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The Financial Flexibility Piece in the Dividend Puzzle

A Study of Firms Listed in Sweden

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Abstract

TITLE	The financial flexibility piece in the dividend puzzle - A study of firms listed in Sweden
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KEY WORDS	Financial flexibility, dividends, dividend policy
PURPOSE	The purpose of this master thesis is to examine in which way dividend policies are affected by managers strive for financial flexibility in listed Swedish firms. The underlying reason for the thesis is to attain a broader knowledge regarding dividend policies. Since present theories do not provide a satisfactory explanation or are not satisfactory tested, we find it relevant to perform a study within this field.
METHODOLOGY	Hypotheses are generated and the means of these tests are compared using independent sample t-test. Further, a panel data multivariate regression is used to control for time trends.
THEORATICAL FRAMWORK	Theoretical framework consists of signaling theory regarding dividends, free cash flow hypothesis and financial flexibility.
EMPIRICAL FOUN DATION	Swedish firms listed on the Stockholm stock exchange A-lista or O-lista between 1996 and 2005 and OMX Nasdaq Large-cap or Mid-cap 2006 and 2008.

CONCLUSIONS

Our study shows that financial flexibility is a piece of the dividend puzzle and therefore managers who value financial flexibility do incorporate this when deciding dividend policy.

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1 INTRODUCTION

In the initial chapter an introduction as well as the purpose and research question for the thesis will be presented. The chapter is ended by presenting delimitations and thesis outline.

1.1 BACKGROUND

The current financial crisis has hardly left anyone unaffected. Initially, the crisis regarded the problems connected to the sub-prime loans, but ended up affecting the global economy. In order to stabilize the financial turbulence the American government, amongst other governments, has undertaken measures to generate stability in the financial markets. As a part of these measures, financial institutions facing distress received government funding in order to survive. For instance, Bank of New York received $3 billion from the American government. Tax-payers money was intended to induce financial stability; however, dividends where still paid out. In the last quarter of 2008 and the first quarter of 2009 Bank of New York paid out approximately $275 million in dividends (Washington Post 2009). If this continues, the government funding will be paid out to shareholders within three years, which hardly was the intention of the American government.

On the other hand, Standard & Poor's announced in a press release on the 7th of April, that for the first time since 1955, when their tracking of dividends started, announcements of dividend decreases were larger than dividend increases regarding firms listed on the NYSE. The number of firms that announced dividend cuts increased by 332% and the reduction of dividend payments were approximately $77 billion, compared to 2008 (Standard & Poor´s 2009).

According to an article in the Swedish business paper Dagens Industri, the largest owner families in Sweden are facing both increasing and decreasing dividend payouts in 2009. Despite what is described as a harsh economic environment, 43% percent of the owner families will receive increased dividend payments, compared to 2008 (Dagens Industri 2009).

How come there is no unified picture regarding dividend payouts?

The underlying reason why firms pay dividends as well as dividend policies has troubled researchers for over half a century (Bhattacharyya, N. 2007). In fact, Brealey and Myers (2002) argue that the secrecy regarding dividends is one of the top ten most important unsolved problems in finance. The much quoted researcher Fischer Black states that:

"The harder we look at the dividend picture, the more it seems like a puzzle with pieces that just don't fit together" (Black 1976:5).

Despite the vast amount of research in the field, a good explanation has not yet been presented. However, it is believed that firms will continue to pay dividends, therefore the need to understand the underlying reason(s) is crucial.

1.2 PROBLEM DISCUSSION

Before the prominent researchers Modigliani and Miller presented their paper on "Dividend policy, growth and the valuation of shares" in 1961, the two main theories suggested that dividends affect versus does not affect the stock price (Kinkki 2001). Lintner (1965) provided the first empirical study on dividends and found that managers set firm dividend policies from an industry benchmark, typically characterized by dividend growth and reluctance to conduct dividend cuts. However, Lintner failed to present a proper theoretical explanation of dividend policies. When Modigliani and Miller (1961) presented their paper they proposed, given the assumptions of a perfect world, that dividends are irrelevant to firm value since, when dividends are paid out, more equity must be raised to finance a firm's investments. According to Modigliani and Miller, changes in dividend policies would only change the ownership structure, later known as the clientele theory. Even if the assumptions given in the Modigliani and Miller world do not align with the real world nor gives a explanation on why some firms choose not to pay dividends or the empirical interdependence between stocks prices and dividends, their irrelevance hypothesis had a large impact on the view of dividends (Kinkki 2001).

After Modigliani Miller presented their irrelevance hypothesis, two dominant theories have evolved (Blau and Fuller 2008). Both the signaling theory (Bhattacharya 1979, John Williams 1985, Miller Rock 1985) and the free cash flow hypothesis (Easterbrook 1984, Jensen 1986) have added to the understanding of the dividend puzzle. The two theories have been subject to vast amounts of research, but empirical evidence shows dispersed support for the two theories

(Bhattacharyya, N., 2007). Lang and Litzenberger (1989) as well as more recent papers, for example by Denis and Osobov (2008), report empirical findings that the signaling theory cannot explain. Further, findings by Yoon *et al.* (1995) and Long *et al.* (1994) show no support for the free cash flow hypothesis. Blau and Fuller (2008) states that empirical findings show that none of the two theories present a satisfying explanation to the dividend puzzle.

Recent studies by Fama and French (2001) and Denis and Osobov (2008) present empirical findings that show a tendency of decreasing dividend payments both globally and across industries. This further insinuates that signaling theory and free cash flow hypothesis are insufficient in explaining dividend policies.

In 1981, a different aspect on the dividend puzzle was presented by Wittebort (1981). She concluded that one reason why some companies distribute low dividends is because it is more valuable to retain financial flexibility. In 2006, DeAngelo and DeAngelo (2006) presented their theory on financial flexibility, where they argue that flexibility is the missing link, explaining firm's capital structure which is to be viewed as a trade-off between providing financial flexibility and controlling the principal-agent problem. DeAngelo *et al.* (2006) also points out the interdependency between a firms capital structure and dividend policy.

In 2008, Blau and Fuller adopted DeAngelo and DeAngelo´s theory on financial flexibility in order to explain how manager's view on financial flexibility affects firm dividend policy. Blau and Fuller explains the flexibility-dividend link at a basic level as when paying dividends, the control of funds are allocated from management to investors. The control of these funds can be retrieved in the event of an equity issue, but only if investors agree with management on the use of these funds. Therefore, manager's flexibility deteriorates when dividends are distributed. By constructing a model, which they also test empirically, Blau and Fuller (2008) find support that manager's view on financial flexibility affects firm dividend policy.

The financial flexibility theory could be the missing piece in the dividend puzzle, where Blau and Fuller's findings might have increased the understanding why firms pay dividends. However, we observe the theory as relatively new and unchallenged, why more research is needed.

Many studies concerning dividends have been conducted in Sweden, but to our knowledge no thesis has involved the financial flexibility approach. Since DeAngelo *et al.* (2006) and Blau *et al.* (2008) argue that financial flexibility is a missing piece in the dividend puzzle; we find it highly relevant to conduct a study within the field of dividend policies and financial flexibility.

1.3 PROBLEM FORMULATION

In which way is a firm's dividend policy affected by manager's perceived view of financial flexibility?

1.4 PURPOSE

The purpose of this master thesis is to examine in which way dividend policies are affected by manager's strive for financial flexibility in listed Swedish firms. The underlying reason for the thesis is to attain a broader knowledge regarding dividend policies. Since present theories do not provide a satisfactory explanation or are not satisfactory tested, i.e. free cash flow hypothesis and signaling theory, we find it relevant to perform a study within this field.

1.5 AUDIENCE

The audience for this study is believed to be researchers and academics as well as a more general public with an interest in the field of dividends and dividend policies.

1.6 DELIMITATIONS

The study is conducted on Swedish firms on the Stockholm stock exchange's A-lista and O-lista between 1996 and 2005 and firms listed on the OMX Large Cap and OMX Mid Cap between 2006 and 2008. The logic behind the selected lists is the plausibility of retaining a sufficient amount of observations in order to get a reliable result. We eliminate firms on the former OTC-listan, since these stocks were traded over the counter with a risk of mispricing which might provide skew results. The time period, 1996-2008, is chosen in order to obtain recent data but also data over a time period with both high and low priced markets to mitigate possible time trends and market effects. In order to examine dividends, the dividend yield is chosen; therefore the study will not discuss alternative or complementary measures such as

raw dividend, dividend to net income or raw dividend to size. Firms where market data, i.e. stock price and dividends, is missing will be classified as missing observations.

The study does not try to explain the continuous dividend policy; it only provides a view of how financial flexibility affects the dividend decision. Furthermore the study does not put emphasis on tax considerations regarding dividend policies.

1.7 THESIS OUTLINE

The remainder of the thesis is structured as follows:

Chapter two presents the study's methodology regarding research approach and data collection. The limitations of these are also discussed.

In the third chapter, the theoretical framework and theories relevant for the study are presented. The chapter ends with a motivation of excluded theories.

The fourth chapter presents the research method used and is ended by critical reflections regarding used method.

Chapter five presents the study's empirical data.

The sixth chapter includes analysis of the empirical data as well as an analysis of eliminated observations.

The seventh and final chapter contains a conclusion of the study as well as suggestions for further research.

2 THEORY

In this chapter, the theoretical framework for the study is presented.

2.1 FINANCIAL FLEXIBILITY

The financial flexibility theory is a development of the rationale for holding financial slack, i.e. retaining cash, liquid assets, or unused borrowing power. This enables firms not to issue equity on short notice in order to pursue a valuable investment opportunity (Myers and Majluf, 1984). A study by Graham *et al.* (2001) finds that financial flexibility is the single most important determinant for CFOs, when deciding on firm capital structure.

According to DeAngelo and DeAngelo (2006), firm's optimal financial policy provides flexible access to both debt and equity markets to mitigate future investment distortions when a need for capital arises. At the same time the firm can control agency costs, by limiting cash balances, through ongoing distributions as the firm generates FCF over time. High leverage is a strictly suboptimal mean of limiting cash accumulation, because it reduces the firm's unused debt capacity. When the high leverage is combined with a limited cash balance, high leverage cause greater investment distortions when exogenous shocks to earnings and investment opportunities require additional funding. The risk of becoming hamstrung for cash in future periods also deters high leverage, especially in growth firms. Hence, growth firms optimally keep both dividends and interest payments low, since their profitable investments consistently exceed their operating cash flow.

Managers and investors face uncertainty about future cash flows consequences of prior and current investment decisions, investment opportunities and market prices of debt and equity, which might affect the firm at future dates. This uncertainty gives managers incentives to select financial policies that provide the flexibility to respond to unanticipated shocks towards these factors (DeAngelo and DeAngelo 2006). According to Shleifer *et al.*(1997) and La Porta *et al.* (2000), mature firms limit internal funds by paying substantial dividends rather than making high interest payments due to high debt level. The reason for this is that low leverage provides unused debt capacity, which can be used to mitigate possible investment distortions.

Further, firms with strong dividend records develop reputations for generous payouts, enabling them to sell equity at prices closer to intrinsic value in low priced markets. Equity payouts also help convince outside investors that managers will make substantial future payouts, which reduces the firm's security valuation problems (DeAngelo and DeAngelo 2006). This should not be confused with the signaling theory, which states that high dividends signal high future earnings.

As dividend cuts are easily observable, managers damage their reputation if they reduce the ordinary dividend without a credible reason for distress. Empirically, managers rarely cut regular dividends at non-distressed firms (DeAngelo *et al.*1992); in fact managers are reluctant to reduce dividends for any reason. Managers can incorporate financial flexibility into their equity payout policies by having low ordinary dividend yield, thereby retaining internal funds. As internal funds increase, managers have the option to issue a transitory equity payout, extra dividend or stock repurchase, to mitigate agency-costs (Jagannathan *et al.* 2000) (Lie 2005).

Graham *et al.* (2001) find that many firms preserve debt capacity by maintaining conservative leverage. Strebulaev *et al.* (2006) also find that these firms still pay dividends, which support the notion of financial flexibility as a trade-off between mitigating agency costs and preserving borrowing capacity. DeAngelo and DeAngelo (2006) states that borrowing cost today is the opportunity cost of the inability to borrow tomorrow, when the firm may need to issue debt to avoid investment distortions. Even though this opportunity cost is an obstacle to leverage, which is to be accounted for before issuing debt, it represents an intertemporal dependence in borrowing. Simply put, it is more costly to borrow today then tomorrow, since you eliminate tomorrow's debt capacity. This is in accordance with Gamba *et al.* (2008), who stipulate that the intertemporal link between decisions also means that financial and investment decisions should be forward-looking in nature. Low leverage is desirable today because it provides the option to borrow tomorrow and deviate temporarily from the long-run low debt target. Hence low leverage is ex ante optimal, but managers fully expect to deviate intentionally from this target ex post, as circumstances change, and rebalance back to the debt target as firm-specific and market conditions permit (Gamba *et al.* 2008). According to Sufi (2007), between 74.5% and 81.7% of publicly traded firms have a line of credit (LOC). The average LOC allows borrowing up to 15.9% of total assets and firms have an average

outstanding LOC debt of 5.7% of assets. However, the median firm does not utilize its LOC debt at all.

2.2 The Blau and Fuller theory of financial flexibility and dividends

Based on the theories concerning capital structure and financial flexibility presented by DeAngelo *et al.* (2006) and DeAngelo, DeAngelo (2006), Blau and Fuller (2008) developed a theory on financial flexibility and dividend policies. Further, they constructed a model around this theory, which takes into account dividend policies, dividend payments and financial flexibility. Since this model is rather unknown and untested, but also the fundament of this study, it is presented below.

The model assumes that all agents are risk neutral, firms are all equity financed with assets with both systematic and unsystematic risks, and investments will increase a firm's unsystematic risk. At t=0 the firm has cash in the amount of R and the firm has three options concerning the amount of cash;

1. It is to be paid out as dividend to owners at t=0
2. Invested in new projects at t=1
3. Carried to t=2 and paid out as liquidating dividend

At t=0 the firm knows that a new investment opportunity arrives at t=1 which needs finance in one way or the other. Managers have two alternatives, either to use the dividends held from t=0 or, if dividends were distributed, raise external funds.

A central concern in the Blau and Fuller model is the "Dress up"-problem. Investors recognize the information asymmetry that managers have more information about investment and that there is a risk that managers might use their information advantage to dress up project.

The dividend, payoff and investment decision

The model assumes for simplicity an all or nothing dividend payout (D) at t=0. At t=1 a new feasible project appears which requires an investment of R. The expected payoff of the project investment (ξ) is believed to be a random amount at t=2. The ξ can take the form of either a payoff of investment lower than R (L) or a payoff of investment greater than R (H). This means that the investment is undertaken if the return is H but not if the return is L, alternative

expressed as 0<L<R<H. Availability of liquidity is dependent on the dividend decision at t=0, if D=0 at t=0, liquidity will be used to finance the project. However, if D=R at t=0 manager's needs to raise R from investors at t=1, which induces a transaction cost of raising funds (τ) that is greater than zero, $\tau > 0$.

Information asymmetry problem of future project payoffs.

