). ROE = Return on Equity (net profit / equity). FCF = Free cash flow (Operating income before depreciation – income tax expense + deferred taxes – dividends)/ assets. LNassets = the logarithm of total assets. Stock return = (share price end of period – share price start of period + dividends) / share price start of period. LEV = leverage (Total liabilities / total assets). (*) significant at the 10% level. (**) significant at the 5% level. (***) significant at the 1% level.

To sum, the findings suggest differences of EPS between the GPfirms and the control firms, however these differences do not have a significant explanation that the GP announcement cause these effects. Prior research showed that a firm close to the public/private margin could have relatively low earnings. Based on my results, it is safe to say that the earnings do neither increase or decrease because of a going private announcement and therefore neither increase or decrease the EPS. Furthermore, investors base their decisions on earnings announcement (May, 1971). Research shows that shareholders could receive gains of a going private transaction (DeAngelo, 1984; Wruck, 1989; Lehn, 1989 & Marais 1989). Investors do not have to change their decisions solely because a firm announced a going private transaction. These conclusions go for both the afterGP results and sameGP results.

The findings also suggest differences of TOBINSQ between the GPfirms and the control firms. These differences, however, also do not have a significant explanation that the GP announcements cause these effects. Prior research indicates that the firm value increases if the ownership of the board of directors is 25% or higher (Morck, 1987). Furthermore, research shows that selling equity with private transactions increases ownership concentration (Wruck, 1989). However, Mc Cornell (1985) stated that a capital expenditure announcement is positive correlated with common stock prices. If the going private firm has the incentive to go private because they are close to the public/private, firm value could decrease. In contrast to the prior research and expectations, my results suggest that the firm value neither increases or decreases because of a going private announcement. There is no significant evidence of a relation between a going private announcement and the effect on firm value. This conclusion goes for both the afterGP results and sameGP results.

VII. Conclusion & discussion

7.1. Conclusion

The purpose of this thesis is to examine the relation between going private firms and quarterly earnings or firm value. More specifically, this thesis researches if there is any effect of a going private announcement on earnings per share or firm value. By investigating this relationship, this research attempts to give an answer on the following research question.

RQ: Does going private affect EPS and firm value?

The thesis mainly focusses on the quarter of the GP announcement date and quarterly data of EPS and firm value. Every hypothesis is tested with two samples with a different timeline: afterGP and sameGP regression. The afterGP regression takes three quarters into account: (1) the quarter before the quarter of the GP announcement, (2) the quarter of the GP announcement and (3) the quarter after the GP announcement quarter. The afterGP regression observes the differences between quarters 1 & 2 and quarter 3. The sameGP regression takes two quarters into account: (4) the quarter before the quarter of the GP announcement and (5) the quarter of the GP announcement. The sameGP regression measures the difference between quarter 4 and quarter 5. A difference in difference test observes the interaction between the GP firms and control firms.

The first hypothesis of this paper research the effect of a going private announcement on earnings per share. Both regressions for this hypothesis have the same outcome. The results indicate an increase but there is no significant relation between the going private announcement and change in EPS. The increase of EPS is not caused by the going private announcement of a firm. According to prior research, investors based their decisions on quarterly earnings (May, 1971). Furthermore, Patell (1976) found an upward stock price change during the week of EPS forecast disclosure. The results of this research show no significant relation between EPS and going private. Therefore, investors do not have to change their decisions based solely on the fact that a firm announced a going private transaction.

The second hypothesis focusses on the effect of a going private announcement on the value of the firm measured with Tobins q. The results indicate an increase in firm value. However, the results are not significant. There is no significant evidence that the firm value increases or decreases because of the going private announcement date. The results are somewhat in contrast

with prior research, which stated that a high percentage of ownership within the board of directors, which is common at a private firm, is positively correlated with firm value. Other research stated that expenditure plans are positive correlated with firm value. A going private could be the opposite of an expenditure plan and thus could lead to a decrease of firm value. However, the results show that the going private announcement does not causes the change in firm value, because there is no significant relation.

7.2. Discussion & future research

The results of this research in combination with prior research leads to some discussion and future research possibilities. First of all, going private allows a company to focus more on long term goals. After the firm is delisted, there is no public information anymore. To measure the actual effect of a going private firm would be more accurate if the firm is observed a certain time after it delisted. The literature shows that firm value increases with a high percentage of ownership within the board of directors. It might be time consuming to observe a firm that is delisted, because the lack of information. In addition, to conduct a control sample might lead to some difficulties with combining public and private firms.

Secondly, this research did not take into account the different incentives of the firms. As discussed, there are multiple types of going private transactions. Beside the different types of transaction, every firm has different incentives to go private. The different incentives possibly lead to different results in a similar study. Future research could do more field research to discover the incentives and divide similar incentives into groups. Results would be more accurate if measured based on incentives, rather than a dummy for going private yes or no.

This research also has some limitations. As described above, the research did not observed firms after it delisted. There could be significant effects after the delist date, because the advantages of being private occurs after delisting. Secondly, this research did not take into account the different incentives of why a certain firm chooses to go private. The firms all voluntary went private but their incentive could be different. Thirdly, both samples are rather small. A bigger sample might give more accurate results. Furthermore, the information about going private firms is not available through a database. Hand collected data is not entirely random.

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