Stockholm School of Economics
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# Dividend Policy and Ownership Structures in Swedish Firms

**Abstract**

In this study, I investigate if ownership structures are linked to the dividend policy in Swedish firms. The data set covers 266 listed and 24 306 non-listed companies in 2002. Companies controlled by shareholders holding a notably larger proportion of votes than equity do not have significantly different dividend levels or propensity to pay dividend than other firms. Swedish companies listed on the Stockholm Stock Exchange or the Nordic Growth Market have significantly higher dividend levels and propensity to pay dividend than non-listed companies. Leverage is not related to dividend levels or to the propensity to pay dividend. The votes of the largest shareholder are not related to dividend levels but significantly positively related to the propensity to pay dividend. The type of the controlling shareholder (families, corporations and institutions) does not seem to have a significant effect on dividend levels. However, companies controlled by families or institutions have significantly higher propensity to pay dividend than other companies. Companies with more than one large shareholder do not generally have higher dividend levels or higher propensity to pay dividend. However, there are some weak indications suggesting that companies having family investors as the two largest shareholders pay lower dividend levels. Finally, although ownership structures seem, to some extent, to be linked to the dividend policy of Swedish firms, the low $R^2$ values found in the regression analyses indicate that ownership structure may not be the most important factor in determining the variance of dividend payments.

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# 1 Introduction

Akelius Insurance drastically reduced dividend payments in Mandamus when they became the largest shareholder in 2002. Other shareholders opposed to this reduction, and a conflict of interest (agency conflict) emerged between the controlling shareholder and the remaining shareholders. The Swedish Shareholders' Association (Aktiespararna), an independent organisation working in the interests of private investors, argued that Akelius' plan to merge Mandamus with Akelius' own subsidiary (See their press release in appendix 1) was the reason behind this reduction in dividend payments.

The Mandamus case manifests the relationship between ownership structures, agency conflicts and dividend policy that is the focus of this thesis. I will employ an agency framework and compare the dividend policy of companies with different ownership structures within the same legal regime. This approach is similar to the one employed by la Porta et al (2000), although they compared the dividend policy of large companies across countries with different laws and regulations aimed at protecting minority shareholders, implicitly holding the ownership structure constant.

The purpose of my study is to investigate how ownership structures are related to dividends, or more precisely to dividend levels and to the propensity to pay dividend in public (listed) and private (non-listed) Swedish firms. The latter may be of particular interest since no previous study has, as far as I know, compared the dividend policy of listed companies with non-listed companies. Moreover, studying the relationship between ownership structures and dividend policy in Sweden may complement recent studies in other countries.

Sweden is chosen due to the good availability of ownership information, because joint stock companies share the same laws and regulations aimed at protecting the rights of the minority shareholders, and because excellent accounting information is available for all listed and non-listed companies. The data set covers, in total, 266 listed and 24 306 non-listed companies in 2002.

In chapter 2, I will formulate hypotheses aimed at highlighting the relationship between dividends and ownership structures based on theories covering ownership structures, agency costs, and dividends. In chapter 3, I will describe the study samples and the primary sources of data, define the study variables employed to test the formulated hypotheses, and show descriptive statistics of the variables chosen. In chapter 4, I will employ regressions, analyse and compare the results based on theories and previous empirical studies. I will also test the robustness of the empirical results. In chapter 5, I will draw some final conclusions. Finally, in chapter 6, I will give some suggestions for future research.

## 2 Theoretical Framework and Hypotheses

Large shareholders, who I assume can effectively determine the decisions of the corporate managers, control most Swedish listed firms. Hence, I argue that the controlling shareholder (i.e. the shareholder holding the largest proportion of the votes) is the relevant insider to focus on and the applicable agency conflict consequently is the conflict between the controlling shareholder and the minority shareholders.[1] However, there is a large variation between different types of shareholders; some hold a large proportion of the votes with a small proportion of the equity, while other shareholders hold a small proportion of the votes with a large proportion of the equity. Moreover, some firms are widely held and have no controlling shareholder, and others have several large shareholders. It is, therefore, important to distinguish between control rights (proportion of votes) and cashflow rights (proportion of equity). These two rights do not always coincide because some mechanisms enable shareholders to yield a control position with limited equity stakes; ownership pyramids[2] and dual class shares[3] are examples of such mechanisms.

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[1] This view is in line with Maury and Paujuste (2002) and Gugler et al (2003) who argued that the controlling shareholder is the relevant insider when the ownership structure is concentrated.
[2] Ownership pyramids enable control over companies by employing multiple layers of ownership ( e.g. A controls company B which in turn controls company C) while at the same time sharing the cashflows rights with other (minority) shareholders at each intermediate ownership tier. Source: da Silva et al (2004)
[3] Dual class shares are shares with different voting rights.

