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A Study of Payout Policies and Certain Underlying Decisive Factors with Regards to Dividends and Repurchases

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Abstract

On March 10th 2000 a law was passed that enables Swedish companies to repurchase own shares. As a consequence of this several studies have examined dividends and repurchases, mainly focusing on their relation to share price development from an investor's perspective. However, this thesis aims to establish an understanding of how companies' payout policies have been affected with regards to dividends, thus we are performing this study from a company perspective. Our time-period is from 2000 - 2005, since the law was passed in 2000 and 2005 represents the last complete year. Furthermore we analyze certain characteristics concerning the repurchasing companies and compare them to a control portfolio, this was performed to examine why certain companies make repurchases and what some decisive factors are with regards to payout policies.

To fulfil our purpose we stated four hypotheses, thus a significant amount of observations were collected with regards to dividends, repurchases, debt-to-equity ratios, profits and market valuations (market-to-book). These variables were then statistically tested and served as an operationalization of our hypotheses.

From our analysis we can conclude that repurchases serves as complement to dividends and that many companies spend a large amount of capital on repurchases that could have been used to increase dividends. Further it is not statistically significant that repurchasing companies increase their dividends more than non-repurchasing companies even if a trend towards that direction is evident. Indications of a substitution effect are also discernable, since the propensity to increase dividends is lower and the propensity to decrease dividends is higher for the repurchasing companies. Furthermore, both repurchasing and non-repurchasing companies have changed their capital structure, measured as a debt-to-equity ratio, since 2000. Although, from our analysis, it is not possible to ascribe any differences in the development to repurchases. We can also conclude that it is statistically significant that repurchasing companies do have more volatile profits than non-repurchasing companies, which sheds light on the aspect of financial flexibility. Lastly, we find that repurchasing companies, all years except in 2000, are valued lower in the market relative to their book values in comparison to our control portfolio.

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1. Introduction

1.1 Background

Repurchase of own shares has been allowed in several countries for many years. It was not until March 10th 2000 that a law was passed making it possible for Swedish companies to buy back shares. According to Swedish legislation, companies can repurchase up to 10% of outstanding shares if the repurchase program was accepted by 2/3 at the company's shareholders meeting. The repurchase must take place on an authorized marketplace or another regulated market with an offer available to all stockholders or all stockholders of one kind (Aktiebolagslag, 2005:551).

Since the law was passed repurchases has become an important and frequently discussed payout method. Repurchase of shares can be seen as a way to distribute excess capital to shareholders, in effect a payout decision. It can also be a capital structure issue, since overcapitalized companies might want to reach a more favourable level of financing. Concerning the payout perspective it is interesting to see how stockholders anticipate announced repurchase programs. According to studies made by Michael Weisbach and Clifford Stephens from the University of Illinois more than 70% of repurchase programs are fulfilled in the U.S. Furthermore if an open-market repurchase announcement is made the market response should lead to an increased share price. The signal sent by management is then that the stock is undervalued. Thus since 70% complete their programs they must believe that the market response was not sufficient and that the stock was really undervalued (Financial Times, October 20th 2006).

There are some critics that are concerned that repurchases might induce manipulative actions. There is a thin line between "nurturing" the share price and abusing repurchases to the extent that one manipulates the share price (Börsveckan, 2004). Moreover, companies that have a lot of excess cash might see repurchases as an investment more secure than penetrating and investing in other markets. One reason for this could be that the business cycle is relatively unstable. Although the main argument against repurchases is that shareholders ultimately invested in a company with the belief that it could generate profit by investing in value creating projects. Aktiespararna¹ have been somewhat critical towards this phenomenon and argues that repurchase of shares also increase the value of managers options in the company, thus increasing the wealth of the ones making the decision to buy back shares (Dagens Nyheter, November 6th 2004).

An interesting case recently developed in Sweden concerning large cash holdings and repurchase of shares. The Swedish company Volvo has during recent years accumulated large cash holdings; they have put the cash on hold rather than investing in prospects. Some critics argue that Volvo is sitting on an unmotivated large amount of cash that could be distributed to its shareholders. It is with these motives the risk capital fund Violet lead by Christer Gardell has bought a large

number of shares in Volvo. Violet is now one of the major owners in Volvo with roughly 5% of the voting rights. The fund has now demanded that Volvo should payout 19 billion SEK to its shareholders by for example repurchasing shares. AMF pension is another major owner and the CEO Christer Elmehegen is somewhat critical to a one-time outflow of cash. Elmehegen would rather prefer that Volvo increased its dividends successively (Privata Affärer September 6th 2006). There is obviously conflict of interests in this matter shedding light on the differences between repurchases and dividends, one-time payouts contra increasing dividends over time.

Many studies in the Swedish market have been conducted from an investor's perspective, focusing on the short- and long-term effects on share prices and the motives behind the repurchase programs. This is interesting since every publicly noted company should aim to increase shareholder wealth (Damodaran, 2005). The aspect concerning dividends and payout policies from a company perspective has not been examined to the same degree. Since Swedish companies have been allowed to repurchase shares for a relatively short period of time the aftermaths have been difficult to analyse. Although with a time-period of 6 years (2000-2005) one could extract some significant indications of what repurchases could lead to. Since repurchase of shares has become an important payout method and ultimately enables other ways to distribute capital it becomes relevant to look at the effect on dividends and if there has been any changes in payout policies. Is there a shift towards repurchases on the behalf of dividends? According to Arvid Böhm, financial strategist at Swedbank, repurchases will remain at a high level and possibly increase rather than decrease (Dagens Nyheter, December 10th 2004).

1.2 Discussion of Problem

Swedish legislation has since 1895 prohibited companies to buyback own shares. The main objectives for this have been to protect creditors and more lately to avoid speculations and share price manipulations. Despite these issues a new law was passed in 2000 which allowed companies to repurchase shares. Some major reasons for this new legislation are connected to the development in the Swedish market; recently several Swedish companies have realized significant profits. Preceding the new legislation, companies suffered from insufficient methods to distribute large amounts of capital to their shareholders. When a large amount of cash is collected inside a company there is a risk for inadequate use of this capital. The major reason for this new legislation is to avoid this ineffective use of capital (Prop. 1999/2000:34).

So far there has been a brief discussion concerning the background and the progress of repurchase of shares in Sweden. An important aspect for our study is that repurchases is another way, besides dividends, for a company to return capital to shareholders. Therefore repurchase of shares must be viewed in comparison to dividends to analyze their differences (Dagens Nyheter, May 5th 2005).

¹ Aktiespararna is an independent Swedish organization that serves to educate about the stock market.

When interpreting studies made on the U.S. market one can observe that repurchases have grown notably quicker than dividends over the last 15 years. In 1999 repurchases exceeded dividends and was still greater than dividends in 2002 (Damodaran, 2005). In the study “Dividends, Share Repurchase, and the Substitution Hypotheses” written by Grullon and Michaely (2002) the relation between dividends and repurchases was examined. One of their main objectives was to observe if there had been any changes in payout policies with regards to dividends and repurchases. They reach the conclusion that repurchases are substitutes for dividends, a negative correlation is observed. This was done by analysing the actual and expected dividends, which was then compared to the increase in repurchases. Interesting is that this negative correlation increased with repurchases. Further findings in this study were that relatively large and mature firms are overrepresented with regards to repurchases.

In contradiction to Grullon and Michaely (2002), Jagannathan, Stephens and Weisbach (2000) states in their study that repurchases is not considered a substitute for dividends but rather a complement. They conclude that companies with stable and sustainable cash flows use dividends whereas companies with higher standard deviation in cash flows use repurchases.

Recent studies from Brav, Graham, Harvey and Michaely (2005), conclude that the inflexibility dividends bring impedes companies from initiating or increasing dividends. Further they claim that dividend paying firms would, to a great extent, lower their dividends in favour of repurchases if they were able to restart their dividend program. This also goes for the most prominent dividend paying companies, those with sustainable and stable profits. The study also states that the dividend payout target has become less important while the importance of flexibility increases. Consequently, the authors also declare that repurchases have increased and this is mainly due to companies attempts to achieve greater flexibility.

When adapting a company’s perspective one should consider that companies will attain more flexibility in changing repurchases compared to a significant one-time increase in dividends. A company perspective encompasses the behavioural aspects of payout policies, namely why and how companies distribute capital and what it might lead to. It is proven that markets react negatively from cuts in dividends since it can be seen as negative signals for the future. Therefore repurchases can be seen as less committing and could be used when companies are uncertain about future cash flows (Damodaran, 2005).

*"A company can easily raise and lower a share repurchase program,
doing so with a dividend is much more difficult."
Jim Clark, analyst at Sound Shore Management
(www.businessweek.com; August 28th, 2006)*

Ample research has been made concerning repurchases and dividends, primarily on the U.S. market, since it has been legal there for a significantly long time-period. Repurchases have become an important payout method for companies according to several studies, some classify

them as substitutes and others view them as complements. Nevertheless, the amount repurchased has increased over the last couple of years. With these studies as a background we have formulated certain research questions that will constitute the basis of our paper. These questions will be directed towards the Swedish market and aims to encompass the situations present there.

1. How has the legalization of share-repurchases for Swedish companies affected their payout policies?
2. Have dividends developed differently for repurchasing in comparison to non-repurchasing companies after the legislation was passed?
3. Are there any characteristics that distinguish repurchasing companies from non-repurchasing companies?

1.3 Purpose

The purpose of this paper is to establish an understanding of what affect the allowance of share repurchases among Swedish companies has had on the companies' payout policies with regards to dividends. The secondary purpose of this paper is to examine whether certain firm characteristics such as volatility in profit, debt-to-equity ratios and market-to-book valuation differ for repurchasing in comparison to non-repurchasing companies.

1.4 Target Group

Our thesis is aiming for economic students, lecturers and other individuals with a general interest for financial economics. Further, investors with preferences regarding special features such as dividends and repurchases will hopefully find our thesis interesting and instructive. We believe that readers should have a reasonable good understanding concerning financial economics and the financial market. If the reader has pre-knowledge relating to these parts of the economy this will provide the reader with an even more interesting and educational reading.