The model states that management form expectations about project payoff ($E_m[\xi]$) in t=2 when a new project appears at t=1. It also states that manager's perceived payoff is not at all times wealth maximizing; $E_m[\xi]$ is constructed by a component that is wealth maximizing and one that contains management's self-interest. If management acts in self-interest they tend to dress-up the project with a true amount (δ^*). This means that management presents the project as wealth maximizing when in the actual case the payoff is lower than R. Alternatively expressed, if a project is presented as $E_m[\xi]+\delta^*=H$, it does not automatically mean that $E_m[\xi]>R$. Based on the project's payoff presented by management, ($E_m[\xi]$), investors will incorporate the dress-up factor and form their own expectations of $E_m[\xi]$. Investors' expectations of project payoff ($E_s[\xi]$), will have a payoff of either L or H, where the only concern is the wealth creation in the firm. Therefore, if $E_s[\xi]=H$ then $E_s[\xi]>R$ which could deviate from managements view. Blau and Fuller assumes that $E_s[\xi]= E_m[\xi]$ + investors believed amount of managements dress-up (δ), stipulating that investors only agree on investing if $E_m[\xi]+\delta>R$. Due to information asymmetry between inventors and management it is possible that perceived dress-up by investors is not equal to the real dress-up, $\delta \neq \delta^*$. Because of asymmetric information, there might be situations where investors add a dress-up factor to a project when management has not dressed-up, where the consequence is wealth reducing for the owners.

The model assumes that:

$$\rho = \frac{\mathrm{Em}[\xi]}{\mathrm{Em}[\xi] + \delta^*} \in [0,1]$$

The ρ is the asymmetric parameter, which is an inverse function of the actual amount of dress-up. A higher amount of ρ indicates that the expectation between managers and investors are closer, hence a lower amount of asymmetric information exists. Further, the model assumes

that owner's confidence in management increases if management historically has attempted to maximize wealth, hence the perceived dress-up factor from investors declines over time ($\delta \rightarrow 0$). However, if the actual dress-up (δ^*) is high, there will be a greater discrepancy between $E_s[\xi]$ and $E_m[\xi]$, having the consequence that investors believe that managers are dressing-up projects.

Blau Fuller defines this probability as:

$$\Pr(\mathrm{Em}[\xi] - \mathrm{R} > \delta | \mathrm{Em}[\xi] + \delta^* = \mathrm{H}|) = \mathrm{q}$$

$$\Pr(\mathrm{Em}[\xi] - \mathrm{R} \leq \delta | \mathrm{Em}[\xi] + \delta^* = \mathrm{H}|) = 1 - \mathrm{q}$$

The probability (q) is the likelihood that shareholders wish to invest in wealth creating projects, even after compensating for the perceived amount of dress-up by management. The probability (1-q) gives the likelihood of investors turning down wealth decreasing projects.

However, the model recognizes a probability where investors turn down wealth creating projects, due to an overestimation of managements dress-up (δ). This is derived from when investors attach a disproportionate amount of value to the perceived dress-up factor in comparison to the actual amount of dress-up, $\delta > \delta^*$. Blau and Fuller define this probability as:

$$\Pr(\delta > Em[\xi] - \mathrm{R} > \delta * |\mathrm{Em}[\xi] + \delta^* = \mathrm{H}|) = \pi$$

The probability of the decision parameter (π) is the likelihood of investors overestimating the perceived dress-up factor, stipulating that investors turn down a wealth creating project.

Blau and Fuller argue that under these circumstances, managerial flexibility is valuable for the firm. Flexibility or internal liquidity exists when D=0 at t=0. If management choose D=R at t=0, they need external funds for a presented project at t=1. However, investors will only invest if expected payoff (H) and the transaction cost (τ) is greater than the cost of the project, $H-\tau>R$.

Problem arises when management's expected payoff from a project is wealth creating but investors have an opposite view, $E_m[\xi]=H$ and $E_s[\xi]=L$ alternatively expressed as $E_m[\xi]+\delta<L$.

Management's capability to undertake investments then depends on internal liquidity, which is affected by management's decision whether to pay dividends or retaining funds at t=0. If dividends were paid out (D=R) at t=0, management need to raise external funds from investors. However, if funds where retained (D=0) at t=0, Blau and Fuller assumes a flexibility parameter (η), with a probability ($\eta \in [0,1]$) that management are able to undertake projects even when investors view this as wealth decreasing, $E_s[\xi]=L$. This means that dividend paying firms are less probable to undertake investments.

When managers create financial flexibility, a marginal cost, as appraised by investors, is associated with retaining dividends. As a firm's stock price declines, the marginal cost of holding financial flexibility increases and when the marginal cost exceeds the value of financial flexibility, managers choose to pay dividends.

Further, Blau and Fuller argue that since managers are the ones running the firm they have the option, if liquidity is available, to invest in a project that they believe has a positive NPV or some other beneficial aspect.

Based on the theory and model, Blau and Fuller generated six empirical predictions to examine whether their theory could be supported by empirical findings. They examined 2407 American firms between 1980 and 2000 and found support for all of their empirical predictions. Blau and Fuller (2008) concluded with that their development of the general financial flexibility theory to be applicable to dividend policies has an important role in the dividend puzzle.

To this date, no other empirical study regarding financial flexibility and dividends has been published. Therefore, the theory and model as well as the empirical findings presented by Blau and Fuller has not received any criticism. In order to have high light potential shortcomings in the work of Blau and Fuller, some critical reflections are hereby made.

The Blau and Fuller model makes certain assumptions, these assumptions are; firms are all equity financed, corporate tax-rate is set to zero to eliminate the tax-shield and the risk free interest rate is also set to zero for simplicity to eliminate the need for discounting future payoffs. In the real world, these assumptions rarely apply and therefore the theory and model by Blau and Fuller can be questioned for making unrealistic assumptions. Further, the Blau

Fuller only examines American firms and does not include financial firms with an Altman's Z score below 2.68. This makes the sample somewhat biased.

2.3 FREE CASH FLOW HYPOTHESIS

According to Jensen (1986), managers tend to invest in negative net present value projects if there is an abundance of free cash flow after investments in positive net present value projects. Conflicts of interest between shareholders and managers may arise due to the excessive amount of funds which is under management's control. Investors value that excessive funds are paid out as equity payouts, instead of investing them in bad projects. Managers could promise to pay out future cash flows and still retain the control over the free cash flow. These kinds of promises are on the other hand weak since dividends can be reduced in the future. If there are cuts in dividend policies, capital markets punish this by reducing stock prices, which is consistent with agency problems of free cash flow. The problem is therefore how to motivate managers to distribute the excess cash instead of investing them in bad projects.

Many studies regarding the free cash flow hypothesis has been made. The empirical findings display dispersed support for the free cash flow hypothesis. According to a study made by Lie in 2000, firms that increased dividends had excess amount of cash compared to peer firms and therefore does support the free cash flow hypothesis. On the other hand, Yoon and Starks (1995) studied firms with high and low Tobin's Q and found symmetric price reactions to dividend policies, which is inconsistent with the free cash flow hypothesis.

The free cash flow-hypothesis is based on the principal-agency theory (Jensen 1986). However, the stewardship theory which is corporate governance theory, states that there is no direct conflict of interest between principals and agents (Donaldson and Davis 1989). Based on the principals of stewardship theory, a critical reflection is whether the free cash flow-hypothesis can be used as a standalone theory regarding dividend policies.

2.4 SIGNALING THEORY REGARDING DIVIDENDS

Akerlof (1970) points out difficulties in distinguishing good quality from bad quality of provided information, why information signaling is important. Signaling becomes relevant in the corporate world since there is an information asymmetry between shareholders and insiders, as the insiders have more information regarding the quality of the company.

One of the biggest questions of the dividend puzzle, according to Bhattarachya (1979), is whether it is possible to bring a market that is less than fully allocationally efficient, in the absence of dividends, to the equivalent of full allocational efficiency, with an informative dividend policy. Signaling theory states that dividends may be able to bring an incomplete market to full informational efficiency.

Bhattacharya's signaling model of corporate dividend policy states that there is imperfect information between shareholders and management regarding firms' profitability. If there are no tax differences between capital gains and dividends, dividends will be a signal on firms' expected earnings (Battarachya, 1980).

According to Kalay (1980), managers are reluctant to cut dividends since they are a necessary condition to distribute information. Bar-Yousef and Huffman (1986) also acknowledges Bhattaraya´s model that the size of dividends is an increasing function of expected earnings. However, they find that the higher the level of expected earnings, the lower the marginal effect on dividends.

In a study on U.S. firms between 1963-1998 made by Nissam and Ziv (2001), the empirical findings shows that dividend changes are positively correlated with changes in earning in two years after the announced dividend change. Nissam and Ziv states that the empirical findings shows support for the signaling theory since changes in dividends predicts future earnings. However, a similar study made by Benartzi *et al.* (1997) shows that dividend changes are more related to past earnings and does not predict future earnings. Further, Grullon *et al.* (2002) finds that dividend increases forego lower return on assets. These findings show no support for the signaling theory.

2.5 EXCLUDED THEORIES

During the review of theories relevant to the study, two additional theories initially seemed applicable. However, the two theories where later revoked and a motivation of elimination is presented below.

Pecking order theory

Myers and Majluf (1984) presented the Pecking order theory which today is a known theory regarding capital structure. Pecking order predicts that internal funds will be used as financing source. However, if the firm needs external funds it will prefer debt to an equity issue. This theory has received criticism for having empirical shortcomings (DeAngelo and DeAngelo 2006), and Fama and French (2002) detects that it has serious flaws and concludes that pecking order theory is dead as a standalone theory of capital structure. Based on these shortcomings and that pecking order theory regards capital structure and not dividend policies, the pecking order theory is excluded from this study.

Taxes and dividends

According to Elton and Gruber (1970), if the taxation is different between dividends and capital gains an investor clienteles will be created since it is presumed that investors acquire an investment portfolio with an after tax return in relation to the portfolios risk. DeAngelo and DeAngelo (2006) argue that the tax/distress cost trade-off theories fall short because they ignore the importance of financial flexibility. This combined with the fact that capital gains and dividends have the same tax-rate in Sweden; the tax effect is considered irrelevant and is therefore excluded from this study.

3 METHOD

In this segment the thesis methodology is presented as well as views on reliability, replicability and validity.

3.1 RESEARCH APPROACH

The intention of this thesis is to, from a positivistic approach, conduct a study in order to explain the presented purpose. The positivistic approach tries to find regularity connections that can be generalized to a greater extent. Since the purpose of this study is to find links between presented theories and empirical findings the positivistic approach is appropriate.

The thesis is based on a hypothetical-deductive method since the study uses historical data to evaluate existing theories. Based on the theories presented, a hypothesis will be constructed and tested against empirical findings in order to control if the hypothesis can be rejected or non-rejected. The deductive approach has been used in similar research and is also commonly used in social science (Bryman and Bell 2005), therefore the deductive approach is believed to be an adequate procedure to the presented purpose. In order to eliminate tendencies of examining self fulfilling data, something that deductive research has been criticized for; the aim is to have a high degree of objective procedure in the study (Jacobsen 2002). From the deductive approach, chosen theories will be tested by a quantitative method which will be described more in detail in chapter four.

3.2 COLLECTION OF DATA

Given the time horizon and the nature of the study, secondary data is believed to provide satisfactory empirical data.

The database Datastream is used to collect secondary data. The database is composed by public released material, such as stock price, annual reports etc. and provide large amounts of information (Datastream). Datastream is considered to be objective and thorough, therefore providing the study with reliable, relevant and confident secondary data. However, Datastream do not explicitly provide appropriate information regarding which firms are listed

at a specific year, only the firms which are still active. In order to mitigate a potential survival bias problem, information regarding active and dead firms for the time period 1996-2008 is retained from the Stockholm stock exchange fact books available at the OMX Nasdaq homepage. This information is also cross-referenced with Owners and Power in Sweden´s Listed Companies, 1997 (Sundin and Sundqvist 1997), 2000(Sundin and Sundqvist 2000) and 2007(Sundin and Sundqvist 2007).

3.3 RELIABILITY

A study's degree of reliability is if the study were to be conducted again, it would generate the same results (Halvorsen 1992). The positivistic approach intends to find general patterns; therefore reliability is of high importance. In order to attain high reliability it is crucial that the study do not contain imprecise measures or subjective viewpoints. Since the study relies on secondary data provided by an objective source, this data is believed to fulfill our requirements of reliability. Through the study several choices and assumptions are made. In order to eliminate subjective actions, the intention is to disclose information in order to provide transparency.

3.4 REPLICABILITY

In the event of a replication from another researcher, the study, as stated above, should yield the same results. Therefore it is of importance that the proceeding of the study is thorough (Jacobsen 2002). In order to provide replicability, the intention is to provide a detailed description of procedures throughout the study.

3.5 VALIDITY

For the study to be valid, it is important that the results provided in the study are dependent on a causal relationship of what is measured, also known as internal validity (Bryman and Bell 2005). Throughout the study, estimations will be made and it is of importance that these estimations do not provide a skew result which will create a low validity. In order to provide a high internal validity these estimations will be scrupulously presented in chapter four.

In order for the study to have a high degree of external validity and being generalisable, quantitative studies require the sample to be representative for the whole population (Bryman

and Bell 2005). To what extent the study can be generalized is of great importance for the study due to the aim of understanding dividend policies. The number of observations and the time horizon is believed to present a representative sample for listed Swedish firms. The degree of external validity will be discussed in the analysis chapter.

4 RESEARCH METHOD

In this chapter a thorough description of the method used in order to attain vital data for the research is presented.

4.1 DATA COLLECTION

In order to attain information regarding dividends, financial flexibility and method, prior research, articles, other theses and books are used. Prior research and articles are used to attain adequate knowledge and information regarding theories and empirical findings whereas information regarding methods and methodology is attained using books and theses.

In order to attain information about literature, prior research and scientific articles relevant to the study, the electronic databases provided by Lund University are used. The main search words used in the book database Lovisa and the article database ELIN@Lund are; dividends, dividend policies, financial flexibility, taxes, signaling and Free-Cash-Flow hypothesis. Further on, JEL classifications G35, [payout policy], and G32, [financing policy, financial risk and risk management, capital and ownership structure] are also used (www.aeaweb.org).

The steps in the method can be summarized as follows:

1. Attaining information regarding listed firms on the Stockholm stock exchange A-list and O-list as well as OMX Nasdaq Large-Cap and Mid-Cap for the time periods

2. Collection of relevant financial information

3. Manual revision of collected financial information

4. Calculation of financial information

5. Hypotheses

6. Multivariate regression

4.2 SELECTION CRITERION

The study is based on firms listed on the Stockholm stock exchange A-list and O-list between 1996 and 2005, and the OMX Nasdaq Large-Cap and Mid-Cap between 2006 and 2008.

For an observation to be included in the study, it must provide the following criteria:

1. A firm listed on the Stockholm stock exchange A-List or O-list between 1996 and 2005 or the OMX Nasdaq Large-Cap or Mid-Cap between 2006 and 2008.
2. Relevant financial information regarding the firm provided in Datastream.