2. Theoretical framework

In this chapter a brief introduction to three relevant payout methods is presented initially. Further there will be a concise discussion regarding advantages and disadvantages of these three. The next sections in this chapter concern the motives behind two of the methods, namely dividend payments and repurchase of shares. These sections serve to discuss the motives and hypotheses concerning dividends and repurchases; there will also be discussions about pros and cons in both payout methods. Furthermore the payout decision aspect will be applied to the agency cost theory. After this a presentation of two earlier researches are presented that have inspired and influenced this thesis. The final section in this theory chapter is our hypotheses, where the reasoning behind them will be discussed and their connection to our theoretical framework.

2.1 Introduction to payout methods

2.1.1 Dividends

The most well known way of distributing capital to shareholders is dividends. Companies often distribute a percentage of turnover or profit as their dividends and this is paid on a yearly basis. Frequently used measures regarding dividends are dividend yield² and dividend payout³. The stock-market prognosticates that the dividends will be stable or grow, consequently if there is a cut in dividends the market will react negatively. The response is negative since the cut can be an indication of that the company is lacking value generating projects. Since companies are aware of this negative reaction they may consider not raising their dividends to maintain their financial flexibility (Damodaran, 2005). The company's life cycle should also be considered when interpreting dividend payments, young maturing firms pay relatively low dividends compared to more stable and mature firms. This is due to that young firms need their cash for investment opportunities (Hamberg, 2004).

2.1.2 Repurchase & Redemption

Redemption and repurchases share many similarities especially when looking from an investor's perspective. An individual shareholder is indifferent between redemption and repurchases when ignoring the consequences. All investors⁴ are simply offered to sell their shares (no price differences between the methods) and are therefore indifferent between the two methods. When adapting a company's perspective a fundamental difference is evident. A redemption strategy is united with a constraint which states that all shares have to be terminated. This restriction is no longer an issue after it became legal to repurchase shares. When using a repurchasing strategy companies can choose if they want to terminate or keep the repurchased shares (Jonsson, 1999).

² Dividend Yield = Dividend (per share)/ Current share price

³ Dividend payout = Percentage of income, can be ignored if earnings are negative

⁴ According to Swedish law they should have the same opportunity to sell their shares

2.2 Motives for dividends

2.2.1 Signalling Hypothesis

Companies are often unwilling to alter their level of dividends; this is mostly due to two underlying factors. Firstly, companies need to be certain that they can maintain higher levels of dividends in the future; this is in effect dependent on future prospects of the company. Secondly, it is known that cuts in dividends result in negative reactions in the market, leading to a decrease in stock prices. This serves to explain the stickiness of dividends, and that dividends generally are less volatile than profits, thus they follow a smoother pattern (Damodaran, 2005).

The most apparent disadvantage of dividends in comparison to repurchases is the tax issue as will be discussed later; nevertheless there are several motives for firms to pay dividends regardless of this issue. The tax effect is most applicable to individual investors, but there are still several investors that prefer dividends. This might be affected by the investors tax-rating and the relevance of regular cash flows. Dividends are, according to the signalling hypothesis, an opportunity for companies to signal their belief in future cash flows to the financial market. Markets generally view signals rather sceptically since companies tend to overstate future prospect, this results in that some companies with relevant prospects might be undervalued. Dividends are therefore a credible way for companies to distribute information concerning future cash flows (ibid). Bhattacharya (1979) also confirms this notion, where dividends serve as signals about future cash flows when there is an imperfect information setting.

2.2.2. Institutional Investors and the Clientele Effect

Allen, Bernardo and Welch (2000) made a study where they examined why certain companies preferred to pay dividends instead of repurchases. They assume, according to theory and empirical findings that dividends attract institutions and large block holders. It is evident that institutions can effectively reach a point where they can facilitate corporate control. They claim that this is because institutions have a greater possibility to monitor and detect company quality. Thus, companies that pay more dividends have more institutional owners and in effect perform better. Furthermore they discuss that it is the difference in taxations between retail investors and institutions/block holders that determines the level of dividends, not the absolute tax payments. Subsequently institutional investors might not have the same preferences as the company concerning short-term outflows of cash like repurchases, whereas sustainable dividend payments in the long-term perspective perhaps are superior.

Allen, Bernardo and Welch (2000) also discuss the clientele effects regarding dividends. The clientele effect suggests that firms attract certain investors depending on their signals to the market and the preferences of the investors. High dividend payments attract institutional investors since they have a relative tax advantage and prefer dividend payouts. In effect the investor base then is dependent on the payout policies of the company. Therefore it is difficult

for companies to alter their dividends since they have attracted investors that are satisfied and base their preference on current and historical payments.

2.2.3 Dividend Payout Dilemmas

Dividend policy also brings on a discussion of conflict between the managers and the stockholders. One could argue that dividends serve as a disciplinary tool, since it inflicts a cost for the company and reduces the range of project choices; this is discussed further in the agency cost theory section 2.4. Baker, Farrelly and Edelman (1985) made a study where they interviewed managers about dividend policy. The study concluded that managers generally believe that dividends serve to signal about future prospects and that it affects the value of the company. Another study made by Brav, Graham, Harvey and Michaely (2005) looked at the level of dividends and shifts in dividends. They found that it is not the level of dividends that is important, but rather the shifts in dividends. More importantly they concluded that many companies would have set dividends at a lower level initially if possible.

Dividend payouts can also be utilized to alter the financial leverage in a company. When increasing dividends over a longer time-period, the financial leverage will increase. In effect, dividends are transfers of wealth from the debt holders to the shareholders. This implies a conflict of interest since debtors generally prefer that companies accumulate cash to secure their holdings, whereas shareholders naturally favour an outflow of cash (Damodaran, 2005).

2.3 Motives for repurchase of shares

2.3.1 Excess Capital and Financial Flexibility

There are two ways in which a company can deal with excess capital, either it could be retained in the company or it could be distributed to its shareholders. This depends naturally on the company's investment opportunities; furthermore a small company might reinvest more than a large established company. Repurchase of shares and dividends are both ways to distribute excess capital to shareholders, but the two methods differ from each other. Dividends are often expected by shareholders to be at least at last years level, including some growth. Cuts in dividends are not preferred by companies for that reason. Repurchase of shares involves no commitment issues, since companies can choose not to follow through with the program after they announced it. In contradiction to dividend payouts, repurchases are not expected to occur on a regular basis, thus giving management flexibility in decisions (Dittmar, 2000).

Another reason why repurchases are preferred over dividends is concerning taxation. This is because capital gains are taxed according to personal tax rates, while the dividend income usually is taxed at a higher rate. The flexibility is also a factor, since a capital gain is taxed when realized and the holder of the share can ultimately defer taxes until the share is sold (Dittmar, 2000).

When taking the tax issue into consideration companies have to be aware of how the majority of their shareholders are taxed. If dividends are taxed at a lower rate than repurchases, the company should distribute the excess capital as dividends and vice versa (Bartov, Krinsky and Lee, 2002). However the Swedish tax authorities has in an effort to eliminate this tax-advantage increased the tax on capital gains (prop. 1999/2000:2). This concludes that the tax-advantage for Swedish companies is removed, but the flexibility concerning the deferral of taxes still stands.

As mentioned earlier the market dislikes declining dividends but can withstand changes in repurchases. Since it is impossible to forecast the future economic situation, repurchases is a more flexible way of distributing capital compared to a rise in dividends. When considering returning capital to shareholders estimations and beliefs about future cash flows are of great importance. If management believes in high future cash flows on a stable basis dividends are sending a stronger signal regarding future profits than repurchases. The opposite goes for repurchases; uncertainties in future cash flows should favour a repurchasing strategy for the distribution of capital to shareholders (Damodaran, 2005).

The aspect of future investments needs is also a factor that affects the payout decision. If future investment needs are difficult to predict companies should pay out capital on a repurchasing basis. When there is uncertainty in future investment needs raising dividends can be an unfavourable decision. When investment needs are likely to increase, raising dividends can eliminate the ability to invest in such projects. If a company stands in front of a similar scenario repurchases should be preferred over dividends since it leaves the company with a greater financial flexibility (ibid).

2.3.2 The Earnings per Share Bump and Capital Allocation

Grullon and Ikenberry (2000) discuss the earnings per share (EPS) bump as a motive for repurchasing shares. According to analyses of companies' press releases and surveys the EPS bump is a quite important factor in the matter. It is evident that if earnings decrease less than the change in shares outstanding the EPS will increase. Furthermore, they shed light on a contradictory factor in this case concerning the asset base. The EPS bump logic indirectly implies that the company has redundant assets that are not contributing to the production. Consequently if a company uses excess cash to fund repurchases they are actively diminishing the asset base. According to theory, a decrease in the size of a company could only be justified when a company does not effectively add value with its marginal investments. In effect this reasoning implies a reallocation of capital from the company to other entities that have a greater chance to increase the value of that capital.

2.3.3 Undervaluation

Bray, Graham, Harvey and Michaely (2005) made a study concerning the motivating factors behind repurchase of shares. It was found that, among U.S. CFOs, the majority motivated repurchases with their belief in that the stock was undervalued. The undervaluation hypothesis is built up on the aspect of information asymmetry, which simply implies that the ones in control

(managers) have more knowledge than the owners (shareholders). Therefore the managers and the shareholders may value the company differently. Management might have information concerning future prospects that will increase value; information which shareholders are not aware of. Repurchase of shares then serves as a way for management to buy back under-priced shares; in effect the market response should then correct the valuation (Dittmar, 2000).

Repurchases are more likely to be motivated by undervaluation in companies with high book-to-market ratios⁵; companies with low ratios might have other motivating factors. Therefore the market response, in those cases where undervaluation was the prominent motive, should be substantial in comparison. This also gives management the ability to time their repurchase so that it occurs when they believe the stock to be undervalued; this could be referred to as the market-timing ability (Ikenberry, Lakonishok and Vermaelen, 1995).

2.3.4 Capital structure

When a company repurchase shares this will have an effect on the capital structure. Since there will be less outstanding shares the leverage ratio will increase, thus there will be more debt relative to equity. If one assumes that there is an optimal level of financing then adjusting the capital structure could be a motive for repurchases. So, if a company has an actual leverage ratio that is beneath the target/optimal ratio, repurchase of shares could be justified on that notion (Dittmar, 2000). It is shown that adjusting the debt-to-equity ratio is a prominent motive in tender-offers, since the majority of repurchased shares are usually retired. Although it might play a less significant role in open-market repurchases since they tend to be smaller in scope and transcend several time-periods (Grullon and Ikenberry, 2000).

2.3.5 Managerial and corporate incentives

When repurchasing shares one diminishes equity and enable companies to distribute excess cash without letting the per-share value be diluted. This is beneficial for management if they hold stock options in the company. Inevitably, this creates an incentive for managers to make repurchases rather than pay out dividends (Dittmar, 2000).

If a company is threatened by a possible takeover, repurchases can be a way of defending the exposed company. When repurchasing shares companies are aiming for their most sceptical investors. This is beneficial since these investors are willing to sell at low prices. This gives us a twofold positive effect for the target company. Firstly there is a decline in shares outstanding and secondly the shareholders with the lowest requests have already sold their shares. Since both these techniques will generate an increase in share price a higher cost will occur for the bidder (ibid).

⁵ Market-to-book ratios (P/JEK) are more commonly used in Sweden, and low ratios suggest a relative undervaluation.

2.4 The Agency Cost Theory

Modigliani and Miller (1961) made a study that rendered great economic findings which are frequently discussed in literature. This study concluded that in a world with no friction, payout policies will have no impact on shareholder wealth. This holds given that investments are held at a constant rate. In effect, they argued that increased payouts lead to decreased investment rates, whereas in either way the wealth of the shareholders is indifferent. As a consequence of these studies Porta, Lopes-De-Silanes, Shleifer and Vishny (2000) address what they refer to as the “Dividend puzzle”. They state the fact that regardless or moreover contradictory to Modigliani and Millers findings, companies develop elaborate payout policies. Their study then leads into a discussion about the agency problem with regards to dividends.

The agency theory is built up on the notion that managers are in control and serve as agents for the shareholders in a company. There is thus a separation of ownership and control, where conflicts of interests might occur. Managers are inevitably subject to their own wealth and should contradictory work to increase the wealth of the company’s shareholders. Payouts in the form of dividends or repurchases reduce the manager’s control of resources since there is an outflow of capital. A central dilemma is to what degree managers are investing in unprofitable projects aimed towards increasing size and growth rather than profit and value (Grullon and Ikenberry, 2000).

Jensen (1986) states that assuming there is an optimal size; managers will still seek to surpass this level. This is because there is a positive relation between managers’ compensations and the level of sales. Furthermore, the growth of the company increases the resources controlled by management. When applying the agency theory to payout policies one must understand the definition of free cash flows. Free cash flows are ultimately all cash flows present after investments in all projects are entirely funded. The conflict between managers and shareholders tend to increase as the free cash flows increase. Jensen (1986) identifies the problem as the motivating factor for management to distribute cash instead of investing in poor projects or organizational inefficiencies.

Debt financing and the agency cost infliction has been frequently discussed in economic literature. This theory separates the shareholders from the debt holders. Since the shareholders have a residual claim on the cash flows they naturally aim to increase the value of their shares. Debt holders on the other hand have a fixed claim in the form of interest. Increasing the value for shareholders ultimately increases the risk for debt holders, since they might not receive their fixed payments. This in turn creates a conflict of interest between the two parts which can be applied to corporate decision making. The nature of the company and also the nature of the conflict might inflict implications as for how to choose projects, how to finance them and lastly what amount should be paid out. As stated earlier shareholders prefer an outflow of cash, firms with large cash holdings and lack of investments could easily do this by paying dividends or repurchasing stock. Debt holders, though, prefer retention of cash flows to reduce the default

risk. The actual costs created by this conflict could appear in the form of increased bond prices, through expectations from bondholders, and also restrictive covenants (Damodaran, 2005).

Jensen (1986) discusses the monitoring effect of debt on organisational efficiency. He chooses to analyse the motivating factor rather than aspect of actual agency costs. It is evident that managers are in control of future free cash flows, they can also promise to payout these by increasing dividends or make repurchases. Although, he argues that this promise is rather “weak” since cuts in payments can be made when future prospects change. On the other hand the capital market inflicts an agency cost since it generally reacts negatively to cuts in payouts. Furthermore, increasing debt forces managers to pay fixed amounts in the future, thus mitigating the agency cost of free cash flows. He also claims that borrowing money to repurchase shares creates incentives for managers to eradicate organizational inefficiencies. Worth noting, though, is that increased debt brings on agency costs, therefore the marginal cost of debt must equal the marginal benefit⁶.

2.5 Earlier Research

After the repurchasing legislation was passed in 2000 a number of Swedish studies have been examined from an investor’s perspective. Their focus has mainly been with regards to possible share price improvements and abnormal returns. Our study is written from a company’s perspective which is not examined to the same extent on the Swedish market. As mentioned earlier share repurchases have been legally accepted in the U.S. for a longer time-period than in Sweden. It is also in the U.S. where most studies have been made concerning this phenomenon (Hamberg, 2004). Below there will be a brief presentation of two studies connected to our research.

2.5.1 Dividends, Share Repurchases, and the Substitution Hypotheses

Grullon and Michaely (2002) conducted a study about payout policies in U.S. corporations with regards to repurchases and dividends. They found that repurchases have become a relevant form of payout. Furthermore it was stated that U.S. corporations use funds for repurchases that could have been used to enhance dividends. In their study they differentiate between young firms and large, established firms. They came to the conclusion that repurchases have increased in young firms and that it has become a preferred form of cash payout. When it comes to larger established firms, they are less keen to make cuts in dividends, but they actually also demonstrate a higher propensity to pay out through share repurchases. The relevant indication extracted from this study was that U.S. corporations have progressively substituted repurchase of shares for dividends.

2.5.2 Financial flexibility and the choice between dividends and stock repurchases

Jagannathan, Stephens and Weisbach (2000) made a study concerning open-market repurchases and the development in U.S. corporations’ payout policies. They studied under which

⁶ Referring to an optimal level of financing.

circumstances companies repurchase shares and what might distinguish them from non-repurchasing companies. It was found that repurchases are what they call “pro-cyclical”, whereas dividends follow a smoother pattern characterised by a steady increase. They concluded that companies that pay dividends are subject to steady growing cash flows whereas repurchasing companies have more volatile cash flows. Temporary high profits might then incur repurchases while dividends require a stable movement in profit. Furthermore they state that undervaluation is a decisive factor, since plunges in the stock market leads to repurchases whereas a positive performance in the stock market leads to increased dividends. A discussion is also conducted concerning the flexibility incurred by repurchases and that it is in fact an important factor when deciding whether to repurchase or pay dividends. An important finding in this paper is also that repurchases are not replacing dividends but rather serve as a complementary payout method affected by market situations and certain firm characteristics.

2.6 Hypotheses

Our paper is based on certain earlier research primarily performed on the U.S. market; we aim to test whether these studies to some extent can be applicable on the Swedish market. According to Grullon and Michaely (2002) repurchases and dividends can be seen as substitutes, and that repurchases have become an important method of payout. In the U.S. the total payout has remained the same throughout the recent decades, whereas repurchases have increased among corporations. Jagannathan, Stephens and Weisbach (2000) on the other hand reach the conclusion that repurchases are to be seen as a complementary method of payouts rather than a substitute. Brav, Graham, Harvey and Michaely (2005) pointed out that several companies are rather indifferent concerning the actual level of dividends, whereas the most important factor seems to be shifts in dividends. Furthermore they conclude that many companies would have set dividends at a lower level initially if they had the opportunity. It is with these researches as a background that we formulate our first hypothesis.

H1: The legalisation of repurchase of shares has led to a lesser growth in dividends for repurchasing companies in comparison to non-repurchasing companies.

Recent studies by Jagannathan, Stephens and Weisbach (2000), as mentioned earlier, implied that repurchasing companies have more volatile profits in comparison to non-repurchasing companies. Thus dividend paying firms have rather sustainable and stable profits. As discussed by Dittmar (2000) repurchases can also be seen as a capital structure decision, therefore we find it relevant to analyse the debt-to-equity ratio as a measure of capital structure. Since according to theory, when a company repurchase shares the outstanding shares diminish and equity becomes less relative to debt, thus the debt-to-equity ratio should increase. Furthermore Ikenberry, Lakonishok and Vermaelen (1995) conclude that companies with a high book-to-market ratio repurchase shares because they believe that their stock is undervalued. This brings on the discussion whether companies that repurchase shares have higher book-to-market ratios than non-repurchasing companies. In the case where the ratio is low it might be wasteful to

repurchase shares since they are already valued high on the market in relation to the book value. These findings leads us to our second, third and fourth hypothesis.

H2: Repurchasing companies have more volatile profit than non-repurchasing companies.

H3: Repurchasing companies have realized an increase in their debt-to-equity ratios, higher than that of the non-repurchasing companies.

H4: Repurchasing companies have lower market-to-book ratios than non-repurchasing companies.

3. Methodology

In this thesis we want to investigate and establish an understanding of the relationship between dividends and repurchases. In this chapter of methodology we are going to describe how and why we used a particular data and a background to different methodological decisions will also be discussed. The next segment is a sample description followed by an explanation of the benchmark portfolio and how the selection of firms was structured. Furthermore we will describe and discuss the variables we chose to include to test and eventually verify or reject our hypotheses. The reasoning and relevance of the variables according to our theoretical framework will be discussed. This section will also include how we, purely methodologically, chose to process these variables and what measures we take into account combined with a description of our statistical tests. Lastly a discussion about the quality of our method and our sources will be held.