4.3 LISTED FIRMS

Information about listed firms for the time period is attained by using the Stockholm stock exchange fact books (1996-2008) to eliminate the survival bias which would occur if only Datastream is used.

For firms with more than one stock listed in a specific year, i.e. A and B share, the share with the highest turnover for that specific year is considered to qualify for observation. The reason is that the highest turnover can be assumed to be more adequately priced.

4.4 FINANCIAL INFORMATION

In order to conduct the study the following financial data for a specific time period is retained using Datastream:

- Stock price
- Dividend
- Dividend yield
- Firm market value

- Firm book value of debt
- Firm market to book value
- Firm total assets
- Firm operating income
- Firm cash and cash equivalents
- Firm one year beta
- Firm operating income
- Firm industry return
- Swedish 90 day treasury bond
- Swedish All share index

4.5 Manual process of information

For some of the collected raw data to be applicable for the study, it is subject to manual processing. A presentation of the processing is presented below.

4.5.1 Manual process of data collection

Information provided by the Stockholm exchange fact books and Datastream can sometimes be hard to interpret, and to mitigate an erroneously sample some observations are subject to manual processing. Problems occur regarding:

- Firm has changed name
- Firm has a foreign legal entity
- Data for a firm's income statement and balance sheet is missing in Datastream. If information is available in the firm's annual report, this information is used, otherwise the observation is eliminated.
- Information is not provided by Datastream but can be calculated with input from Datastream.

4.5.2 Classification of data

The data collected for the study is subject to classifications. Observations can and do change classifications over the time period studied. A review of selected classifications is presented below.

4.5.2.1 High price markets and low price markets

A time period is considered to be a high priced market when the return on OMX All share index for that year is positive. Subsequently a time period is considered low priced when the return on OMX All share index is zero or negative.

4.5.2.2 High priced stock and low priced stock

A firm's stock is considered to be high priced in absolute terms when the stock price for that firm and year is over the sample's median stock price. Subsequently a firm's stock is considered to be low priced in absolute terms when the stock price is below the sample's median stock price for that year.

4.6. Manual calculation of financial data

Data that is needed for the study but is not provided directly by Datastream is manually calculated. A review of these manually calculated data is presented below.

4.6.1 Stock price adjusted for dividends

Information regarding stock prices in Datastream is adjusted for subsequent capital actions but is not adjusted for dividend payments. In order to retrieve correct return for a stock during a time period, the dividend payment for the time period is added back to the stock price at the end of the time period.

4.6.2 Debt to equity ratio

To calculate a firm's debt to equity ratio for a time period, the firm's book value of debt is divided by the firm's market value of equity for that time period.

4.6.3 Operating efficiency

Operating performance is used as an approximation of operating efficiency, which is in accordance with Blau and Fuller (2008). To calculate the operating performance for a firm, the ratio of operating income to total assets is used, which is in accordance with Hertzel *et*

al.(2002). While there are many measures of operating performance, the one chosen is believed to better reflect a firm's performance than the sometimes used measure of net income divided by total assets. The underlying reason for this is that by using net income the performance measure will include non operating income, i.e. interest income, which would not reflect the firms operating performance. To eliminate for industry effects, industry performance is subtracted from firm operating performance, which is common practice (Hertzel *et al.* 2002).

4.6.4 Firm liquidity

In order to make firm liquidity level comparable among firms, firm cash and short-term investments is divided by firm total assets.

4.6.5 Calculation of stock return

A firm's one year stock return is calculated as the firm's stock price at the end of that year, adjusted for dividend, divided by the firm's stock price at the beginning of that year minus one.

$$R_{i,t} = \left(\frac{P_{t=1}}{P_{t=0}}\right) - 1$$

Formula 1- Stock return

$R_{i,t}$= Stock return

$P_{i,t}$= Stock price

4.6.6 Calculation of abnormal return

A firm's abnormal return is calculated using the firm's actual return for a specific time period, less the expected return for the same time period (MacKinlay 1997).

$$\mathbf{AR_{it} = R_{it} - E(R_{it}|X_t)}$$

Formula 2- Abnormal return

In order to calculate a firm's expected return for a time period the market model is used (blau and Fuller 2008).

$$R_{it} = r_f + \beta_i(r_{Mt} - r_f) + \varepsilon_{it}$$

Formula 3-Expected return

R_{it}= Expected return on asset *i*, for time period *t*

r_f= Risk free interest rate for a time period

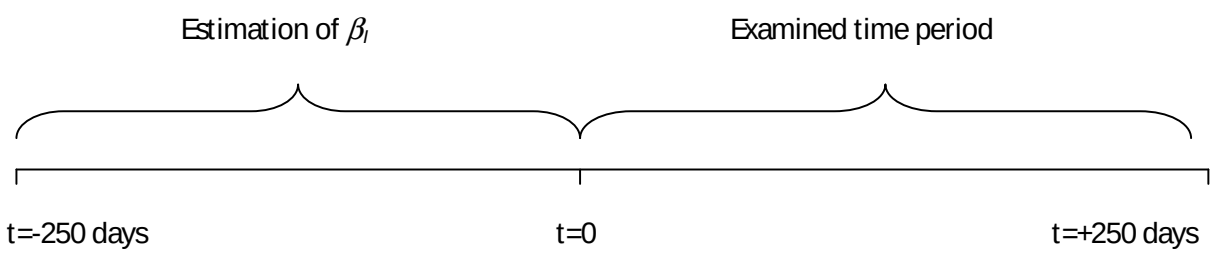
β_i= The change in asset *i´s* return compared to the market portfolio

r_{Mt}= Return on market portfolio for time period *t*

ε_{it} = Residual factor

Actual return is the return for a specific observation over a one-year period of time. The reason for having a one-year period of time refers to the information that listings on the Stockholm Stock exchange stretches over one year. To calculate β_i for a time period, a regression using the firm historical 250 day return is compared to the OMX All share index. The chosen time period for the β_I estimation of 250 days refers to that a trading year is between 249 and 252 days.

It is of importance to have a separated time period for the calculation of β_i and the starting point of the examined time period (MacKinlay 1997). In order to calculate the stock return over a one-year period, the calculation of β_I refers to 250 days prior the starting point of the examined time period.



4.6.7 Calculation of firm unsystematic risk

The unsystematic risk component is constructed in accordance with Blau and Fuller (2008) as the cross-sectional average residuals squared.

$$Risk = \frac{1}{N}\sum_{i=1}^{Nt}(\varepsilon_{Ft})^2$$

Formula 4- Unsystematic risk

To calculate a firms residual for a given time period, the one year return for a firm's stock is subtracted with a risk free interest rate, and compared to the return using the market model (Blau and Fuller 2008). The deviation between the two returns is the residual used for the unsystematic risk measure.

$$r_{ft} - r_F = \alpha + \beta_f(r_{Mt} - r_F) + \varepsilon_{ft}$$

Formula 5- Measure of residual

r_{ft}= Yearly return for a stock *f*

r_F= Risk free interest rate for a time period

α= Intercept

β_f= Beta for stock *f*

r_{Mt}= Yearly market return

ε_{ft}= Residual for stock *f* for time period *t*

The yearly return for stock *f* is calculated using the adjusted stock price. The risk free interest rate used is calculated as the average of the four Swedish 90 day treasury bonds for that year, this to capture interest changes over the time period. Firm beta is calculated in the same manner as for the expected return.

4.7 Hypothesis

To examine in what way dividend policies are affected by manager's perceived view of financial flexibility, six hypotheses are created. These hypotheses are based on the Blau and Fuller model of financial flexibility and dividends, and are also in accordance with the predictions created by them (Blau and Fuller 2008). The hypotheses are believed, if found significant, to support the financial flexibility piece in the dividend puzzle.

4.7.1 Hypothesis One

According to Blau and Fuller the mean dividend yield is lower in high priced markets compared to low priced markets.

Hypothesis: There is no difference in average mean dividend yield in high priced markets compared to low priced markets.

Null hypothesis	H0: Difference in mean = 0
Alternative hypothesis	H1: Difference in mean $\neq 0$

If the null hypothesis is non-rejected, there is no difference in dividend yield mean between high priced markets and low priced markets.

If the null hypothesis is rejected, there is a difference in dividend yield mean between high priced markets and low priced markets.

4.7.2 Hypothesis Two

According to financial flexibility theory, a firm's dividend yield is high when the firm stock price is low, in absolute terms. Financial flexibility states that there exists a cut off value on the stock price when dividends are paid. Dividend payments occur when the stock price is below the cut off value, since the marginal cost of retaining dividends and creating financial flexibility for a firm becomes too high (Blau and Fuller 2008).

Hypothesis: Firms with a high priced stock have no difference in mean dividend yield, compared to a low priced stock, in high priced markets as well as in low priced markets.

Null hypothesis	H0: Difference in mean = 0
Alternative hypothesis	H1: Difference in mean $\neq 0$

If the null hypothesis is non-rejected, there is no difference in dividend yield mean between a high priced stock and a low priced stock.

If the null hypothesis is rejected, there is a difference in dividend yield mean between a high priced stock and a low priced stock.

4.7.3 Hypothesis Three

Financial flexibility states that dividends will be more valued in low priced markets. This is derived from that the marginal cost of retaining dividends is higher than the value created by financial flexibility. Therefore, firms that pay dividends will outperform non-dividend paying firms in low priced markets. However, the opposite should hold for high priced markets.

Hypothesis: Firms that pay dividends do not outperform non-dividend paying firms in low priced markets and non-dividend paying firms do not outperform dividend paying firms in high priced markets.

Null hypothesis	H0: Difference in mean abnormal return = 0
Alternative hypothesis	H1: Difference in mean abnormal return ≠ 0

If the null hypothesis is non-rejected, there is no difference in abnormal return mean between a dividend paying stock and a non-dividend paying stock.

If the null hypothesis is rejected, there is a difference in abnormal return mean between a dividend paying stock and a non-dividend paying stock.

4.7.4 Hypothesis Four

Financial flexibility provides managers with the possibility to invest in projects. As previously stated; manager's flexibility, and therefore possibility to invest, decreases when dividends are distributed. If managers retain dividends, they have the possibility to invest and these investments will increase a firm's unsystematic risk. Observations will be classified into four groups based on firm unsystematic risk in order to observe if a monotonic relationship between the unsystematic risk and dividend yield is present.

Hypothesis: Firms with low level of unsystematic risk have no difference in mean dividend yield compared to firms with high level of unsystematic risk.

Null hypothesis	H0: Difference in mean = 0
Alternative hypothesis	H1: Difference in mean ≠ 0

If the null hypothesis is non-rejected, there is no difference in dividend yield mean between firms with low unsystematic risk and firms with high unsystematic risk.

If the null hypothesis is rejected, there is a difference in dividend yield mean between firms with low unsystematic risk and firms with high unsystematic risk.

4.7.5 Hypothesis Five

The Blau and Fuller models assumes that all firms are financed with equity (Blau and Fuller 2008). However, this is often not the case in the real world. Therefore it is important to include an empirical test regarding debt. According to financial flexibility, retained borrowing capacity is beneficial for the firm and managers who value financial flexibility will therefore be reluctant to take on debt. In firms with managers valuing financial flexibility, the debt to equity ratio and dividend yields should be low. Observations will be classified into four groups based on firm debt to equity ratio in order to observe if a monotonic relationship between the debt to equity ratio and dividend yield is present.

Hypothesis: Firms with low debt to equity ratios have no difference in mean dividend yield compared to firms with high debt to equity ratios.

Null hypothesis	H0: Difference in mean = 0
Alternative hypothesis	H1: Difference in mean $\neq 0$

If the null hypothesis is non-rejected, there is no difference in dividend yield mean between firms with low debt to equity ratio and firms with high equity ratio.

If the null hypothesis is rejected, there is a difference in dividend yield mean between firms with low debt to equity ratio and firms with high debt to equity ratio.

4.7.6 Hypothesis Six

The financial flexibility theory states that managers who value financial flexibility will retain cash balances in order to have the opportunity to invest. Firms with managers who value financial flexibility should display high liquidity levels, since managers are reluctant to pay dividends. Observations will be classified into four groups based on firm liquidity levels in

order to observe if a monotonic relationship between the liquidity level and dividend yield is present.

Hypothesis: Firms with low level of liquidity have no difference in mean dividend yield compared to firms with high level of liquidity.

Null hypothesis	H0: Difference in mean = 0
Alternative hypothesis	H1: Difference in mean $\neq 0$

If the null hypothesis is non-rejected, there is no difference in dividend yield mean between firms with low level of liquidity and firms with high level of liquidity.

If the null hypothesis is rejected, there is a difference in dividend yield mean between firms with low level of liquidity and firms with high level of liquidity.

4.7.7 Statistical Test

In order to conduct an analysis it is important that the empirical results are statistically significant. Significance tests are performed on the hypothesis presented above. By using the statistical program SPSS, independent t-tests are conducted with a 95% and 99% level of significance. The null hypothesis will be rejected if the p-value is below 0.05. In that case, the alternative hypothesis will be non-rejected (Wahlgren 2008). For an independent t-test to be valid, the observations need to be normal distributed. Given the large quantity of observations for each hypothesis, the sample is presumed to be normal distributed (Welker 1947).

4.7.8 Regression

Hypothesis number five states that, a firm with high liquidity level has a low dividend yield. However, the high liquidity level held by low dividend paying firms should not be at the expense of operating efficiency. In order to control for this together with time trends over the selected time period, a multivariate regression is conducted.

The tested multivariate regression is:

$$\text{Div} = \alpha + \beta_1 \text{Liq} + \beta_2 \text{D/E} + \beta_3 \text{ risk} + \beta_4 \text{ Op. per.} + \beta_5 Size + \beta_6 \text{Mkt to book} + \varepsilon$$

Formula 6- Tested regression

Where Div is firm dividend yield, Liq is the firm´s liquidity level, D/E is the firms debt to equity ratio, risk is the firm estimate of unsystematic risk, Op. per. is the firms operating performance, Size is log of firm market capitalization, Mkt to book is the firm market to book and ε is the ordinary least squares error.

The debt to equity variable and risk variable are included in order to observe their effects on dividend yield over time. A size variable is included in the regression in order to control if large firms pay more dividends than small firms. According to Adam et al, a firm's market to book value of equity can be used as a proxy of firm growth opportunity (Adam and Goyal 2008). Therefore the market to book variable is included to examine whether firms with high market to book ratio has a low dividend yield. Since the IFRS accounting standards was implemented in 2005, the data will be divided into two periods, 1996-2004 and 2005-2008 to account for different accounting standards.

Based on the presented hypotheses, the following sign for each variable is expected:

Table 1 - Expected signs

Varibles	**Expected sign**
Liquidity	-
Debt to equity	+
Unsystematic risk	-
Operating performance	-
Firm size	+
Market to book	-

For the two regressions, the OLS-model on panel data is applied. Panel data contains both cross sectional data as well as time series data, which makes the sample considerably larger than if there was only cross sectional data or time series data. Because of the larger data set and that the explanatory variable vary over two dimensions, estimators based on panel data are considered more accurate (Brooks 2008). Advantage with panel data is that, panel data may help with distinguishing true state dependence from spurious state dependence. Spurious state dependence assumes unobserved uniqueness of individuals, influencing probability of individuals being dependent on a parameter, when in fact they are not. Panel data reduces this problem, since it takes into account individual characteristics, allowing an easier identification

of individual dynamics. Further, panel data is able to mitigate effects of omitted variables. Omitted variable bias occurs when a variable that is correlated with included variables is excluded from the model (Campbell, Lo and MacKinlay 1997).

Fixed effects may be included to capture effects of all unobserved as well as observed variables that do not vary over individual units. Panel data may thus be more robust to an incomplete model specification. Panel data also mitigate the endogeneity problem, i.e. repressors are correlated with error terms (Vermeer 2004).

In order to use the OLS-model, its assumptions must be fulfilled and therefore, the data is tested for these assumptions. The data need to be normal distributed and since the study contains a vast amount of observations the data can be assumed to be normally distributed, according to the central limit theorem (Welker 1947). However, Jarque-Bera tests are performed on the variables as well as residuals, which reports that all variables and residuals are normal distributed. In order to test for regression specification errors, Ramsey's reset tests are performed. None of the new variables report statistical significance hence the regression has no specification errors (Appendix).

Since a multivariate regression is performed it is important to test the variables for multicollinearity. The test reports that there is no multicollinearity between the variables (Appendix). A potential problem with the tested regressions is that the Durbin-Watson statistics show autocorrelation. Since fixed time effect estimators are employed, possible cross-sectional invariant components in the constant coefficients, which might be correlated with the explanatory variables, are already removed (Vermeer 2004). Moreover, White's correction of the standard errors, which is robust to serial correlation and time-varying differences in disturbances, is used. This will allow for correct inferences even though autocorrelation remains.

4.8 ANALYSIS OF ELIMINATED OBSERVATIONS

As discussed in the second chapter, it is important that the study does not have any imprecise measures or systematic errors for the study to have a high reliability. In order to avoid that the

eliminated observations might have made the sample skew, an analysis of eliminated observations is conducted.

The initial step in the data collection is to eliminate firms where Datastream does not provide sufficient information. A presentation of eliminated observations is displayed in table two.

Table 2 - Observations 1996-2008

Observations	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	**Total**
# firms *	168	194	201	229	310	305	291	277	291	285	145	161	142	**2999**
# firms with insufficient information	3	7	10	8	4	15	10	11	7	7	2	1	0	**85**
# accepted observations	165	187	191	221	306	290	281	266	284	278	143	160	142	**2914**

*Provided by Stockholm stock exchange fact book (1996-2008)

Of the study's initial 2999 observations, 85 observations are initially eliminated due to, for example mergers and that the mnemonic code in Datastream is taken over by another firm. These eliminations do not show any tendencies to follow any pattern and the affect of these eliminations are considered to be negligible.

Table 3 - Eliminated observations for hypothetical tests and Regressions

Eliminated observations for Empirical tests and Regressions

	Test One	Test two	Test Three	Test Four	Test Five	Total for Regressions 1996-2004 and 2004-2008
Number of observations	2809	2677	2674	2699	2705	2149
Difference to initial accepted observations (2914)	105	237	240	215	209	765

Regarding eliminated observations for the hypotheses and regressions which are presented in table 3, an over representation of missing data regarding debt to equity and liquidity is observed for real estate firms during 1996 to 2000. There is a possibility that these eliminations might have affected the result for test four and five as well as the regression. To control for a potential effects on the result, an examination of real estate firms' debt to equity ratios and liquidity level is undertaken for 2001 and 2002. Regarding the debt to equity level and dividend yield, real estate firms for this time period is classified as high debt to equity with an average dividend yield of 3.79%. Concerning the liquidity level, the real estate firms are classified as low liquidity level firms with the average dividend yield as mentioned before. We believe that there it is plausible that the same condition apply for the time period 1996 to 2000. Therefore, the affect on the study's result is considered to minor.

An observation that is classified as outlier has also been eliminated. Detailed plots of variables subject to outliers are presented in the appendix.

4.9 CRITICAL REFLECTIONS ON RESEARCH METHOD

As prior discussed, it is of importance that the study has a high degree of reliability and validity. These measures are often affected by the method used, therefore, critical reflections on the method used is of high importance.

The study uses the market model, which has received criticism for not being adequate regarding the small firm effect. The small firm effect states that firms with low market value receive better return than firms with high market value, even when adjusted for risk. The market model uses historical beta as a prediction of future beta, though empirical studies show that beta is not constant over time. Further, the market model is a single factor model and does not incorporate for example macro economic factors, which is regarded as a limitation (Wells 2004).

Alternatively a multi-factor model such as the Fama-French three factor model could be used. However, given the time limit of the study the market model is regarded to be sufficient.

To measure the unsystematic risk, once again the market model is used. According to Goyal *et al*.(2003) the firm's unsystematic risk explains only 85% of the total stock variance when using the market model. However, the market model explains the unsystematic variance better than for example Fama-French three-factor model (Goyal *et al*. 2003). To our knowledge no superior measure exists, which is why the market model is used.

The statistical tests and regressions are performed in meticulous manners using the statistical program SPSS and econometric program Eviews6. Both SPSS and Eviews6 are commonly used programs and results are considered to be reliable.

5 EMPIRICAL FINDINGS

This chapter will present the study's empirical findings from the hypotheses as well the regressions.

5.1 MARKET PRICES

Some of the presented hypotheses require a classification of high priced markets and low priced markets. The empirical data for the time period 1996-2008 shows the following classification regarding market prices:

Table 4- Market prices

Year	Market price	Year	Market price
1996	High	2003	High
1997	High	2004	High
1998	High	2005	High
1999	High	2006	High
2000	Low	2007	Low
2001	Low	2008	Low
2002	Low		

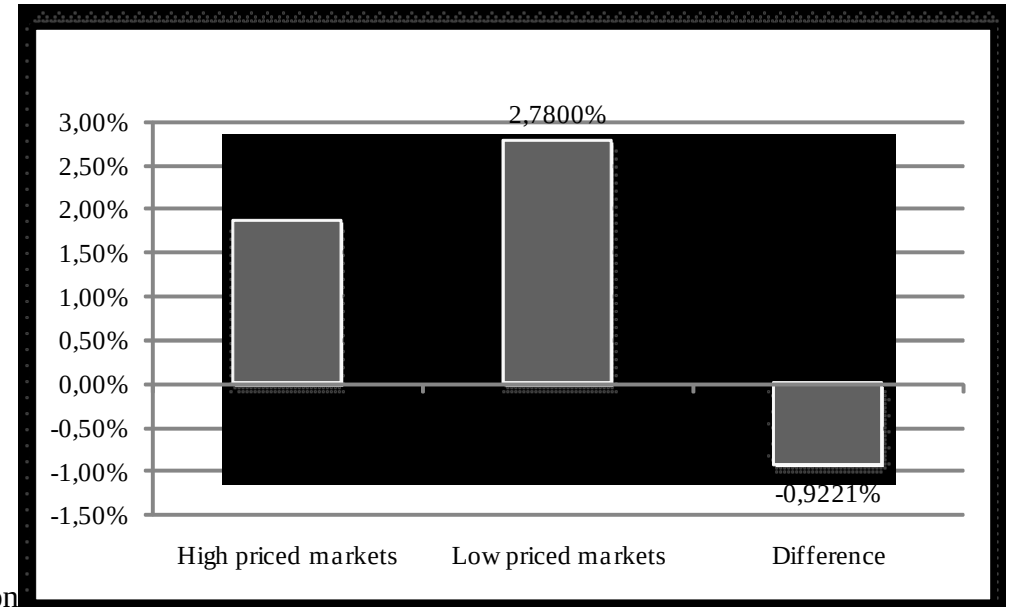
The table above shows that out of thirteen observations, eight are classified as high priced markets whereas five are classified as low priced markets. A detailed graph of market return is presented in the appendix as exhibit one.

5.2 HYPOTHESES

In chapter four, six hypotheses were presented. The empirical findings are presented in graphs followed by tables, displaying the mean dividend or mean abnormal return and the difference for each category and hypothesis. Tables will also display statistical significance indicated using stars, where a 95% significance level is indicated by (*) and a 99% significance level is indicated by (**). A more detailed specification of statistical tests is presented in the appendix.

5.2.1 Hypothesis One

Graph 1- Average dividend yield by market



condition

Table 5- Dividend yield by market

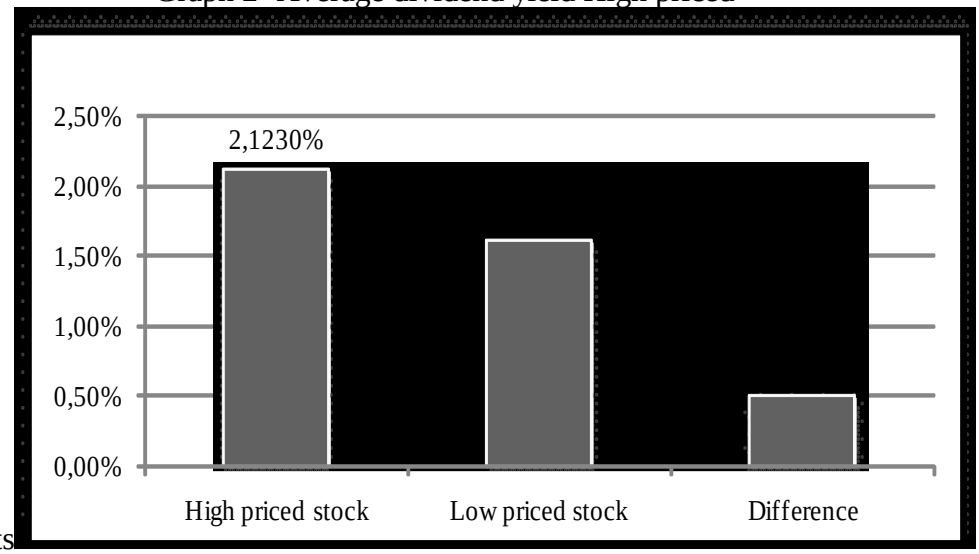
	N	Average dividend yield	Difference	
High priced market	1725	1,8579		
Low priced market	1084	2,7800	-,92208	**

condition

As a first comparison, the average dividend yield between high priced markets and low priced markets is examined. Table five shows that the high priced markets have an average dividend yield of 1.86% whereas the low priced markets have an average yield of 2.78%. The difference of 0.92% is significant at the 99% level.

5.2.2 Hypothesis Two

Graph 2- Average dividend yield High priced



markets

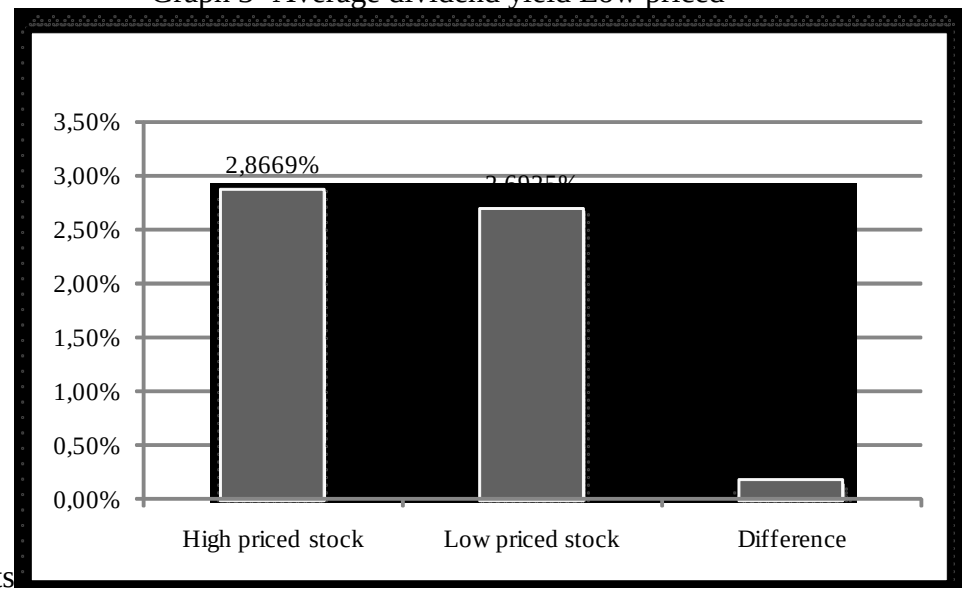
Table 6-Average dividend yield High priced

	N	Average dividend yield	Difference	
High priced stock	867	2,1230%		
Low priced stock	858	1,6159%	0,5071%	**

markets

The empirical findings for the high priced markets shows that high priced stocks has an average dividend yield of 2.12% and the low priced stocks has an average dividend yield of 1.62%, a difference of 0.51% significant at the 99% level.

Graph 3- Average dividend yield Low priced



markets

Table 7-Average dividend yield Low priced

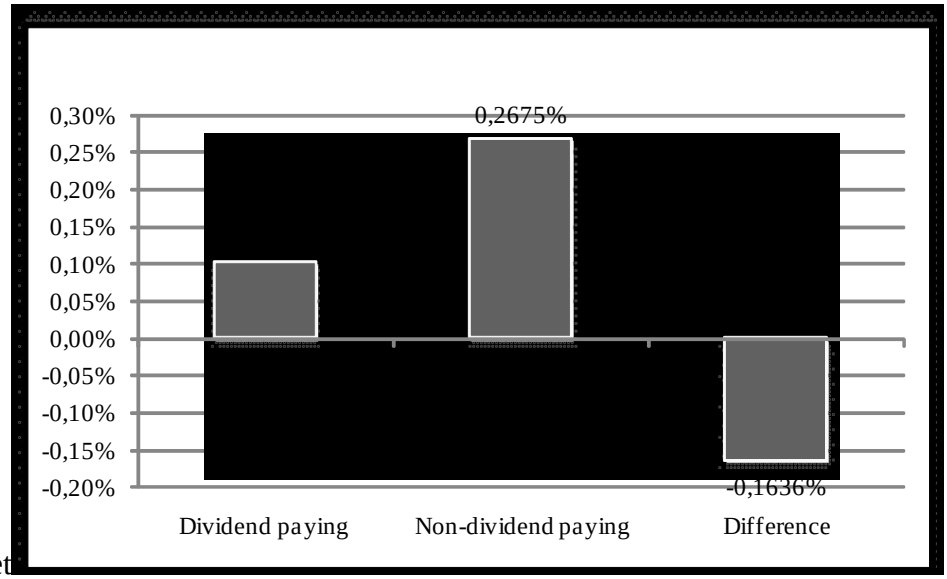
	N	Average dividend yield	Difference
High priced stock	544	2,8669%	
Low priced stock	540	2,6925%	0,1743%

markets

Table seven shows that the results for the low priced markets follow the same pattern as for the high priced markets. The high priced stocks have an average dividend yield of 2.87% and the low priced stocks have an average dividend yield of 2.69%. However, the difference in the low priced markets is 0.17% and not statistical significant at the 95% level.