3.1 Research approach and methodology

When conducting a research study there are different ways of approaching the problem. The two main approaches are the inductive and deductive approach. An inductive approach means that one uses empirical findings as the basis and develops a theoretical frame. This means that one gathers information from reality concerning certain events and experiences, and moulds it into a theory or model. The deductive approach, on the other hand, relies on existing concepts and theory. In effect, a theoretical framework is established and it constitutes the basis for the empirical research. Conclusions are then drawn according to the relation between the theoretical and empirical findings (Eriksson and Wiedersheim-Paul, 2001). Our study will rely on a deductive approach since we use existing concepts and theory as a basis. We will then in our empirical segment use our findings and view them in relation to the theory, and from that draw relevant conclusions. In accordance with this approach we aim to make generalisations with our material.

There are two approaches concerning research methodology, namely the qualitative and quantitative approach. Collection of data constitutes the base for a quantitative analysis, where numerical measurements aim to create an overview of the research material. This data is then analysed and relevant conclusions are drawn (Svenning, 1996). Our study will essentially consist of quantitative information since we use numerical figures in our empirical analysis. Payout policies will be examined regarding repurchases and dividends, based on certain variables. The secondary purpose relating to firm characteristics will also require quantitative measures. Whereas the discussion about the pros and cons in payout methods, that inevitably has to be concerned, will incur a more qualitative analysis.

3.2 Collection of data

Data information can be divided into two categories, primary data and secondary data. Primary data is information gathered by the researchers themselves, whereas secondary data is material gathered by others prior to the study. Secondary data can consist of several sources, for example literature, articles, earlier research, annual reports etc (Lundahl, Skärvad, 1992). Since our study is concerning payout policies we will inevitably seek information from secondary sources, such as

annual reports, the Stockholm stock exchange and other financial reports. We had some difficulties finding reliable sources for data concerning repurchases. Our initial main source contained miscalculations of the value of repurchases and did ultimately not meet our needs in quality of information and data. Consequently we turned elsewhere; fortunately we contacted the Stockholm stock exchange and received information on repurchases. A complete list of repurchasing companies, repurchased shares and average repurchase price was obtained for the time-period 2000-2005. Webfinanser is a site that also lists this information for all companies that have made repurchases. To get reliable measures we compared the figures from the Stockholm stock exchange to those of Webfinanser. To ensure the quality of these figures we then randomly selected companies and checked the figures against their annual reports, thereby we found them to be reasonably adequate. This led to a rather large array of data, which we then restructured and organized in Microsoft Excel.

An important source used to extract financial data for the companies was Börsguiden. It is a literary source that contains information for all companies listed on Stockholm stock exchange, regarding accounting figures and stock information. All relevant variables for our analysis, apart from repurchases, were collected from this source since it represented an accessible and feasible source.

We have also gathered information from newspapers, articles and financial journals published on the internet and from financial databases. The majority of our information was collected from scientific journals such as “Journal of Business”, “The American Economic Review”, “Journal of Finance” and “Journal of Corporate Finance”. When searching for these articles keywords as; repurchases, payout policy, dividends etc. have been used. Other sources that have been useful are Privata Affärer, Dagens Industri, Dagens Nyheter and Nyhetsportalen.

3.3 Sample description

Initially, we aimed to look at all companies that have repurchased shares during the time-period of 2000-2005. The first criteria for the sample firms was thus that they had made repurchases sometime during this period, also inclusion was indifferent regarding if they had met the legal limit of 10% repurchased shares or not. This resembles a comprehensive set of the repurchase “population”. Since a comprehensive study considers all entities in the defined population, one receives as accurate results as possible for that population. Further, one does not have to make statistical samples that could lead to less accurate analyses. To conduct our analyses we inevitably have to include companies that have been publicly noted during the entire time-frame. This is the only way for us to receive sufficient and comparable data for the companies. In effect this means that we will exclude companies that have not been noted during the entire time-frame, and we also exclude mergers and acquisitions as well as spin-offs. Our sample still contains the majority of repurchasing companies and we believe that it will represent the population and serve to fulfil our purpose.

To adequately compare the changes in payout policies for these companies we will construct a control portfolio, it will thereby serve as a benchmark. This portfolio will consist of firms that have not repurchased shares during the time-period; naturally they will have to be dividend-paying companies. We made this stratified selection primarily to analyse eventual differences in dividends, but also to investigate the firm characteristics. The control group will consist of twenty Swedish companies that all have been listed on the Stockholm stock exchange from 2000-2005. The stratified selection of companies will depend on certain criteria so that comparisons will be relevant. The criteria's are presented below.

- Industry
- Dividends
- Market Value of Equity (MVE)

Since we aim to investigate certain firm characteristics we naturally exclude any criteria that would offset the comparison. The first step in creating the portfolio was to sort the repurchasing companies by industry, this was done to see which industries were over or underrepresented. It was clear to us early in the process of writing this paper that there would be certain overrepresented industries and it would be inadequate to compare for example large real estate companies solely with small companies represented in another industry. The definition of industries and subdivisions follow that of Börsguiden (see section 4.1, table 1), which constitutes our main source.

The control firms were then initially selected in accordance to the relevant industries. One of the most prominent industries regarding repurchases was the finance and real estate industry, followed by the industrial commodities and service industry. Since most of the companies that made repurchases also paid dividends, and the fact that we want to examine repurchases effect on payouts we selected control companies that had made dividend payouts during the time-period. The next step in creating the portfolio was then to select companies with similar market value of equity compared to the repurchasing companies. This was done by looking at the median market value of equity for the repurchasing companies; the median was used to disregard any extreme values that might offset the comparison. Nevertheless the levels of market values were partly matched in the first criterion and companies with exceptionally large market values were naturally taken into consideration.

The time-frame used is from 2000 until 2005. This is simply because it is the period in which Swedish companies have been legally authorized to repurchase shares. We believe that there is no idea to include 2006 in our sample since annual reports are not published. It is also probable that more repurchases will occur during the remainder of 2006.

3.4 Variables

Quantitative studies involve breaking down reality into different variables. Variations in the social reality are reflected in these variables and by the interaction among them (Svenning, 1996). To conduct our analysis we need to gather certain information. Since our study is concerning repurchases and dividends, quantitative information will be collected from annual reports and “Börsguiden” for the individual companies. These sources contain information on the stock and its development, further a 3-5 year financial summary is often included. From these segments we will extract relevant variables and information. To test our hypothesis we have chosen to include the following variables:

- Repurchases
- Dividends
- Net Profit
- Debt to equity ratio – Interest bearing debt/Shareholders equity
- Market-to-book value – Price/Adjusted shareholders equity

We will collect information on the total value of repurchases during each year from 2000-2005 to extract some indications on whether the usage of this payout method has progressed as expected in accordance with earlier studies. The dividend payments for the repurchasing companies and our portfolio will then be compared to visualise if they follow a certain pattern. The next step in variable comparisons will be to compare the growth in dividends for the repurchasing companies with that of the non-repurchasing companies. Here we use total dividends and index it with the year 2000 as the outset, figures will first be treated individually and then we aggregate them and compare the results. The total dividend payouts for the companies will also be analysed to examine whether the actual distribution to shareholders has been affected by the legislation.

Jagannathan, Stephens and Weisbach (2000) state in their study that companies with sustainable and stable profits tend to pay dividends, whereas companies with rather volatile profits and irregular cash flows might prefer repurchases. In accordance with the basis of these findings we will analyse the volatility of profit for the repurchasing companies and compare it to the non-repurchasing companies. This analysis will include both graphical and numerical comparisons, where the variance and standard deviation of profit is examined.

Repurchase of shares can also resemble a capital restructuring process as discussed in Grullon and Ikenberry (2000) and Dittmar (2000). Therefore we will analyse the capital structure using the debt-to-equity ratio as a measure of financial leverage. This analysis will be done by firstly examining repurchases affect on the debt-to-equity ratio over time for the repurchasing companies. Secondly a comparison with the control group will be performed, this to see whether the capital structure development for repurchasing companies differs from that of non-

repurchasing. To make this comparison we had to exclude banks and credit institutions since they lack a measure of debt-to-equity in the same manner as the other companies.

The book-to-market ratio is a measure commonly accepted in the U.S. where one simply divides shareholders equity with the market value of equity. Although in Sweden one generally uses the price to adjusted shareholders equity ratio, since our study concerns the Swedish market we choose to use this measure of valuation. This will give us an indication on the valuation on the market in relation to the companies' book values. Furthermore since we, in accordance with theory, expect the repurchasing companies to be undervalued relative to the market in comparison to the non-repurchasing companies we will also study eventual differences towards the control portfolio.

3.5 Statistical tests

When conducting our analysis using our quantitative measures described earlier, we inevitably have to perform statistical tests. Since we have formulated certain hypotheses and aim to draw conclusions concerning them, statistical tests will eventually serve to signify our analyses and to bring depth to our reasoning. When conducting the tests we have mainly used SPSS, a well renowned statistical program, and also some calculations concerning volatility in profit have been made in Microsoft Excel. Below the statistical tests will be described and discussed for each hypothesis.

3.5.1 Hypothesis 1

To be able to verify if there has been a significant difference in dividend growth between repurchasing and non-repurchasing companies we will perform a statistical test. To analyse this relationship the average annual differences in dividend payments between repurchasing and non-repurchasing companies are tested with a linear regression in SPSS. This test will provide us with two outcomes, namely the difference in the level of dividends (α) and the slope of the line (β); which represents how dividends have developed. Since we are particularly interested in the development in growth this will be given extra attention. The alpha simply informs if there is a significant difference in the level of dividends, whereas the beta defines the slope. Thus if the slope is positive the difference between the two groups has increased and if it is negative the difference has decreased, indicating a lesser growth in one of the groups. We will run the test with two different time periods since there might have been a change in how dividends have developed over the last three years. To test whether dividends have developed differently we state the following hypotheses;

$$H_{01}: \alpha = 0$$

$$H_{11}: \alpha \neq 0$$

$$H_{02}: \beta = 0$$

$$H_{12}: \beta \neq 0$$

We have set the significance level at 95%, which means that if we get a significance level of 0,05 or less we can statistically reject H_0 for each set of hypotheses (Djurfeldt, Larsson and Stjärnhagen, 2003). So if statistically significant in the tests performed above we can state that the level of dividends differs and that there is a change in the annual difference between the repurchasing companies and our control portfolio concerning dividends.