5.2.3 Hypothesis Three

Graph 4- Abnormal return High priced



market

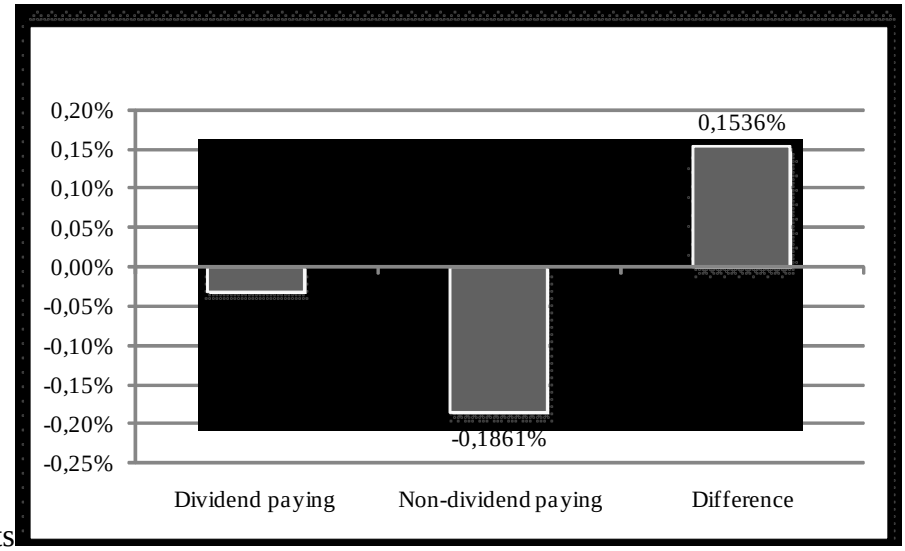
Table 8- Abnormal return High priced

	N	Abnormal return	Difference
Dividend paying	1028	0,1039%	
Non-dividend paying	570	0,2675%	-0,1636% **

markets

The empirical result shows that firms that do not pay dividends has an average abnormal return of 0.27% whereas dividend paying firms has an average abnormal return of 0.10% in high priced markets. The difference of 0.16% is statistical significant at the 99% level.

Graph 5- Abnormal return Low priced



markets

Table 9- Abnormal return Low priced

	N	Abnormal return	Difference
Dividend paying	696	-0,0325%	
Non-dividend paying	383	-0,1861%	0,1536% **

markets

As displayed in table nine the average abnormal return for dividend paying firms is -0.03% and -0.19% for non-dividend paying firms. The difference of 0.15% is statistically significant at the 99% level.

5.2.4 Hypothesis Four

Graph 6- Average dividend yield based on unsystematic risk

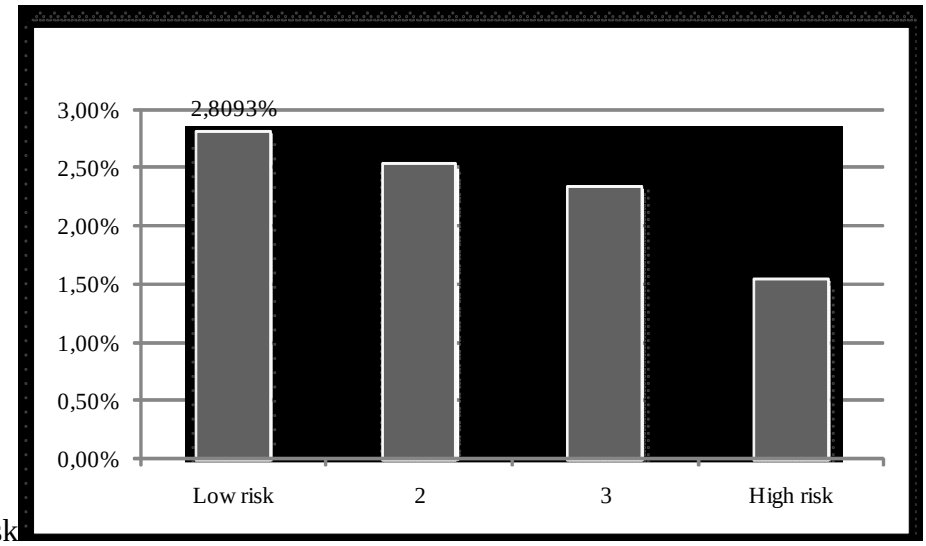


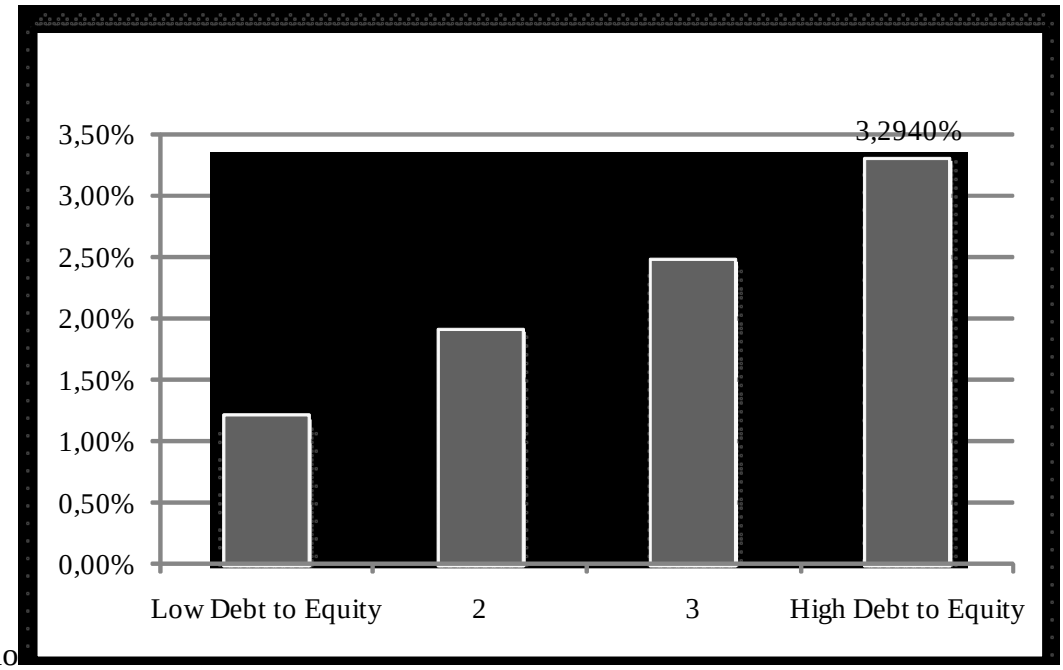
Table 10- Average dividend yield based on unsystematic risk

			Difference			
Unsystematic risk	N	Average dividend yield	Low risk	2	3	High risk
Low risk	665	2,8093%	-	0,2755%	0,4720% **	1,2670% **
2	675	2,5339%	-	-	0,1965%	0,9915% **
3	670	2,3373%	-	-	-	0,7950% **
High risk	664	1,5423%	-	-	-	-

A falling average dividend yield is found, where the low unsystematic risk group has an average dividend yield of 2.81% and the high unsystematic risk has an average dividend yield of 1.54%. Regarding the differences between risk groups, the difference between the low risk group and group two, as well as the difference between group two and three, is not statistically significant. However, the other differences are statistically significant at the 99% level.

5.2.5 Hypothesis Five

Graph 7- Average dividend yield based on debt to equity



ratio

Table 11- Average dividend yield based on debt to equity ratio

			Difference			
Debt to Equity	N	Average dividend yield	Low risk	2	3	High risk
Low Debt to Equity	676	1,2026%	-	-0,7002% **	-1,2731% **	-2,0914% **
2	672	1,9028%	-	-	-0,5729% **	-1,3912% **
3	674	2,4756%	-	-	-	-0,8183% **
High Debt to Equity	677	3,2940%	-	-	-	-

As displayed in table 11, the low debt to equity group has an average dividend yield of 1.20% where as the high debt to equity group has an average dividend yield of 3.29%. The differences between all four groups show statistical significance at the 99% level.

5.2.6 Hypothesis Six

Graph 8- Average dividend yield based on liquidity level

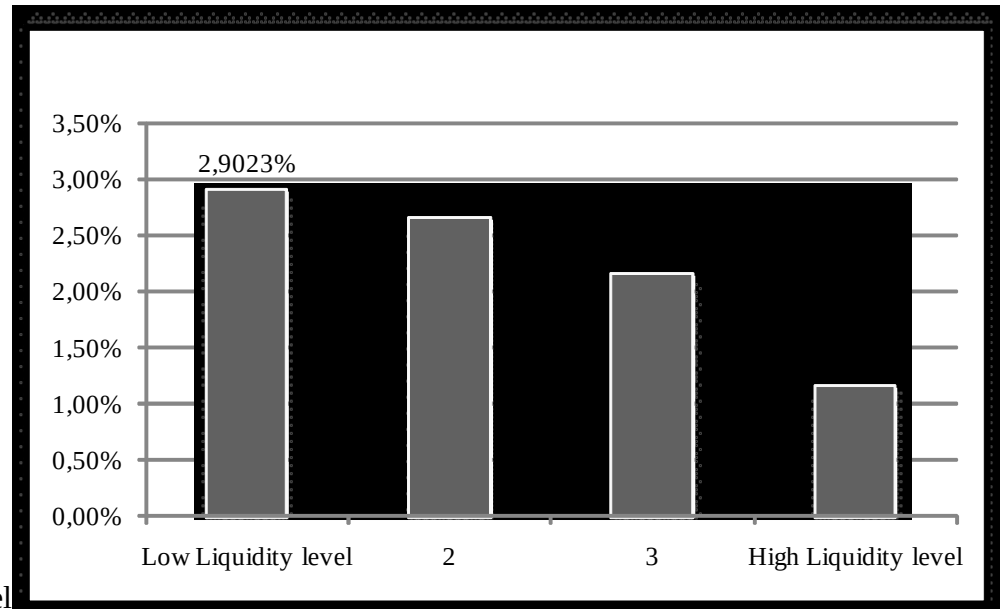


Table 12- Average dividend yield based on liquidity level

			Difference			
Liquidity level	N	Average dividend yield	Low risk	2	3	High risk
Low Liquidity level	680	2,9023%	-	0,2535%	0,7528% **	1,7370% **
2	675	2,6489%	-	-	0,4993% **	1,4835% **
3	677	2,1495%	-	-	-	0,9842% **
High Liquidity level	673	1,1653%	-	-	-	-

As table 12 shows, the low liquidity group has an average dividend yield of 2.90% where as the high liquidity level group has an average dividend yield of 1.17%. The differences in average dividend yield between groups are all but one, the low liquidity group and group two, statistically significant at the 99% level.

5.3 Regression

Table 13- Regression results 1996-2004. Dividend yield dependent variable

	Mean	t-Statistic	Prob.	Expected
LIQUIDITY	-0.463673	-1.378227	0.1683	-
D_E	0.066757	2.267012	0.0235**	+
RISK	-0.115727	-5.404282	0.0000***	-
OPPER	0.394218	4.639154	0.0000***	-
SIZE	0.503559	7.444318	0.0000***	+
MKTBK	-0.017537	-3.181721	0.0015**	-
C	-0.902187	-2.076247	0.0380**	
R^2	0.088195			
Adjusted R^2	0.079922			
F-statistic	10.66061			
Prob(F-statistic)	0.000000			

*Table 13: **=statistical significance at 95%. ***= statistical significance at 99%. Observations: 1558*

The findings from the multivariate regression for time period 1996-2004 shows: Liquidity shows the expected sign, however the probability is not significant. The Debt to Equity ratio shows the expected sign and is statistically significant. Risk is significant and shows the expected sign. Operating performance does not show the expected sign but is significant. Size shows the expected sign and is significant. Market to book shows the expected sign and is significant. The Adjusted R-squared exhibit an explanatory factor of 7.99%. As displayed in table thirteen, the F-statistics shows that at least one of the explanatory variables is significantly separated from zero.

Table 14- Regression results 2005-2008. Dividend yield dependent

	Mean	t-Statistic	Prob.	Expected sign
LIQUIDITY	-2.202724	-3.912926	0,0001***	-
D_E	0.212738	3.277694	0,0011***	+
RISK	-0.809726	-3.656195	0,0003***	-
OPPER	0.004701	0.018131	0,9855	-
SIZE	0.088746	0.650046	0,5159	+
MKTBK	0.007698	1.208150	0,2275	-
C	2.481659	2.552585	0,0109**	
R^2	0.361829			
Adjusted R^2	0.351943			
F-statistic	36.60160			
Prob(F-statistic)	0,0000			

variable

*Table 14: **=statistical significance at 95%. ***= statistical significance at 99%. Observations: 591*

For the time period 2005-2008, the multivariate regression show: Liquidity has the expected sign and is significant. Debt to Equity shows the expected sign and is significant. Risk show expected sign and is significant. Operating performance does not show the expected sign and is insignificant. Size is showing the expected sign but is insignificant. Market to book does not show the expected sign and is insignificant. Adjusted R-squared displays an explanatory value of 35.19%. As displayed in table fourteen the F-statistics shows that at least one of the explanatory variables are significantly separated from zero.

6 ANALYSIS

In this chapter, empirical data is analyzed using presented theories. The chapter is ended by an analysis of eliminated observations.

6.1 HYPOTHESIS

6.1.1 ANALYSIS HYPOTHESIS ONE

The empirical findings from the first hypothesis show that there are statistical differences between high priced markets and low priced markets, regarding dividend yield. In low priced markets, the average stock price can be assumed to be lower than in a high priced market and according to financial flexibility the dividend yield should be higher. The empirical findings in table five shows that in low priced markets the dividend yield is significantly higher than in high priced markets, which is in accordance with financial flexibility theory. The free cash flow hypothesis (FCF-hypothesis) states that firms should pay out excess funds to investors. In high priced markets, it can be assumed that firms generate more free cash flow and therefore dividend yield should be higher than in low priced markets. Empirical findings displayed in table five shows no support to the FCF-hypothesis. Further, the empirical findings do not support the signaling theory regarding dividends either. In high priced markets, signaling theory expects higher dividend yields due to higher expected earnings. As displayed in table five, the dividend yield is lower in high priced markets, which is contrary to signaling theory.

6.1.2 ANALYSIS HYPOTHESIS TWO

Table six and seven demonstrates no support for financial flexibility due to the fact that higher priced stocks have higher average dividend yield, both in high priced markets as well as in low priced markets. The results suggest that there is a positive correlation between high priced stocks and dividend yields. Therefore, the negative correlation predicted by financial flexibility is not supported by the empirical findings. In low priced markets, the findings suggest the same correlation between the stock price level and dividend yield as for the high priced markets. Nevertheless, the difference between low priced stocks and high priced stock

is not statistically significant, why no general conclusion can be made. It is tempting to see a positive correlation between firm earnings and firm stock price. The findings would then be in accordance with the FCF-hypothesis which indirectly states that dividend payments and stock prices are positively correlated. However, since earnings and stock price level are not necessarily correlated, no general conclusions regarding FCF-hypothesis can be made. A signaling approach would also predict higher dividend yields by companies with higher priced stocks, with the assumption of positive correlation between firm earnings and firm stock price. Signaling theory does not, however, give any direct explanations on the correlation between stock prices and dividend payments.

6.1.3 Analysis hypothesis Three

As displayed in table eight, non-dividend paying firms demonstrate higher abnormal return during high priced markets. According to financial flexibility theory, the benefit of retaining dividends should be higher than the marginal cost, as perceived by investors, in high priced markets. Firms that retain dividends will outperform dividend paying firms since retained funds are used to finance investments, thereby maintaining debt capacity. This enables them to finance tomorrow's profitable investments with debt instead of issuing expensive equity. In table nine where low priced markets are examined, the opposite relationship is detected regarding abnormal return and dividend payouts. Investors charge firms that retain dividends with a marginal cost which exceed the benefit of financial flexibility, hence managers choose to pay dividends. According to financial flexibility, high dividend paying firms signal future high dividend payouts, allowing them to issue equity closer to intrinsic value. Investors will therefore value dividend payments more in low priced markets, which is supported by the empirical findings.

The empirical findings do not support the FCF-hypothesis, in high priced markets, since it can be assumed that in high priced markets more free cash flow is generated, hence, dividend payouts should be higher. According to FCF-hypothesis the market should reward dividend paying firms and punish non-dividend paying firms due to the mistrust of management's use of funds. However, the empirical findings support the FCF-hypothesis in the low priced markets where dividend paying firms outperform non-dividend paying firms.

Dividend paying firms should according to signaling-theory have higher future earnings than non-dividend paying firms, and the market should award this. In high priced markets

signaling theory cannot explain that non-dividend paying firms outperform dividend paying firms. Bar-Yousef *et al.* (1986) finds empirical evidence that the larger amount of expected earnings, the lower marginal effect it has on dividends. The empirical findings can be interpreted in the same manner as Bar-Yousef *et al*.(1986). However, in the low priced market the empirical findings support the signaling theory, since it is possible to observe that dividend paying firms outperform non-dividend paying firms.

6.1.4 Analysis hypothesis Four

Table ten displays a monotonic relationship between dividend yield and unsystematic risk. Even though the differences between risk groups are not statistically significant, the trend is apparent. The results support the financial flexibility theory because; managers, who value flexibility and therefore retain dividends, are more likely to invest. Financial flexibility is beneficial to the investors because it enables mangers to use internal funds instead of external funds to finance projects, which would be turned down by investors due to an overestimation of the potential dress-up problem. This suggests that creating financial slack is valuable to the firm. According to FCF-hypothesis, investors demand dividends to mitigate the risk of managers investing in unprofitable projects. The empirical findings show that the dividend yield is negatively correlated to unsystematic risk, which means a higher dividend yield leads to fewer investments, which supports the FCF-hypothesis. Signaling theory suggest that dividends indicate a firm's future earnings, which are achieved by new investments that raise the firms unsystematic risk. Therefore the correlation between dividends and unsystematic risk should be positive, which the empirical result does not support.

6.1.5 Analysis hypothesis Five

Results from hypothesis four shows that firms with low debt to equity ratio display low average dividend yield. The findings demonstrate a monotonic positive correlation between dividend yield and debt to equity ratio, and the differences between groups are all statistically significant. Financial flexibility states that it is valuable for firms to retain debt capacity in order to quickly attain additional funds for profitable investments. Managers who value financial flexibility will have a low leverage target, since this provides the option to borrow tomorrow. Further, high leverage involves high interest payments, which limits internal funds available to management and thereby the financial flexibility. A high debt to equity ratio is

suboptimal to a low debt to equity ratio for managers who value financial flexibility, which the empirical results in table eleven support.

According to Jensen (1986), debt payments and dividends are substitutes in the FCF-hypothesis. That is, both dividends and interest payments can be used to mitigate impropriate managerial behavior. Therefore a negative correlation between debt to equity ratio and dividend yield should be observed, something that the empirical evidence does not support.

Signaling theory implies that the firms who should signal are those whose future earnings the market is uncertain about. Firms with high business risk are subject to uncertainty regarding future earnings and can also be assumed to strive for a low debt to equity ratio in order to have a low financial risk. High business risk firms should therefore have an incentive to signal with dividends. The empirical findings show that firms with higher debt to equity ratios also exhibit higher dividend yields. This implies that firms with relative high financial risk and assumable stable earnings, with no incentive to signal through dividends, are the ones who signal with dividends. These findings are in accordance with Denis and Osobov (2008) who finds that large companies with low business risk pay out more dividends. This is contrary to signaling theory.

6.1.6 Analysis hypothesis Six

The empirical evidence displayed in table twelve shows a negative and monotonic relationship between dividend yields and liquidity levels and all but one differences between groups are statistical significant. This clearly supports the financial flexibility theory since managers who value financial flexibility are more likely to create financial slack by retaining dividends. The reason for creating financial slack is to mitigate the possibility of being hamstrung for cash and pass up profitable investments while maintaining debt capacity and evade a potential dress-up problem when issuing equity. This is in accordance with DeAngelo *et al.* (2006) who finds that firms with high liquidity tend not to distribute dividends.

The high liquidity level and low dividend yield displays no support for the FCF-hypothesis which clearly states that when a firm has a high amount of liquidity, investors benefit from high dividend yield to mitigate poor investments by managers.

Signaling theory does not directly mention a relationship between dividends and liquidity levels. However, indirectly a high liquidity level can be derived from high earnings. This can

be interpreted as high liquidity level firms are expecting high earnings and therefore display high dividend yield to signal future earnings. The empirical findings in table twelve indicate that signaling theory does not explain why firms with high liquidity level display low dividend yield.

6.2 MULTIVARIATE REGRESSION

The empirical results displayed in table eleven and twelve shows support for financial flexibility. The multivariate regressions contribute to the analysis since it enables a control of time trends and that liquidity is not at the expense of operating performance.

Regarding the first regression, the sign on the liquidity coefficient is as expected and supports the empirical findings regarding liquidity level and dividend yield. The operating performance coefficient indicates that there is a positive correlation between dividend payments and operating performance, stipulating that the held liquidity level is at the expense of operating performance. However, only the operating performance coefficient is statistically significant, hence no general conclusion can be drawn regarding that liquidity is held at the expense of operating performance. Nevertheless, the operating performance coefficient is indicating a positive correlation between operating performance and dividend yield, supporting the signaling theory as well as the FCF-hypothesis. The debt to equity coefficient shows a positive correlation with dividend yield for the time period, which is consistent with the findings in hypothesis five. Unsystematic risk coefficient confirms the empirical findings concerning unsystematic risk and dividend yield. The size coefficient displays that larger firms distribute the most dividends, which is in accordance with Denis and Osobov (2008) and Schleifer *et al.* (1997) who found that large mature firms pay more dividends. The market to book ratio coefficient show an inverse relation to dividend yield, suggesting that managers in firms with growth opportunities value financial flexibility and therefore retain dividends.

Results from the second regression, time period 2005-2008, indicates that liquidity is held at the expense of operating performance. However, the operating performance coefficient is not statistically significant, yet again no general conclusion can be drawn regarding liquidity being held at the expense of operating performance. The unsystematic risk and debt to equity coefficients display consistent findings with the first regression as well as the fourth and fifth hypothesis, strengthening their position as having an influence on the dividend policy. Further, the market to book coefficient shows opposite sign compared to the first regression,

indicating that firms with growth opportunities pay dividends during this time period. The size coefficient suggests that larger firms pay less in dividend for this time period. However, since liquidity, debt to equity and risk coefficients are the only variables that are statistically significant, no general conclusions can be drawn regarding the other variables for this time period.

The first regression for time period 1996-2004 has an adjusted R^2 of 7.99%, indicating a low explanatory effect of the tested variables. Regression number two, regarding the time period between 2005 and 2008, shows an adjusted R^2 of 35.19% which is considerable higher than for the first regression. However, since the study's objective is not to determine the actual size of dividend yield, but rather to examine if dividend yield is affected by the coefficients, the adjusted R^2 is of minor importance.

7 CONCLUSION AND FURTHER RESEARCH

Based on the analysis undertaken in the previous chapter, a general conclusion is presented. The chapter is ended by presenting proposals for further research.

7.1 CONCLUSION

In the first chapter of the thesis the research questions is presented: In which way is a firm's dividend policy affected by manager's perceived view of financial flexibility? The idea is to test if investors value financial flexibility and if managers set the dividend policy with financial flexibility in mind, in order to shed light over the dividend puzzle.

Our empirical results show that financial flexibility has an impact on the set dividend policy. A central concern in the financial flexibility theory is the ability for managers to undertake future investments. We have proven that firms which invest more and thereby having a higher unsystematic risk, has a lower dividend yield. Our interpretation is that managers who recognize future investments create financial flexibility and have a better opportunity to undertake investments.

As investment opportunities may suddenly appear, there exists a value in retaining debt capacity to finance these investments. We find that firms which keep low debt to equity ratios also display low dividend yields. This demonstrates that manager's decision regarding dividend yields are affected by the debt level of the firm. Managers who want to invest today and tomorrow will keep debt level low and retain internal funds, thereby creating a dividend policy which keeps dividends low. Financial flexibility's impact on a dividend policy, through low debt levels as well as low dividends, proves valuable to managers as we see that the idiosyncratic risk increases while displaying low dividend yields. Hence, we can argue that firms with low debt levels have the ability to invest more. However, it is important to recognize that financial flexibility regarding dividend policies do not mention corporate tax as a determinant of leverage. We find a high debt to equity ratio to be suboptimal; hence the long

run target would be low debt levels resulting in a low tax shield. Managers have to make a trade-off decision between financial flexibility and tax shield, something we feel that the theory does not explain adequately.

Due to the low level of debt, hence low payments to creditors, we see a connection to a high liquidity level. Our empirical results show that managers having investment opportunities want to fund these investments through internal funds. By holding high levels of liquidity, managers are able to sustain the importance of a low debt to equity ratio while creating the capacity to invest. Further, financial flexibility is beneficial for managers and investors regarding the information asymmetry in the dress-up problem associated with equity issues. Our findings show that dividend policy incorporates the strategic decision of high liquidity through low dividend yields. The reason for creating financial slack is to mitigate the possibility of being hamstrung for cash and pass up profitable investments while maintaining debt capacity. However, our findings indicate that high liquidity level could be at the expense of operating efficiency, implying that financial flexibility through high liquidity level could deteriorate shareholder value. Since financial flexibility is a trade-off theory between creating financial slack and agency-costs, a liquidity level too high enables managers to invest in pet projects which are not always favored by investors.

Our findings on differences between high priced stocks and low priced stocks regarding dividend yield, does not display what is expected by financial flexibility theory. We interpret the findings as there exists a positive correlation between stock price and dividend yield. Managers do not seem to incorporate the financial flexibility view regarding stock price level when deciding the dividend policy. Therefore, no connection between stock price and a dividend policy with financial flexibility is evident.

We do see what is expected by abnormal return in the different periods. Non-dividend stocks outperform dividend paying stocks in high priced markets and vice versa. We interpret that, retaining funds is positive for financial flexibility in high priced markets but the marginal cost of retaining dividends is too high in low priced markets. This implies that market rewards dividend paying firms in low prices markets and higher dividend payouts enables managers to issue equity closer to intrinsic value. We interpret this as, in high priced markets, managers who value flexibility are prone to set the dividend policy so that dividend yields are held low.

On the other hand, in low priced markets, managers will set dividend policy to distribute higher dividends to be able to issue equity closer to intrinsic value.

We believe that managers valuing financial flexibility will set a relatively low dividend yield policy. However, since financial flexibility is a trade-off between financial flexibility and agency costs, managers have the ability to pay out extra dividends or to do stock repurchases when considered appropriate.

Throughout the study we have compared our findings to the signaling theory and the free cash flow hypothesis. These theories have been subject to empirical research, where this research finds limits regarding the theories. Our findings are in accordance with the other studies, and we as well find inconclusive support for the theories. Our results show that signaling theory and free cash flow are unable to explain certain phenomena. The financial flexibility theory is, according to us, more adequate at explaining these phenomena and can thereby be seen as a complement to the other theories. By no means do we imply that signaling theory or free cash flow hypothesis do not explain firms dividend polices, rather we suggest that financial flexibility together with signaling theory and free cash flow hypotheses gives a better explanation of firms dividend polices.

Our study shows that financial flexibility is a piece of the dividend puzzle and therefore managers who value financial flexibility do incorporate this when deciding dividend policy. However, the financial flexibility theory regarding dividends is still quite untested and more studies need to be conducted in order to strengthen its applicability.

7.2 Propositions to further research

During the study, some alternative questions and reflections regarding dividend policies, a selection of further research is presented below.

In order to mitigate the agency dilemma, incentive programs are created for managers. These incentive programs often contain a form of security connected to firm stock price. As dividends are paid, a firm’s stock price deteriorates and the value of the security often decreases. It would be interesting to see if there is any connection between managers incentive program and dividend policy.

As firms with growth opportunities often are the ones that require additional funds to finance their investments, these firms often display poor cash flow and high unsystematic risk. It would be interesting to conduct a qualitative study regarding managers in growth firms and their view on financial flexibility.

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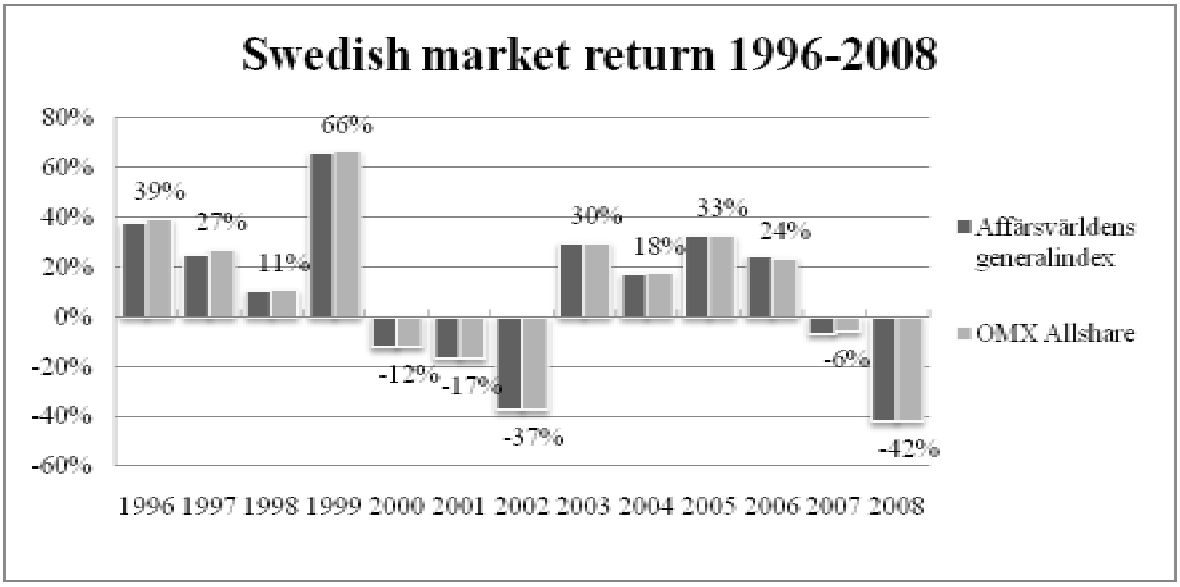
APPENDIX

Exhibit 1



The graph above shows the return on the Swedish stock exchange between 1996 and 2008 for Affärsvärldens general index and OMX All share. Throughout the study the OMX All share index is used and an inspection by eyes shows a high correlation between the two indices.