3.5.2 Hypothesis 2

In our theoretical framework we state that repurchasing companies according to studies made in the U.S. have more volatile profits. To analyse whether this is evident also in the Swedish market we chose to analyse the profit for the repurchasing companies in comparison to the control group. As a first step to test this statistically we used Levene's test for equality of variances, which simply establishes if there is any difference in the variances of the two groups, referred to as an F-test. This requires a set of sub-hypotheses⁷:

$$H_0: \sigma_{Repu}^2 = \sigma_{Port}^2$$

$$H_1: \sigma_{Repu}^2 \neq \sigma_{Port}^2$$

The decision rule in this case is that if the F-value is significant, based on a 95% significance level, we can reject H_0 (ibid). This basically gives that the variances differ for the two groups, to analyse this further we will also calculate the mean and median standard deviation as well as the variances for the two groups. This will eventually serve to explain how they differ in comparison to each other.

3.5.3 Hypothesis 3

To test whether there is a significant difference in the development of the capital structure for the two groups we conducted a set of t-tests. This type of t-test compares means for two set of populations where the values for the populations are assumed to be independent of each other. Worth to mention is also that it is easier to reject the null-hypothesis if the individual figures in both groups are close to the respective populations mean. Thus if there is great dispersion among the groups it is more difficult to get a statistically significant answer. In general a large sample or a long time-frame will to some extent mitigate this effect, or at least provide more accurate results (Djurfeldt, Larsson and Stjärnhagen, 2003). The tests were constructed so that the change in the debt-to-equity over two years was measured for both groups. The first period was then 2000-2002, where all companies that made repurchases during 2000 were included; this was in turn measured against the change in the control group for the same period. So, ultimately we made t-tests for four periods all with a lag time of 2 years, this lag was constructed to let the repurchase take in effect and to some extent mitigate temporary changes due to other factors. The hypotheses for these tests are formulated as follows:

$$H_0: M_{repu} = M_{port}$$

$$H_1: M_{repu} \neq M_{port}$$

M_{repu} = Mean for the repurchasing companies

M_{port} = Mean for the control portfolio

The null-hypothesis gives that the means for the two groups are equal whereas the second hypothesis gives that they differ. The decision rule which is similar to that of the F-test is that if the t-value is significant, based on a 95% significance level, we can reject H_0 (ibid).

3.5.4 Hypothesis 4

To test whether there is a statistically significant difference between the two groups concerning market-to-book values we will perform an independent t-test for the equality of means. This test is similar to that conducted in hypothesis 3. The test will include all figures concerning the repurchasing companies and the control portfolios market-to-book ratios for the entire time-period. See section 3.5.3 for further information concerning t-tests, decision rules and formation of sub-hypotheses.

3.6 Validity and reliability

A scientific research should naturally aim to capture reality, but there are several factors that must coincide for this to be true. Observations, interviews and the validity of respondents are all factors that have an effect on the result, which in its essence should construct a consistent overview of the material analysed. The validity concerns the ability to measure what we aim to measure (Lundahl and Skärvad, 1992). Reliability means that the results from a study should be reliable, thus trustworthy sources and measurements should be used. Two separate studies with the same purpose and measurements should reach the same conclusion if it is reliable. Thus, reliability encompasses using the instruments and measurements adequately (Svenning, 1996).

The validity of our study will be relatively high since our sample consists of the vast majority of companies that have repurchased shares during the time-period. Exclusions had to be made for companies which had insufficient data for the time-period were subject to spin-offs, mergers and acquisitions or denotation. This lessens the validity but it was ultimately a necessity to process our data and enable certain analyses. We have also chosen a benchmark portfolio to make comparisons; this has been constructed in accordance to certain criteria. We believe this control group to be sufficient, but naturally there are always some deviations that arise when not including all companies. In our case it would have been impossible to include all dividend-paying firms since we lack the time and resources. Furthermore the variables and measures used in our study are to a great extent consistent with earlier researches. Definitions of these variables are also consistent with theory and scientific articles used. In essence we have followed the patterns presented in earlier research to create an adequate base for our study.

⁷ Repu = Repurchasing companies; Port = Control portfolio

Therefore we believe that the foundation of our study is reliable in a sense that we utilize methods that are considered reliable. The main difference between our study and earlier research in the U.S. market is the time-period and the amount of observations. Nevertheless, we believe that a mapping of the initial impact of the legislation is still interesting. Concerning the internal validity we believe it is relatively high, since our data collection has involved multiple steps in determining the accuracy of measures. We have used figures from the Stockholm stock exchange, compared them to Webfinanser and also randomly checked them against annual reports. This was done since there initially were some concerns as for the quality of certain sources. The majority of variables used were collected from Börsguiden, it represents an available and feasible source that enables further research in accordance with our study.

As mentioned earlier we ran into some difficulties concerning data for the repurchasing companies. Our initial main source “Ägarna och Makten i Svenska börsföretag”, a well renowned literary source, contained certain miscalculations. It was in the data collection process that we suspected that some figures were inaccurate, we then contacted the CEO of “Aktieservice” who is also the co-writer of the book and unfortunately he confirmed the error. After discussing the matter we chose to collect data from other sources, namely the Stockholm stock exchange and check them against those of Webfinanser.

3.7 Quality and criticism of sources

An important part of conducting a research is to rely on relevant and qualitative sources. The main problem is to find sources that give accurate information, and to be able to distinguish between subjective and objective information. The sources should represent objective information so that the material reflects reality and not a certain viewpoint. Furthermore, it is important to find support for theory and evidence from several sources, so that a solid base for the information is created (Eriksson, Wiedersheim-Paul, 2006).

The majority of the information we use is extracted from Börsguide, the Stockholm stock exchange and also annual reports, these sources should be considered as qualitative sources. This is because the data in the reports and the design of the reports are regulated in Swedish legislation; furthermore the companies are expected to follow good accounting standards. Theoretical models have been investigated through multiple sources, from literature and scientific researches. We gathered information from scientific journals, articles and researches concerning the U.S. market. Since repurchases have been allowed in the U.S. for a long time the research and articles should reflect reasonable and adequate findings on the subject. The research conducted on the U.S. market certainly reflects the conditions present there, but we believe that the material is sufficient and applicable to the Swedish market, although the actual results might differ. The theoretical framework extracted from the U.S. market should then represent an adequate base for our empirical analysis.

4. Empirical Results and Analysis

In this chapter we will present a general overview of the material we have gathered for our empirical analysis. This will serve as an introduction of our sample and certain variables significant for our study. Furthermore in our problem discussion we stated certain research questions aimed to serve as the foundation in this study. These questions were then reflected in the purpose; and a theoretical framework was established to create a platform for our analysis. This platform constitutes the base for the formation of our hypotheses. The next section will include our empirical findings, the reasoning behind them and their connection to our theoretical framework. Our aim in this section is to present our results, analyze them and reach conclusions concerning our hypotheses.

4.1 Description of collected data

Table 1 below shows the industry distribution for the repurchasing companies included in our study. This sample constitutes the vast majority of companies that have made repurchases during 2000-2005, exclusions had to be made for companies subject to denotations, spin-offs and mergers and acquisitions. The excluded companies were rather small and had made minor repurchases during the time-period, thus they had no significant impacts on the figures. This sifting process led to a total of 47 repurchasing companies included in our research. As illustrated in the table there were certain overrepresented industries; 34% of the companies were in the Finance & Real Estate industry and 31.9% in the Industry goods and Services industry. In accordance with this industry distribution we constructed our control portfolio consisting of 20 companies, the majority of companies were then naturally present in the Finance and Real Estate and the Industry goods and Services industries respectively. The further decisive factors concerning the portfolio will be described next; important to remember is that all criteria were concerned simultaneously so that they did not offset each other, but rather served in unison.

Industry Distribution	# Repu	%	# Port
Retail	3	6.4%	1
Finance & Real Estate	16	34.0%	7
Industry goods & Services	15	31.9%	7
Information technology	5	10.6%	2
Raw material	3	6.4%	1
Discretionary products & Services	5	10.6%	2
Sum:	47	100.0%	20

Table 1

It was established through analysis of the collected data that the repurchasing companies almost exclusively also paid dividends, this information and the fact that our main purpose is to analyse differences in payout policies with regards to dividends leads us to our second criterion for the control group. The control companies are required to have paid dividends during the time-period; it was evident that practically all who paid dividends did so during the entire time-period. Table 2 shows the different average payouts for the repurchasing companies as well as the control group,

furthermore an illustration of other variables relevant to our analysis is included. One can see that the repurchasing companies on average pay out more capital to their shareholders in absolute terms, and according to average total dividends the trend of increasing dividends is evident for both. However, the percentage increase in dividends has been more prominent among non-repurchasing companies in the latter years. It is also evident that the repurchasing companies enjoy higher profits throughout the period; the development in profit is similar for both groups although the percentage increase/decrease is more substantial for the repurchasing companies. Concerning the debt-to-equity ratio one can see that there is a difference in 2000-2002 regarding how much they alter their ratios, even if both increase their ratios. This indicates a larger initial change in the capital structure for the repurchasing companies, but over time they seem to be moving towards the portfolio and both decreases. Another relevant variable is the market-to-book ratio, which serves as a measure of valuation on the stock market relative the book value of equity. Table 2 includes, concerning this variable, figures for the repurchasing companies, the control portfolio as well as a market average. Throughout the entire time-period, except for in 2000, the repurchasing companies have lower market-to-book ratios in comparison to both benchmarks, the difference is most evident in comparison to the market and the difference tends to increase towards the end of the time-period.

Repu Comp	2000	2001	2002	2003	2004	2005
Repu Avg. MSEK	502	366	130	165	417	343
Div Avg. MSEK	630	661	652	746	933	1092
Div+Repu Avg. MSEK	1133	1027	782	912	1351	1435
Profit Avg. MSEK	1982	615	462	918	2138	2803
D/E Avg.	0,99	1,09	1,16	0,99	0,98	0,67
Market-to-book % Avg.	332	198	250	147	206	248
Median MVE MSEK	2819	3811	3127	3564	4762	6493
Port Comp						
Div Avg. MSEK	151	145	177	174	347	530
Profit Avg. MSEK	580	424	90	674	769	1320
D/E Avg.	0,98	1,00	1,07	0,94	0,88	0,75
Market-to-book % Avg.	326	255	265	172	268	317
Median MVE MSEK	2062	2788	2643	3897	5582	7734
Market						
Market-to-book % Avg.	859	242	262	170	349	394

Table 2

To perform sufficient comparisons in the analysis we also had to consider MVE for the control companies, it constitutes our third and last criterion. We calculated the average and median MVE for the repurchasing companies and matched this against the control companies. When constructing the portfolio we ultimately used the median in combination with the average MVE. It was thereby taken into consideration that certain repurchasing companies were exceptionally large. Relevant matching of these was to some extent achieved by the industry distribution criterion and ultimately fulfilled by this criterion. This is illustrated in table 2 and it is evident that the repurchasing companies and the control group follow the same trend and lie reasonably close

numerically. The purpose of setting the MVE as a criterion was to avoid inadequate comparisons and create a portfolio reasonable in size in comparison to the repurchasing companies.

4.2 Analysis of collected data

H1: The legislation of repurchase of shares has led to a lesser growth in dividends for repurchasing companies in comparison to non-repurchasing companies.

Table 3 serves to illustrate a general overview of dividend payouts and how these have developed for the repurchasing companies and our control portfolio. Certain comparable ratios are also shown in this table to improve the understanding of how these two groups have developed with regards to dividends. To enable comparisons we have included the average dividends scaled by market value of equity and profit respectively, as well as the annual growth in dividends for each group. In addition to this, a comparison with regards to total dividends calculated as a percentage over our entire time-period, 2000-2005, is depicted in table 4.

Repu Comp	2000	2001	2002	2003	2004	2005
Div (Tot.) MSEK	29649	31088	30661	35109	43872	51363
Div/MVE (Avg)	2,5%	2,7%	4,2%	2,9%	3,3%	3,0%
(Div+Repu)/MVE (Avg)	4,6%	4,3%	5,2%	3,7%	4,9%	4,1%
Div/Prof (Avg)	42,6%	25,5%	68,1%	92,0%	57,4%	45,1%
Δ Div Annual	N/A	4,9%	-1,4%	14,5%	25,0%	17,1%
Port Comp						
Div (Tot.) MSEK	3020	2907	3554	3483	6955	10620
Div/MVE (Avg)	2,4%	2,3%	3,7%	2,6%	3,0%	3,0%
Div/Prof (Avg)	16,5%	15,9%	19,4%	19,0%	38,0%	58,0%
Δ Div Annual	N/A	-3,8%	22,3%	-2,0%	99,7%	52,7%
Diff (Repu-Port)						
Div (Tot.) MSEK	26629	28181	27107	31626	36917	40743
Div/MVE (Avg)	0,063%	0,342%	0,452%	0,324%	0,219%	0,005%
Div/Prof (Avg)	26,1%	9,7%	48,7%	72,9%	19,4%	-13,0%

Table 3

Repu Comp	
% Δ Div 2000-2005	73%
Port Comp	
% Δ Div 2000-2005	252%

Table 4

From table 3 and 4 one can observe that the repurchasing companies as well as the portfolio companies have increased their dividends during this period of time. Furthermore it is shown that the amount of dividend payouts differs noticeably. When considering dividends in relation to market values it appears to be a rather small difference between the repurchasing companies and our portfolio, indicating that they pay out nearly equal amounts in dividends relative their market values. The dividend/profit ratio depicts a relation through which one can observe significant

fluctuations when comparing the two groups of companies. All years until 2004 repurchasing companies pay out more dividends relative to profit than the portfolio. In 2005 this relation is the direct opposite where the portfolio companies pay more dividends relative to profit. When total dividends are examined in table 3, one can see that repurchasing companies pay out considerably higher amounts. However, the portfolio companies have realized a superior percentage increase in dividends over the entire time-frame, in combination with a greater annual growth during the latter years. To test if a difference in dividend growth is evident, we performed a linear regression. The results from this statistical test are shown in table 5.

Reg-Analysis	α (Alpha)	Sig. α	β (Beta)	Sig. β
2000-2005	460,2	0,000	20,5	0,060
2003-2005	584,7	0,025	-5,5	0,697

Table 5

As depicted in table 5 the test concerning alpha was statistically significant in both tests. With this test we can conclude that the level of dividends paid out differ among the two groups, more specifically the repurchasing companies on average pay out more since alpha is a positive figure. Further analyses of table 5 lead us to conclude that beta is not significantly different from zero and H_0 can not be rejected for any of the two periods (for further information see section 3.5.1). Interesting is though that beta has a negative slope (decreasing difference) from 2003 until 2005 whereas the slope is positive over the entire time frame. From this we can argue that, even if it is not significant, the annual difference in dividends payouts seem to lessen during the latter years. With this test as a background we can not statistically signify a lesser growth for repurchasing companies, but the latter test gives indications concerning a lesser growth. This makes it relevant to examine the two group's propensity to increase, decrease or keep their dividend payments unchanged.

A numerical analysis of dividend payouts for single companies on a six-year basis is presented in table 6. Figures presented in table 6 are simply measures of how many companies have increased, decreased or kept their dividends at the same level from 2000-2005. We have ultimately calculated the difference in dividends between 2000 and 2005, using 2000 as the outset of the index. From this all companies with negative fluctuations are classified as decreasing companies whereas companies with positive results are dividend-increasing companies. The case in which dividends remained unchanged was also considered, but when we analysed total dividends during the entire time-period this never occurred. This is naturally more evident when analysing on a yearly basis as discussed later. The number of companies in each specific group is then presented as a percentage of the total number of companies.

Changes in Dividends between 2000-2005					
Repu Comp	#	%	Port Comp	#	%
Increased	34	72,3%	Increased	19	95,0%
Decreased	13	27,7%	Decreased	1	5,0%
Unchanged	0	0,0%	Unchanged	0	0,0%
Sum:	47	100,0%	Sum:	20	100,0%

Table 6

In table 6 a difference is evident with regards to how many companies have decreased their dividends. The percentage of companies that have decreased their dividends during the time-period is 27,7% for the repurchasing companies and only 5% for the portfolio's companies. This result can though be slightly skewed since portfolio companies were chosen with regards to dividend payouts which was not the case for repurchasing companies. To eliminate such distortion, dividends on yearly basis will be analysed. When analysing on a yearly basis the number of observations will increase radically and years with zero dividends will be given specific attention. This enables us to classify companies that have decreased dividends to zero and then left them unchanged or increased them. In effect a yearly comparison gives a more consistent sample especially concerning the repurchasing companies. Calculations made to attain these results are displayed in table 7 and follow the same procedure as the calculation made for table 6.

Yearly changes in Dividends					
Repu Comp	#	%	Port Comp	#	%
Increased	127	54,0%	Increased	74	74,0%
Decreased	47	20,0%	Decreased	12	12,0%
Unchanged	61	26,0%	Unchanged	14	14,0%
Sum	235	100,0%	Sum	100	100,0%

Table 7

As shown in table 7 repurchasing companies have decreased their dividends less frequently on an annual basis. The opposite scenario occurs for the portfolio companies, which give us that the difference between the portfolio and the repurchasing companies is less evident on an annual basis; nevertheless it generates a clearer picture concerning the propensity to increase, decrease or keep dividends constant. When further analyses are made from the table 7 it becomes apparent that portfolio companies increase their dividends more frequently than repurchasing companies. When comparing repurchasing companies to our portfolio we can observe that the portfolio companies are more willing to increase dividends and more rarely decrease their dividends. Also interesting in this matter is that the proportion regarding unchanged dividends is quite higher among the repurchasing companies, in effect indicating that they are more reluctant to increase their dividends. Worth to mention is though that the total amount of dividends has increased for both repurchasing and non-repurchasing companies, nevertheless the results concerning the propensity to alter dividends is still interesting.

From these results it is hard to make an unambiguous statement concerning the verification or rejection of our first hypothesis. From table 3 we can conclude that dividends for repurchasing companies and our portfolio follow the same trend even if non-repurchasing companies have realized, calculated as a percentage, a superior increase in dividends. We can therefore state that the repurchasing companies have had a lesser percentage increase in dividends than the control portfolio but still pay out more dividends on average. We can not statistically confirm that there is a lesser growth in dividends for the repurchasing companies, but the negative slope given in the latter test at least indicates a decreasing difference in dividends. Nevertheless, we can observe a higher propensity to decrease dividends and a lower propensity to increase dividends for the repurchasing companies. Interesting in this matter is that it seems like our control portfolio has a higher propensity to increase their dividends, whereas the repurchasing companies are more likely to a certain extent decrease their dividends or keep them unchanged. According to theory, cuts in dividends creates a negative reaction in the market, which might be one reason why a large number of repurchasing companies keep them unchanged rather than lowering them.

Grullon and Michaely (2002) conclude that repurchases and dividends are substitutes; we find indications of this in our study. Although we can conclude that companies that repurchase shares utilize this method as a complement and evidently spend a significant amount of capital on repurchases that could have been used to increase dividends rather than decreasing or keeping them constant. These alternative findings are actually consistent with the results presented by Jagannathan, Stephens and Weisbach (2000), where they stated that dividends and repurchases are complements serving as alternatives where the preference of payout method is dependent on certain company characteristics and market situations.

H2: Repurchasing companies have more volatile profit than non-repurchasing companies.

In our theoretical framework there were statements concerning volatility in profit, moreover it was established that companies with the characteristic of highly volatile profits prefer repurchases rather than dividends. This is strengthened by the suggestion that repurchases gives greater flexibility in decision-making. Since future prospects and the irregularity of cash flows put restrictions on management’s payout decisions it is concerned favourable to repurchase shares in comparison to dividends payments. To be able to verify or reject if there was a significant difference in volatility in profit we ran a test which is displayed in table 8.

Profit F-test	F-value	Sig. (p)
2000-2005	10,327	0,009

Table 8

With the results, presented in table 8, we can reject H_0 (see section 3.5.2) and conclude that the repurchasing companies have different variances in comparison to our control portfolio. This simply statistically confirms that there is a difference; the next step will be to determine how they differ. As a measure of statistical dispersion we used the standard deviation and variance in profit.