Exhibit 2

Test One

The tables below shows the t-test for test one with a confidence interval of 95%.

Markets 1= high priced markets 2= low priced markets

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Market	1,00	1725	1,8579	3,33081	,08207
	2,00	1084	2,7800	4,10470	,12467

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Market	Equal variances assumed	55,551	,000	-6,446	2729	,000	-,92208	,14305	-1,20258	-,64158
	Equal variances not assumed			-6,178	1980,387	,000	-,92208	,14926	-1,21481	-,62935

High priced markets 3= high priced stocks 4= low priced stocks

Group Statistics

	GroupHighMarket	N	Mean	Std. Deviation	Std. Error Mean
HighMarket	3,00	867	2,1230	3,34381	,11356
	4,00	858	1,6159	3,17744	,10848

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
HighMarket	Equal variances assumed	8,456	,004	3,228	1723	,001	,50712	,15709	,19902	,81523
	Equal variances not assumed			3,229	1720,170	,001	,50712	,15705	,19910	,81515

Low priced markets 5= high priced stocks 6= low priced stocks

Group Statistics

	GroupLowMarket	N	Mean	Std. Deviation	Std. Error Mean
LowMarket	5,00	544	2,8669	2,76913	,11873
	6,00	540	2,6925	5,11010	,21990

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Market	Equal variances assumed	55,551	,000	-6,446	2729	,000	-,92208	,14305	-1,20258	-,64158
	Equal variances not assumed			-6,178	1980,387	,000	-,92208	,14926	-1,21481	-,62935

The tables below shows the t-test for test one with a confidence interval of 99%.

Markets 1= high priced markets 2= low priced markets

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Market	1,00	1725	1,8579	3,33081	,08207
	2,00	1084	2,7800	4,10470	,12467

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									99% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Market	Equal variances assumed	55,551	,000	-6,446	2729	,000	-,92208	,14305	-1,29081	-,55334
	Equal variances not assumed			-6,178	1980,387	,000	-,92208	,14926	-1,30692	-,53724

High priced markets 3= high priced stocks 4= low priced stocks

Group Statistics

	GroupHighMarket	N	Mean	Std. Deviation	Std. Error Mean
HighMarket	3,00	867	2,1230	3,34381	,11356
	4,00	858	1,6159	3,17744	,10848

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									99% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
HighMarket	Equal variances assumed	8,456	,004	3,228	1723	,001	,50712	,15709	,10205	,91220
	Equal variances not assumed			3,229	1720,170	,001	,50712	,15705	,10215	,91210

Low priced markets 5= high priced stocks 6= low priced stocks

Group Statistics

	GroupLowMarket	N	Mean	Std. Deviation	Std. Error Mean
LowMarket	5,00	544	2,8669	2,76913	,11873
	6,00	540	2,6925	5,11010	,21990

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									99% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
LowMarket	Equal variances assumed	30,097	,000	,699	1082	,485	,17434	,24940	-,46922	,81789
	Equal variances not assumed			,698	829,096	,486	,17434	,24991	-,47086	,81954

Exhibit 3

Test Two

The tables below show the t-test for test two with a confidence interval of 95%.

High priced market, 1= non-dividend paying, 2= dividend paying

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Abnormalreturn	1,00	1028	,1039	,81655	,02547
	2,00	570	,2675	1,77741	,07445

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Abnormalreturn	Equal variances assumed	25,380	,000	-2,512	1596	,012	-,16359	,06513	-,29133	-,03584
	Equal variances not assumed			-2,079	704,619	,038	-,16359	,07868	-,31807	-,00911

Low priced market, 1= non-dividend paying, 2= dividend paying

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Abnormalreturn	1,00	696	-,0325	,42775	,01621
	2,00	383	-,1861	,53049	,02711

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Abnormalreturn	Equal variances assumed	11,025	,001	5,172	1077	,000	,15360	,02970	,09533	,21188
	Equal variances not assumed			4,863	657,951	,000	,15360	,03159	,09158	,21563

The tables below show the t-test for test two with a confidence interval of 99%.

High priced market, 1= non-dividend paying, 2= dividend paying

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Abnormalreturn	1,00	1028	,1039	,81655	,02547
	2,00	570	,2675	1,77741	,07445

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									99% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Abnormalreturn	Equal variances assumed	25,380	,000	-2,512	1596	,012	-,16359	,06513	-,33155	,00437
	Equal variances not assumed			-2,079	704,619	,038	-,16359	,07868	-,36681	,03964

Low priced market, 1= non-dividend paying, 2= dividend paying

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Abnormalreturn	1,00	696	-,0325	,42775	,01621
	2,00	383	-,1861	,53049	,02711

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									99% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Abnormalreturn	Equal variances assumed	11,025	,001	5,172	1077	,000	,15360	,02970	,07697	,23024
	Equal variances not assumed			4,863	657,951	,000	,15360	,03159	,07201	,23520

Exhibit 4

Test Three

The tables below show the t-test for test three with a confidence interval of 95%.

1= Low risk, 2= Group2, 3=Group3, 4=High risk

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Dividendyield Unsystematicrisk	1,00	665	2,8093	4,16252	,16142
	2,00	675	2,5339	3,08003	,11855

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield Unsystematicrisk	Equal variances assumed	,701	,403	1,378	1338	,168	,27546	,19984	-,11657	,66748
	Equal variances not assumed			1,375	1222,972	,169	,27546	,20027	-,11746	,66837

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Dividendyield Unsystematicrisk	2,00	675	2,5339	3,08003	,11855
	3,00	670	2,3373	4,61955	,17847

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield Unsystematicrisk	Equal variances assumed	,167	,682	,919	1343	,358	,19654	,21395	-,22317	,61625
	Equal variances not assumed			,917	1164,580	,359	,19654	,21426	-,22383	,61691

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Dividendyield Unsystematicrisk	3,00	670	2,3373	4,61955	,17847
	4,00	664	1,5423	2,31953	,09002

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield Unsystematicrisk	Equal variances assumed	6,604	,010	3,966	1332	,000	,79496	,20042	,40179	1,18814
	Equal variances not assumed			3,977	988,147	,000	,79496	,19988	,40272	1,18721

Group 1 and 3

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield Unsystematicrisk	Equal variances assumed	,088	,767	1,961	1333	,050	,47199	,24073	-,00026	,94425
	Equal variances not assumed			1,961	1320,740	,050	,47199	,24064	-,00008	,94407

Group 1 and 4

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield Unsystematicrisk	Equal variances assumed	11,050	,001	6,852	1327	,000	1,26696	,18489	,90425	1,62967
	Equal variances not assumed			6,855	1040,433	,000	1,26696	,18482	,90430	1,62962

Group 2 and 4

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield Unsystematicrisk	Equal variances assumed	11,367	,001	6,646	1337	,000	,99150	,14919	,69883	1,28418
	Equal variances not assumed			6,661	1252,107	,000	,99150	,14885	,69948	1,28353

The tables below show the t-test for test three with a confidence interval of 99%.

1= Low risk, 2= Group2, 3=Group3, 4=High risk

Group Statistics are identical to the 95% test

Group 1 and 2

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									99% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield Unsystematicrisk	Equal variances assumed	,701	,403	1,378	1338	,168	,27546	,19984	-,24002	,79093
	Equal variances not assumed			1,375	1222,972	,169	,27546	,20027	-,24122	,79213

Group 2 and 3

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									99% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield Unsystematicrisk	Equal variances assumed	,167	,682	,919	1343	,358	,19654	,21395	-,35534	,74842
	Equal variances not assumed			,917	1164,580	,359	,19654	,21426	-,35625	,74933

Group 3 and 4

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									99% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield Unsystematicrisk	Equal variances assumed	6,604	,010	3,966	1332	,000	,79496	,20042	,27797	1,31196
	Equal variances not assumed			3,977	988,147	,000	,79496	,19988	,27910	1,31083

Group 1 and 3

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									99% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield Unsystematicrisk	Equal variances assumed	,088	,767	1,961	1333	,050	,47199	,24073	-,14897	1,09296
	Equal variances not assumed			1,961	1320,740	,050	,47199	,24064	-,14874	1,09273

Group 1 and 4

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									99% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield Unsystematicrisk	Equal variances assumed	11,050	,001	6,852	1327	,000	1,26696	,18489	,79002	1,74389
	Equal variances not assumed			6,855	1040,433	,000	1,26696	,18482	,79002	1,74389

Group 2 and 4

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									99% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield Unsystematicrisk	Equal variances assumed	11,367	,001	6,646	1337	,000	,99150	,14919	,60666	1,37634
	Equal variances not assumed			6,661	1252,107	,000	,99150	,14885	,60750	1,37551

Exhibit 5

Test Four

The tables below show the t-test for test four with a confidence interval of 95%.

1= Low debt to equity, 2= Group 2, 3= Group 3, 4= High debt to equity

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
DividendYield	1,00	676	1,2026	1,96312	,07550
	2,00	672	1,9028	2,65545	,10244

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
DividendYield	Equal variances assumed	4,154	,042	-5,507	1346	,000	-,70019	,12715	-,94962	-,45077
	Equal variances not assumed			-5,502	1235,613	,000	-,70019	,12726	-,94986	-,45053

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
DividendYield	2,00	672	1,9028	2,65545	,10244
	3,00	674	2,4756	2,50955	,09666

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
DividendYield	Equal variances assumed	,785	,376	-4,068	1344	,000	-,57287	,14083	-,84915	-,29659
	Equal variances not assumed			-4,067	1339,272	,000	-,57287	,14084	-,84917	-,29657

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
DividendYield	3,00	674	2,4756	2,50955	,09666
	4,00	677	3,2940	5,52040	,21217

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
DividendYield	Equal variances assumed	26,214	,000	-3,505	1349	,000	-,81832	,23349	-1,27636	-,36028
	Equal variances not assumed			-3,510	944,877	,000	-,81832	,23315	-1,27587	-,36077

Group 1 and 3

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
DividendYield	Equal variances assumed	11,238	,001	-10,383	1348	,000	-1,27306	,12261	-1,51360	-1,03253
	Equal variances not assumed			-10,379	1272,474	,000	-1,27306	,12266	-1,51370	-1,03243

Group 1 and 4

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
DividendYield	Equal variances assumed	45,934	,000	-9,281	1351	,000	-2,09138	,22533	-2,53342	-1,64935
	Equal variances not assumed			-9,287	844,504	,000	-2,09138	,22520	-2,53340	-1,64937

Group 2 and 4

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
DividendYield	Equal variances assumed	29,989	,000	-5,891	1347	,000	-1,39119	,23615	-1,85445	-,92794
	Equal variances not assumed			-5,905	974,542	,000	-1,39119	,23560	-1,85353	-,92885

The tables below show the t-test for test four with a confidence interval of 99%.

Group Statistics are identical to the 95% test

1= Low debt to equity, 2= Group 2, 3= Group 3, 4= High debt to equity

Group 1-
2

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									99% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
DividendYield	Equal variances assumed	4,154	,042	-5,507	1346	,000	-,70019	,12715	-1,02816	-,37222
	Equal variances not assumed			-5,502	1235,613	,000	-,70019	,12726	-1,02849	-,37190

Group 2-3

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									99% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
DividendYield	Equal variances assumed	,785	,376	-4,068	1344	,000	-,57287	,14083	-,93615	-,20959
	Equal variances not assumed			-4,067	1339,272	,000	-,57287	,14084	-,93618	-,20956

Group 3-4

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									99% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
DividendYield	Equal variances assumed	26,214	,000	-3,505	1349	,000	-,81832	,23349	-1,42060	-,21604
	Equal variances not assumed			-3,510	944,877	,000	-,81832	,23315	-1,42009	-,21655

Group 1-3

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									99% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
DividendYield	Equal variances assumed	11,238	,001	-10,383	1348	,000	-1,27306	,12261	-1,58934	-,95678
	Equal variances not assumed			-10,379	1272,474	,000	-1,27306	,12266	-1,58948	-,95664

Group 1-4

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									99% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
DividendYield	Equal variances assumed	45,934	,000	-9,281	1351	,000	-2,09138	,22533	-2,67262	-1,51015
	Equal variances not assumed			-9,287	844,504	,000	-2,09138	,22520	-2,67278	-1,50999

Group 2-4

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									99% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
DividendYield	Equal variances assumed	29,989	,000	-5,891	1347	,000	-1,39119	,23615	-2,00033	-,78205
	Equal variances not assumed			-5,905	974,542	,000	-1,39119	,23560	-1,99925	-,78313

Exhibit 6

Test Five

The tables below show the t-test for test five with a confidence interval of 95%.

1=Low liquidity level, 2= Group 2, 3= Group 3, 4= High liquidity level

Group Statistics

	GroupLiquidity	N	Mean	Std. Deviation	Std. Error Mean
Dividendyield	1,00	680	2,9023	3,80718	,14600
	2,00	675	2,6489	4,48059	,17246

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield	Equal variances assumed	,327	,568	1,122	1353	,262	,25348	,22582	-,18952	,69648
	Equal variances not assumed			1,122	1315,547	,262	,25348	,22596	-,18980	,69676

Group Statistics

	GroupLiquidity	N	Mean	Std. Deviation	Std. Error Mean
Dividendyield	2,00	675	2,6489	4,48059	,17246
	3,00	677	2,1495	2,91422	,11200

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield	Equal variances assumed	2,949	,086	2,430	1350	,015	,49935	,20551	,09619	,90251
	Equal variances not assumed			2,428	1157,209	,015	,49935	,20564	,09588	,90281

Group Statistics

	GroupLiquidity	N	Mean	Std. Deviation	Std. Error Mean
Dividendyield	3,00	677	2,1495	2,91422	,11200
	4,00	673	1,1653	2,28954	,08826

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield	Equal variances assumed	14,018	,000	6,897	1348	,000	,98416	,14270	,70423	1,26409
	Equal variances not assumed			6,902	1279,762	,000	,98416	,14260	,70442	1,26391

Group 1-3

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield	Equal variances assumed	1,555	,213	4,089	1355	,000	,75283	,18412	,39164	1,11401
	Equal variances not assumed			4,091	1271,157	,000	,75283	,18401	,39183	1,11383

Group 1-4

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield	Equal variances assumed	17,872	,000	10,157	1351	,000	1,73699	,17102	1,40150	2,07247
	Equal variances not assumed			10,182	1115,407	,000	1,73699	,17060	1,40225	2,07172

Group 2-4

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield	Equal variances assumed	18,110	,000	7,651	1346	,000	1,48351	,19390	1,10314	1,86388
	Equal variances not assumed			7,658	1004,174	,000	1,48351	,19373	1,10335	1,86367

The tables below show the t-test for test five with a confidence interval of 99%.

Group Statistics are identical to the 95% test

1=Low liquidity level, 2= Group 2, 3= Group 3, 4= High liquidity level

Group 1-2

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									99% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield	Equal variances assumed	,327	,568	1,122	1353	,262	,25348	,22582	-,32903	,83599
	Equal variances not assumed			1,122	1315,547	,262	,25348	,22596	-,32940	,83636

Group 2-3

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									99% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield	Equal variances assumed	2,949	,086	2,430	1350	,015	,49935	,20551	-,03077	1,02946
	Equal variances not assumed			2,428	1157,209	,015	,49935	,20564	-,03121	1,02991

Group 3-4

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									99% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield	Equal variances assumed	14,018	,000	6,897	1348	,000	,98416	,14270	,61608	1,35224
	Equal variances not assumed			6,902	1279,762	,000	,98416	,14260	,61631	1,35201

Group 1-3

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									99% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield	Equal variances assumed	1,555	,213	4,089	1355	,000	,75283	,18412	,27790	1,22775
	Equal variances not assumed			4,091	1271,157	,000	,75283	,18401	,27813	1,22752

Group 1-4

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									99% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield	Equal variances assumed	17,872	,000	10,157	1351	,000	1,73699	,17102	1,29586	2,17812
	Equal variances not assumed			10,182	1115,407	,000	1,73699	,17060	1,29680	2,17718

Group 2-4

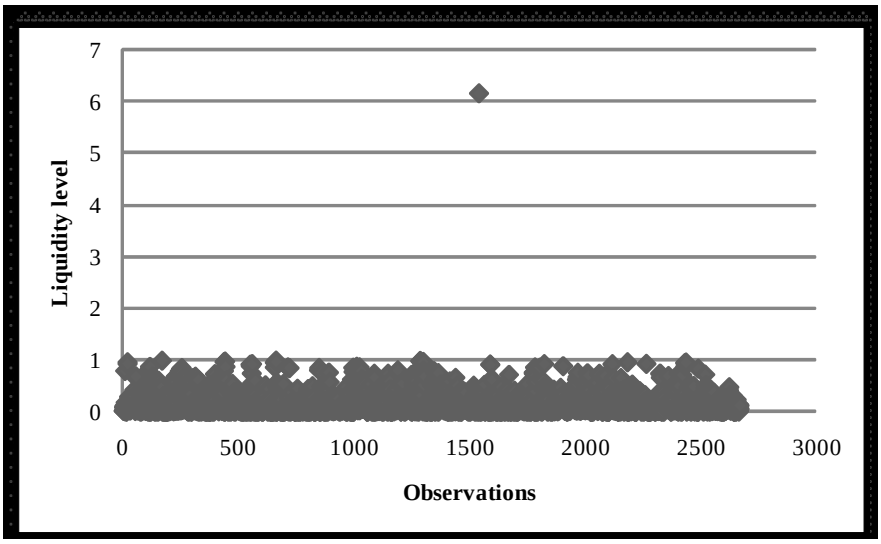
Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									99% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Dividendyield	Equal variances assumed	18,110	,000	7,651	1346	,000	1,48351	,19390	,98335	1,98367
	Equal variances not assumed			7,658	1004,174	,000	1,48351	,19373	,98355	1,98347

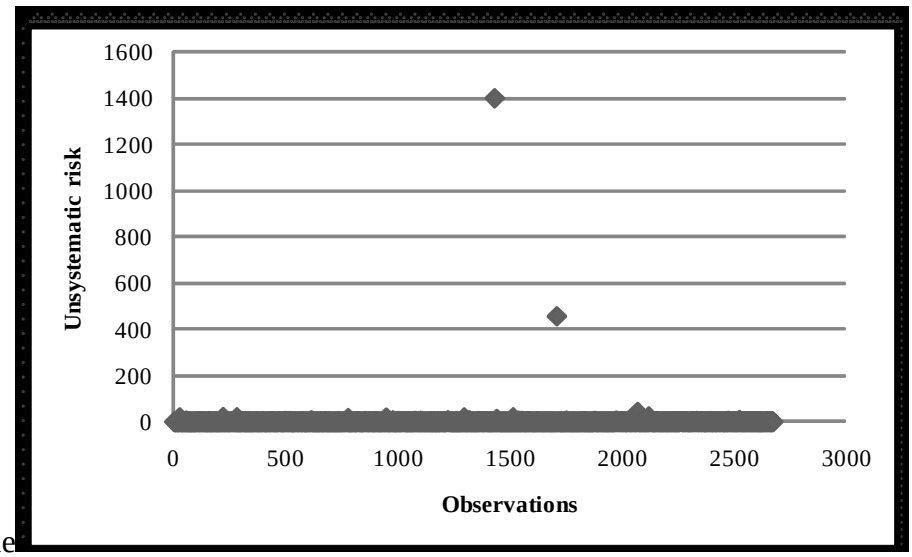
Exhibit 7

Plots of variables with outliers

Liquidity level variable

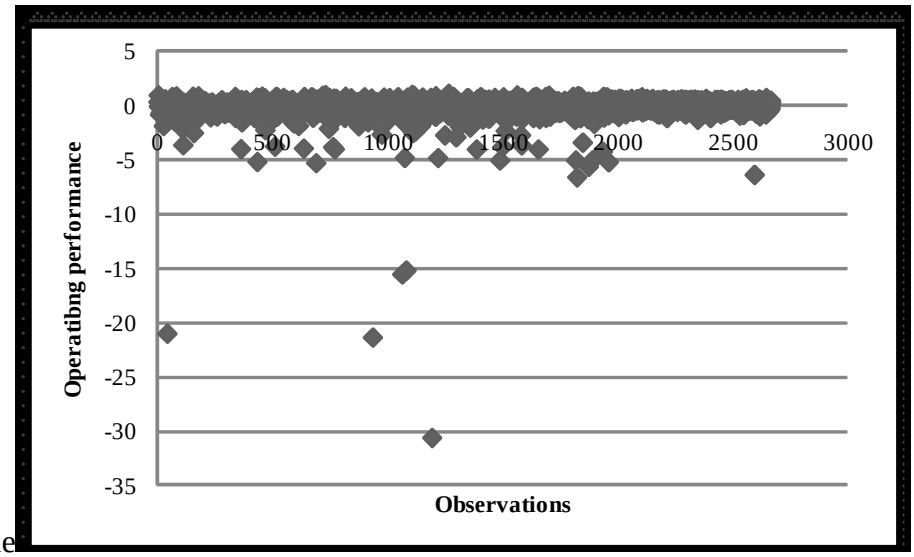


Unsystematic risk



variable

Operating performance



variable

Market to book variable

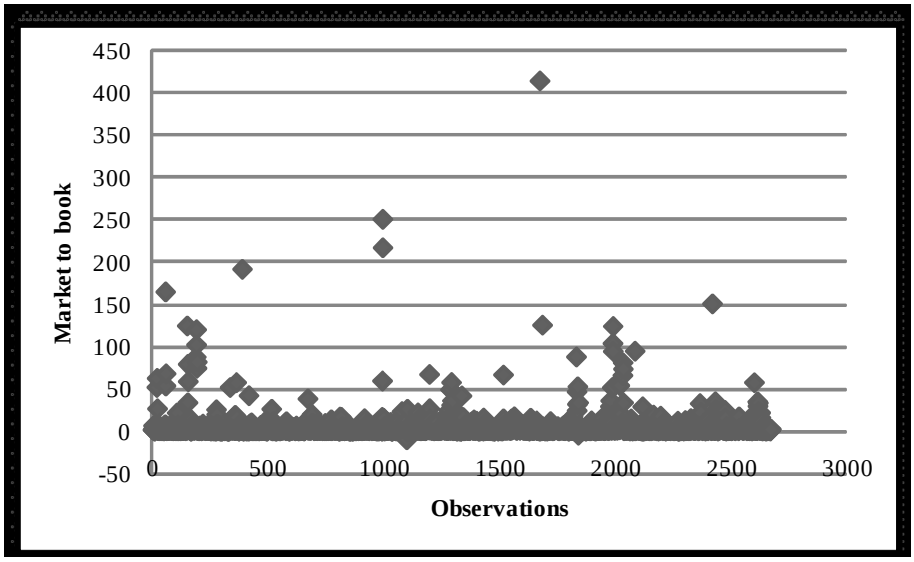

450
400
350
300
250
200
150
100
50
0
-50
Market to book
0
500
1000
1500
2000
2500
3000
Observations

Exhibit 8

Ramsey's reset test 1996-

Ramsey RESET Test:

F-statistic	8.010384	Prob. F(7,1544)	0.0000
Log likelihood ratio	55.57792	Prob. Chi-Square(7)	0.0000

Test Equation:
Dependent Variable: DIVIDEND_YIELD
Method: Least Squares
Date: 06/05/09 Time: 15:55
Sample: 23 2129
Included observations: 1558

	Coefficient	Std. Error	t-Statistic	Prob.
LIQUIDITY	1.220469	0.628594	1.941586	0.0524
D_E	-0.033861	0.089417	-0.378683	0.7050
RISK	0.127357	0.115121	1.106291	0.2688
OPPER	-0.650158	0.410499	-1.583823	0.1134
SIZE	-0.746461	0.534397	-1.396828	0.1627
MKTBK	0.031820	0.020108	1.582453	0.1138
C	2.246360	1.571595	1.429351	0.1531
FITTED^2	-0.863293	0.988426	-0.873402	0.3826
FITTED^3	1.955800	1.187068	1.647589	0.0996
FITTED^4	-0.094220	0.472400	-0.199449	0.8419
FITTED^5	-0.438389	0.272549	-1.608479	0.1079
FITTED^6	0.147146	0.169982	0.865656	0.3868
FITTED^7	-0.016107	0.037405	-0.430602	0.6668
FITTED^8	0.000449	0.002837	0.158244	0.8743

R-squared	0.106680	Mean dependent var	2.014987
Adjusted R-squared	0.099158	S.D. dependent var	2.380077
S.E. of regression	2.258994	Akaike info criterion	4.476662
Sum squared resid	7879.119	Schwarz criterion	4.524747
Log likelihood	-3473.320	Hannan-Quinn criter.	4.494541
F-statistic	14.18335	Durbin-Watson stat	0.990102
Prob(F-statistic)	0.000000		

2004

Ramsey's reset test 2005-2008

Ramsey RESET Test:

F-statistic	14.58413	Prob. F(7,577)	0.0000
Log likelihood ratio	96.27969	Prob. Chi-Square(7)	0.0000

Test Equation:
Dependent Variable: DIVIDEND_YIELD
Method: Least Squares
Date: 06/06/09 Time: 16:16
Sample: 1 709
Included observations: 591
White Heteroskedasticity-Consistent Standard Errors & Covariance

	Coefficient	Std. Error	t-Statistic	Prob.
LIQUIDITY	-1.461718	3.562242	-0.410337	0.6817
D_E	0.782262	0.395907	1.975870	0.0486
RISK	-0.103235	0.835202	-0.123605	0.9017
OPPER	-0.080738	0.449162	-0.179753	0.8574
SIZE	0.203119	0.159335	1.274792	0.2029
MKTBK	0.009061	0.006652	1.362111	0.1737
C	0.287908	2.898656	0.099325	0.9209
FITTED^2	3.470792	3.155742	1.099834	0.2719
FITTED^3	-4.941180	3.148880	-1.569187	0.1172
FITTED^4	2.612803	1.441185	1.812955	0.0704
FITTED^5	-0.651936	0.345942	-1.884521	0.0600
FITTED^6	0.082639	0.044900	1.840500	0.0662
FITTED^7	-0.005164	0.002971	-1.737909	0.0828
FITTED^8	0.000126	7.82E-05	1.616365	0.1066

R-squared	0.254096	Mean dependent var	2.764146
Adjusted R-squared	0.237291	S.D. dependent var	3.193248
S.E. of regression	2.788767	Akaike info criterion	4.912479
Sum squared resid	4487.455	Schwarz criterion	5.016279
Log likelihood	-1437.638	Hannan-Quinn criter.	4.952914
F-statistic	15.11987	Durbin-Watson stat	1.474879
Prob(F-statistic)	0.000000		

Exhibit 9

Multicollinearity test, Klein's rule of thumb

Variable	**1996-2004**	**2005-2008**
Debt to equity	0.028927	0.070994
Liquidity	0.0378	0.093482
Market to book	0.02935	0.024694
Operating performance	0.002941	0.005381
Unsystematic risk	0.00934	0.001608
Size	0.043448	0.089509
Adjusted R^2	0.07656	0.113104

Exhibit 10

Multivariate regression 1996-2004

Dependent Variable: DIVIDEND_YIELD
Method: Panel Least Squares
Date: 06/05/09 Time: 15:15
Sample: 1996 2004
Periods included: 9
Cross-sections included: 360
Total panel (unbalanced) observations: 1558
White diagonal standard errors & covariance (d.f. corrected)

	Coefficient	Std. Error	t-Statistic	Prob.
LIQUIDITY	-0.463673	0.336427	-1.378227	0.1683
D_E	0.066757	0.029447	2.267012	0.0235
RISK	-0.115727	0.021414	-5.404282	0.0000
OPPER	0.394218	0.084976	4.639154	0.0000
SIZE	0.503559	0.067643	7.444318	0.0000
MKTBK	-0.017537	0.005512	-3.181721	0.0015
C	-0.902187	0.434528	-2.076247	0.0380

Effects Specification

Period fixed (dummy variables)

R-squared	0.088195	Mean dependent var	2.014987
Adjusted R-squared	0.079922	S.D. dependent var	2.380077
S.E. of regression	2.282986	Akaike info criterion	4.498426
Sum squared resid	8042.152	Schwarz criterion	4.549946
Log likelihood	-3489.274	Hannan-Quinn criter.	4.517583
F-statistic	10.66061	Durbin-Watson stat	0.875260
Prob(F-statistic)	0.000000		

tivariate regression 2005-2008

Dependent Variable: DIVIDEND_YIELD
Method: Panel Least Squares
Date: 06/06/09 Time: 16:38
Sample: 2005 2008
Periods included: 4
Cross-sections included: 263
Total panel (unbalanced) observations: 591
White diagonal standard errors & covariance (d.f. corrected)

	Coefficient	Std. Error	t-Statistic	Prob.
LIQUIDITY	-2.202724	0.562935	-3.912926	0.0001
D_E	0.212738	0.064905	3.277694	0.0011
RISK	-0.809726	0.221467	-3.656195	0.0003
OPPER	0.004701	0.259283	0.018131	0.9855
SIZE	0.088746	0.136523	0.650046	0.5159
MKTBK	0.007698	0.006372	1.208150	0.2275
C	2.481659	0.972214	2.552585	0.0109

Effects Specification

Period fixed (dummy variables)

R-squared	0.361829	Mean dependent var	2.764146
Adjusted R-squared	0.351943	S.D. dependent var	3.193248
S.E. of regression	2.570627	Akaike info criterion	4.742953
Sum squared resid	3839.321	Schwarz criterion	4.817095
Log likelihood	-1391.543	Hannan-Quinn criter.	4.771834
F-statistic	36.60160	Durbin-Watson stat	0.887080
Prob(F-statistic)	0.000000		

Mul