Figure 1 depicts the relation between the repurchasing companies and the benchmark followed by a compilation of the volatility measures in table 9. Figure 1 illustrates the average profit over time for the two groups, whereas when calculating the standard deviation we treated the companies individually and then calculated the mean and median standard deviation to enable a comparison. The latter was done to achieve more accurate measures and let negative results also be reflected in the calculations.

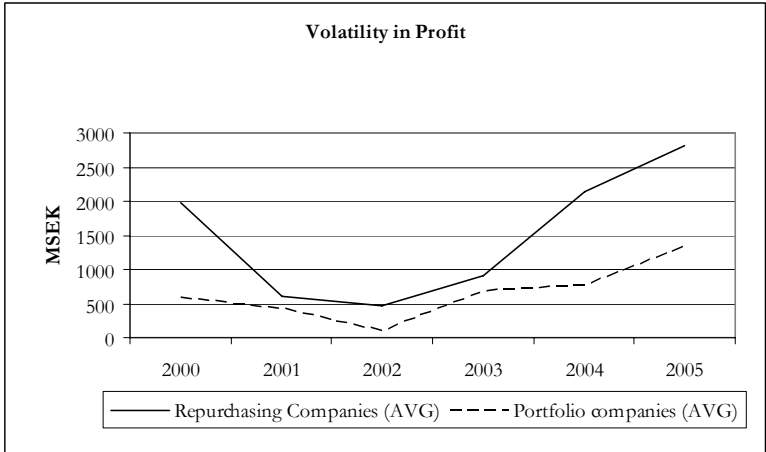


Figure 1

As observable in figure 1 the most apparent difference is that the average decrease as well as the average increase in profit is more significant among the repurchasing companies. One could also conclude that the level of profits is consistently higher for the repurchasing companies, but the fluctuation in profit is still higher and could possibly inflict a constraint in forecasting future cash flows. Thus the flexibility issue is interesting in this matter and consistent with theory.

Volatility in Profit			
		Repu	Port
Variance	Mean	10803113	1024825
	Median	73605	31960

Table 9

To clarify this analysis we made calculations concerning the standard deviation and variance of profit. As depicted in table 9 the repurchasing companies have a standard deviation roughly twice the size of that of the control group. This indicates a higher volatility in profit and also a higher sensitivity to fluctuations in the market. Our analysis of volatility is consistent with our theoretical framework and with these results as a platform we can confirm our hypothesis. Worth noting is that the time-period at our disposal, as stated earlier, was limited as a consequence of the recent changes in legislation. Therefore this analysis only encompasses limited fluctuations in profit during a period where there has been a fall in the stock market. However, we believed that it was still interesting to examine how the repurchasing companies have endured this situation in comparison to our portfolio, which gives relevant indications concerning volatility.

H3: Repurchasing companies have realized an increase in their debt-to-equity ratios, higher than that of the non-repurchasing companies.

Earlier in this paper a discussion about the possibility to adjust a company's capital structure through repurchase of shares was held. With regards to that discussion we aim to investigate if there is any dissimilarity in the capital structure development between repurchasing and the portfolio companies. To enable such comparison an average capital structure is calculated for both repurchasing and the portfolio companies displayed in table 10. We have chosen not to include banks and credit institutes since companies in this business do not have a debt-to-equity ratio in the same manner as the other companies.

D/E-ratio	2000	2001	2002	2003	2004	2005
Repu Avg.	0,99	1,09	1,16	0,99	0,98	0,67
Port Avg.	0,98	1,00	1,07	0,94	0,88	0,75
Repu Median	0,56	0,74	0,70	0,70	0,63	0,53
Port Median	0,83	0,78	0,92	0,82	0,79	0,41

Table 10

As shown in table 10 the development in debt-to-equity ratio is relatively consistent for the two groups of companies until 2004. It starts off with a modest increase until 2002 and after that both the portfolio and repurchasing companies experience a reduction in their debt-to-equity ratios. However it is interesting to observe how much repurchasing companies have lowered their debt-to-equity ratio from 2000 to 2005. Over the entire timeframe repurchasing companies have decreased their average capital structure from 0.99 to 0.67. When comparing repurchasing companies to the control portfolio it is clear that the control portfolio has had a lower debt-to-equity ratio all years except in 2005. The reduction in the debt-to-equity ratio evident among the repurchasing companies stands in direct opposite to how debt-to-equity ratios, *ceteris paribus*, should change according to theory. Dittmar (2000) states that repurchases lower the number of outstanding shares which implies that equity relative to debt will decrease and the debt-to-equity ratio increase. Since Swedish repurchasing companies have lowered their debt-to-equity ratio over the last six years we can conclude that there have been significant changes in debt and/or equity. In table 11 it is displayed how debt and equity have developed after 2000. We have chosen to analyse the development in equity (EQ) and interest bearing debt (IBD) as a percentage over time. As shown in table 11 it is obvious that IBD for repurchasing companies rose notably between 2000 and 2001. After further analyses of IBD in this period the increase can, to a great extent, be subscribed to considerable increases in IBD for two of the largest companies in our sample, namely Volvo and Ericsson. Further analysis of EQ and IBD in 2004 and 2005 can explain the decrease in debt-to-equity ratio since EQ increases relatively more than IBD during these years.

Repu	2000	2001	2002	2003	2004	2005
% Change, Avg IBD	N/A	51,8%	-9,3%	-13,9%	-7,7%	3,7%
% Change, Avg EQ	N/A	-6,8%	-3,0%	-8,1%	10,2%	25,5%
Port						
% Change, Avg IBD	N/A	10,3%	-18,0%	21,5%	10,7%	14,1%
% Change, Avg EQ	N/A	10,6%	-6,7%	16,1%	11,0%	30,7%

Table 11

To be able to statistically test this hypothesis we performed a set of t-tests. The results for all the tests are summarized in table 12. It is observable that it was only in the first period (2000-2002) that we could statistically confirm a significant difference among the two groups. However, none of the other t-tests we ran could statistically verify a difference in the capital structure. This could also, to some extent, be observed in table 10 where the ratios initially increase and then move towards each other and actually both decrease over time.

D/E-ratio T-test	T-value	Sig. (p)	Std. Error
All years	-0,5	0,645	0,148
2000-2002	2,1	0,044	0,302
2001-2003	-0,3	0,760	0,163
2002-2004	-0,6	0,571	0,321
2003-2005	-1,2	0,250	0,339

Table 12

There are mainly two reasons why we can not verify our third hypothesis, which expected that the debt-to-equity ratio will increase with repurchases. Firstly, open-market repurchases are often smaller in scope, leading to a lesser affect on the capital structure. Secondly, open-market repurchases often transcend several time-periods, which in effect means that smaller amounts of shares are repurchased during a longer time-period to complete the program. Furthermore, there might also be other motives behind repurchases that explains why the capital structure is not altered, the most obvious in contrast would perhaps be a motive concerning payout. With these tests and this discussion as a background we can not confirm our third hypothesis that there is a significant difference in the debt-to-equity ratio for the two groups.

H4: Repurchasing companies have lower market-to-book ratios than non-repurchasing companies.

This hypothesis serves to determine whether repurchasing companies are valued lower relative to the control portfolio and the entire market. As a measure of valuation book-to-market ratios were used in many studies on the U.S. market, however we chose to use another ratio more relevant for the Swedish market. We used the Price/Adjusted Shareholder Equity (market-to-book) as a measure, which incurs a different set of decision criteria. It is a measure frequently used in the Swedish market, ultimately serving to explain the same relation as the book-to-market ratio. Furthermore, since it is a market-to-book ratio the terms are rearranged creating an opposite relation. Consequently undervalued companies have low market-to-book ratios whereas

overvalued companies have high market-to-book ratios, this since if the ratio is low the adjusted equity is larger relative the market. As discussed in our theoretical framework, undervaluation is a prominent motive for companies to make repurchases. Moreover, it is evidently an important aspect for companies facing a decision whether to repurchase or pay dividends. If a company is overvalued in the market it might be wasteful to invest in own stock relative dividends payments, this in effect signals inefficient use of capital. Table 13 and figure 2 below illustrate our findings that constitute the base for this analysis.

Market-to-book Difference	2000	2001	2002	2003	2004	2005
Repu – Market (Avg.)	-526,85	-43,51	-11,71	-22,32	-142,31	-145,74
Portfolio – Market (Avg.)	-532,89	13,7	3	2,4	-80,85	-76,3
Repu – Portfolio (Avg.)	6,04	-57,21	-14,71	-24,72	-61,46	-69,44
Repu – Portfolio (Median)	-31,5	-35,5	-66	-23	-60,5	-77,5

Table 13

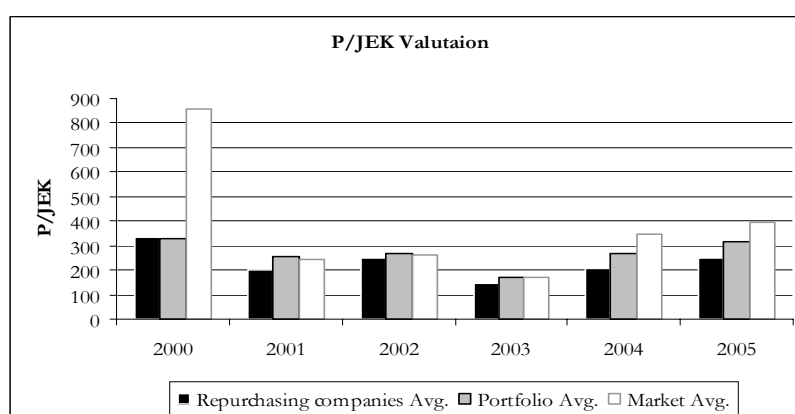


Figure 2

As benchmarks in this analysis we have used the market as well as our control portfolio. It is evident that the repurchasing companies consistently over the time-period, with the exception of in 2000, have lower average market-to-book ratios, both in comparison to the market and the control portfolio. Figure 2 illustrates a downwards movement from 2000-2003 followed by an increase from 2003-2005, indicating a similar movement to that of the stock-market⁸. At the time of the major dips (2001 and 2003) depicted in the graph the repurchasing companies had even lower market-to-book ratios in comparison. This relative undervaluation continues even when the stock market is performing better, in effect leading to a greater gap in relation to the benchmarks. To test whether there is a significant difference between the market-to-book ratios for the repurchasing companies and our control portfolio we conducted two separate t-tests.

Market-to-book T-test	T-value	Sig. (p)	Std. Error
All	-1,408	0,160	29,002
All w/o Outliers	-2,113	0,036	24,360

Table 14

⁸ Affärsvärldens Generalindex 2000-2005.

The first test as depicted in the first row of table 14 includes all market-to-book figures for all companies involved. We can not with this statistical test as a background say that there is a difference in the valuation figures for our groups. This might be dependent on several factors, namely the short time-period and foremost that some values are significantly larger one year for a few number of companies. When analysing the collected data we found that there were two repurchasing companies and one company in our portfolio that had an abnormally high market-to-book figure one year, not in line with the same companies' figures for the other years. This created what we believe a slightly misleading result in the test. For example Ericsson and Orc Software had in 2000 and 2001 respectively a market-to-book roughly 5.5 times higher than the other years, indicating an unrepresentative figure. Furthermore among the control companies Assa Abloy had a similar abnormality in 2000.

To enable a more representative test for our samples we excluded the above mentioned figures only from the year it was considered abnormal, thus three separate figures were removed; the sample still consisted of 260 observations from the repurchasing companies and 117 from our control portfolio. The results for this test are shown in table 13 under "all w/o outliers". One can conclude that when we adjusted for the abnormal figures in both groups, which worth noting were indeed very few but had an impact, we get a significant difference between the two groups. This in fact indicates that the repurchasing companies are valued lower in comparison, which is largely supported when analysing the median market-to-book figures for the two groups in table 13. Please note that the reason we included the average market-to-book in figure 2 and not the median was simply to illustrate the difference towards the market; for which we only had averages.

This reasoning in essence confirms our hypothesis that companies valued low in the market relative their book values, might prefer to utilize repurchases rather than dividends, whereas other companies that have higher ratios might prefer dividends. More specifically undervaluation on the stock market might be a prominent motive for repurchasing shares. It might also explain why certain companies with excess capital that one would expect to repurchase shares choose dividends instead. These findings are consistent with those of Ikenberry, Lakonishok and Vermaelen (1995) and Dittmar (2000) which suggests that repurchase of under-priced shares indicates undervaluation as a prominent motive and also confirm the market-timing-ability, meaning that one can wait to repurchase until the stock is undervalued. Relevant to mention is though that whereas it may be wasteful to buy back over-priced shares there are other motives, as discussed in theory, for repurchasing shares that dependent on their immediate relevance might override this fact. Finally, we can not say that the individual repurchasing companies actually are undervalued since it depends on several factors not discussed in this study. Although we can state that they are undervalued relative the control portfolio, thus they are valued lower on the market in comparison.

5. Summary & Conclusion

Swedish companies have since March 10th 2000 had the opportunity to utilize an alternative payout method, namely repurchase of shares. This method differs in many areas compared to dividend payouts and the underlying factors in decision making consequently leads to different causes and effects. It is a relatively new phenomenon in Sweden whereas it has been legal in several other countries for a longer time. The purpose of this paper was to examine the effect of the legislation on Swedish companies' payout policies with regards to dividends, and also to investigate if some internal and external characteristics are specific for repurchasing companies.

This study shows that repurchases are frequently used among companies and that it is a complement to dividend payouts as well as to some extent a substitute. A large amount of capital is spent on repurchases that could have been used to increase dividends. Although not statistically significant, we could observe that the growth in dividends for the repurchasing companies was not as prominent as for our control portfolio. This was interesting since we could observe a slightly decreasing trend in the annual differences of dividend payouts between the two groups towards the latter years in our time-period. This led us to study the propensity to increase, decrease and keep dividends unchanged for the two groups. The comparison was made on an annual basis to study eventual fluctuations in dividends. We conclude that the repurchasing companies have a higher propensity to decrease or keep dividends unchanged in comparison, whereas our control companies seemed to be keener to increase their dividends. Since theory suggests that cuts in dividends results in a negative market response it was not surprising that a large portion of the repurchasing companies also kept their dividends unchanged. Another explanation for this is also that, according to earlier studies, many companies would have set dividends at a lower level initially if possible, and that the clientele effect to some extent makes it hard for companies to alter this level. Thus the customer base is used to a certain regular payout and it is also known that large institutions and block-holders favour stable and increasing dividends. We argue that this might to some extent limit the options for companies to choose between the methods, since if significant amounts were to be spent on repurchases it is unfavourable to let it affect dividends. Nevertheless we can state that there has, to some extent, been an effect on dividends. A rather important issue in this discussion is the flexibility from a company perspective, which brings us to the volatility in profit.

According to our theoretical framework, companies with highly volatile profits tend to favour repurchases over dividends; a reason for this might be that it offers a greater flexibility in decision making. Our study shows that repurchasing companies indeed have more volatile profits than our control portfolio and although the profits were at a higher level the fluctuations were more evident. Consequently we argue that flexibility in decision making is something that is important especially when future prospects are diffuse and hard to prognosticate. The irregularity of cash flows thereby invites a repurchasing strategy since the market does not expect them to reoccur in the future. Dividend payouts are contradictory in this matter since they follow a smoother pattern

than cash flows and could put restraints on future prospects. Also if companies are aware of great investments needs in the near future increasing dividends might put restrictions on the range of investment prospect, whereas a repurchasing strategy could encompass this future need. The stock-market endured a significant fall during our time period and it was interesting to observe that the repurchasing companies' profits were hit harder than those of the control portfolio. Thus we can conclude that the repurchasing companies have greater variance in profits in comparison to our control portfolio, and that flexibility in decisions might be something many companies seek to achieve by repurchasing shares.

Repurchase of share are often discussed concerning the aspect of payout decisions, but it could also be a strategy to alter a company's capital structure. Since when repurchasing shares the outstanding shares are diminished and equity becomes lesser relative debt. It was with this reasoning that we analyzed the debt-to-equity ratios for the repurchasing companies and the control portfolio to investigate whether there had been more prominent changes among the former group. We ran four tests concerning the change in capital structure and only the first one was statistically significant. The capital structure then followed the same pattern for the two groups and actually quite contradictory to theory decreased rather than increased. In effect we can not conclude that there has been a different development in the capital structure for the repurchasing companies in comparison. It was also somewhat difficult to measure the changes in capital structure with repurchases as the dependent factor, since repurchases often transcend several time-periods. Therefore the effect on debt and equity relative each other is less annually. It could also be argued that if one were to alter the capital structure, rather aggressive repurchases would have to be made and follow an outspoken strategy over time. Since open-market repurchases often are relatively small in scope it is not unfeasible to reach this conclusion.

One of the most prominent motives for repurchases according to theory is undervaluation. Management might have positive internal information that shareholders are oblivious to and therefore view themselves as undervalued on the market. A repurchase strategy could then be a way of correcting this misevaluation and send a signal to the market about future prospects. We analyzed the market-to-book ratios for the repurchasing companies, the control portfolio and the market and made a comparison over time. This market-to-book ratio is relatively low when undervalued and describes the relation between accounting measures and the market beliefs. We can conclude that after adjusting for outliers there is a significant difference between the repurchasing companies and the control portfolio. The repurchasing companies are consistently over time, except in 2000, valued lower relative the control portfolio. However, it is unfeasible to state that all repurchasing companies actually are undervalued. This is because the ratio used is dependent on future beliefs from the market and how the company is signalling future prospects. What we can conclude is that repurchasing companies are valued lower than the control portfolio and that this might indicate undervaluation as a motive. It also becomes clear why certain companies that have great possibilities to utilize a repurchasing strategy choose to pay dividends instead. This since it is wasteful to repurchase highly priced shares. An interesting aspect in this

matter is also that companies have the opportunity to repurchase shares when they believe themselves to be undervalued, referred to as the market-timing-ability.

One could also argue that the legislation passed in 2000 to a certain extent assisted companies subject to plunges in the stock market, since it served as an economical instrument to redirect the course in the market affected by other factors than that of companies' performances. In effect one could argue that repurchases, despite internal flexibility factors, also can assist in withstanding external factors. This reasoning also applies to the market-timing-ability mentioned above, since there might be an information asymmetry in combination with other external factors affecting specific business areas leading to a negative market trend.

The vast majority of repurchasing companies during our time-period have been included in this study; exemptions had to be made for practical reasons and to enable comparisons over time. We have studied certain underlying factors concerning the characteristics of repurchasing companies, they were chosen according theory and our general interest. These have all been compared with a benchmark created through a stratified selection to reach as accurate conclusions as possible. However, there are other motives for repurchase of shares not tested in this study. We have looked at the characteristics individually and there might be so that the decision to repurchase shares could depend on several motives at the same time and other motives not tested in this study. Nevertheless we could make some interesting conclusions and bring clarity to them with statistical tests. The most apparent disadvantage in this study is the relatively short time-period at disposal, we could perhaps reach more accurate conclusions with a longer time-period. However, we believe that this study fulfils its main and secondary purpose and serves to illustrate certain indications and relevant findings.

6. Further research

We believe that we have made some relevant findings in our study, but there are still certain elements that could be investigated and developed further. The most reasonable suggestion would be to perform a similar study with a longer time-period. Perhaps with a time-frame of 10-15 years to see if those findings are in line with ours. Another way of approaching this matter would be to perform certain analyses with interdependent tests to clarify which motive is more prominent. It was discussed in theory that different motives might be prominent during different time-periods. This could be done by creating a regression model dependent on certain variables, other variables than those we included could be interesting to analyse. Finally, we initially discussed making a study where we would analyse the ownership structure and its influence on decision making concerning payout policies. It would certainly be interesting to perform such a study and it might shed some light on relevant aspects regarding ownership and control.

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