The larger proportion of votes the controlling shareholder holds, ceteris paribus, the larger his influence over the dividend policy and other corporate decisions is.[4] A control position enables the controlling shareholder to gain benefits not shared with the minority shareholders (private benefits of control) by for example buying or selling corporate assets to himself or companies under his control, or allowing other companies under his control to trade with the firm at favourable terms.[5] Moreover, a control position enables the controlling shareholder to choose a risk level or implement an investment policy in line with his private preferences. Since more resources under the control of the controlling shareholder increase his ability to gain private benefits, he has incentives to invest in even unprofitable projects just to expand the company.[6] Furthermore, given that the controlling shareholder often has a substantial part of his wealth tied to the firm and therefore tend to be more risk-averse than the average investor, he has stronger interest to invest in safer projects with lower expected return than the average investor.[7]

Dividend payments reduce cashflows and financial resources under the control of the controlling shareholder and thus lessen his ability to over-invest and gain benefits not shared with the other shareholders.[8] Moreover, high dividend levels increase the need to turn to the capital market frequently to finance future investment, with the consequence that the power of external investors increases.[9] Therefore, the controlling shareholder has incentives to minimise dividends and keep all the financial resources at hand that he needs to gain private benefits of control.

The power of the controlling shareholder is limited by laws and regulations aimed at protecting the rights of the minority shareholders. It is therefore important to consider the level of legal protection when analysing the effects different ownership structures may have on the dividend policy. La Porta et al (2000) suggest that the dividend policy can be viewed either as a substitute or as an outcome of the legal protection of minority shareholders. Viewed as a substitute, the controlling shareholder is assumed to raise

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[4] See Maury and Paujuste (2002) and Gugler et al (2003).
[5] For example, internal transactions are common between independent listed companies controlled by the Stenbeck family. Source: Affärsvärden 2003-01-22.
[6] Compare with Jensen (1986).
[7] Compare with Easterbrook (1984).
[8] Compare with Jensen (1986).
[9] Compare with Easterbrook (1984)

dividends if the legal protection is poor to signal that no rent extraction of the minority shareholders is taking place; and vice versa. Viewed as an outcome, the minority shareholders are assumed to put pressure on the firm to raise dividends if the legal protection is sufficiently strong. Conversely, if the protection of minority shareholders is poor, the controlling shareholder is able to keep dividends low.

Shareholders in Swedish firms have the same pre-emptive rights to new share issues, the right to receive the same per share dividend payments as the controlling shareholder, the right to elect the board of directors, and the right to call an extraordinary shareholder meeting if shareholders or groups of shareholders representing at least ten percent of the equity choose to do so.[10] In addition, shareholders or groups of shareholders representing at least ten percent of the equity can force the company to pay dividends if net profits are sufficiently high, employ a special supervisor (särskild granskningsman), and appoint an accountant (minoritetsrevisor).[11]

However, even with the above mentioned regulations, protection of minority shareholders is notably stronger in large common law countries, such as the US and the UK, than in Sweden where it is possible to sue the company if the minority shareholders feel treated in an unjust manner.[12] Moreover, despite current laws and regulations, a controlling shareholder still can choose to keep dividends low by for example using accounting management techniques or changing the articles of association (given that he holds a sufficiently large ownership stake). I acknowledge that the legal protection of minority shareholders may influence the dividend policy in Swedish firms to some extent; yet not to the degree that it significantly hinders controlling shareholders from employing a dividend policy in line with his private preferences.

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[10] See la Porta et al (1998).
[11] See chapter 11 and 12 of the Law of Joint Stock Companies (aktiebolagslagen).
[12] See la Porta et al (2000).

The value of equity is set by the external capital market and is of importance to the controlling shareholder when he for example plans to sell his shares, raise external cash for future investments, or use equity as "currency" in merger and acquisition activities. If the controlling shareholder decides to keep dividend levels low with the intention to maintain risk and investments preferences in line with his private preferences but against the interest of the remaining shareholders, the value of equity is likely to be penalised.[13] These negative wealth consequences may therefore limit his incentives to expropriate the minority shareholders.

As mentioned above, shareholders can by employing corporate control mechanisms gain a control position with a small proportion of the equity. Nilsson and Cronqvist (2002) denote such shareholders as controlling minority shareholders (CMS) and argue that these shareholders have the power to expropriate the minority shareholders and are limited only by legal restrictions and financial incentives not to engage in expropriation activities. Nilsson and Cronqvist (2003) argue that since the CMSs are only affected by a fraction of the negative wealth consequences of minority shareholder expropriation but enjoy all private benefits of control; CMSs have strong incentives to expropriate the minority shareholders. This implies that if the largest shareholder obtains a voting stake with limited financial contributions and the protection of minority shareholders is poor, this shareholder is expected to keep dividends low as suggested by the outcome model.[14] Moreover, Maury and Paujuste (2002) suggest that the type of the controlling shareholder significantly influence the dividend policy. In Sweden, most companies are controlled by family shareholders; the type of shareholder with the largest difference between votes and equity.[15] As suggested in hypothesis 5 below, this shareholder category is assumed to prefer a less generous dividend policy. This implies that the votes-to-equity ratio is expected to be negatively related to dividends.

Conversely, Gomes (2002) suggests that a controlling shareholder holding more voting stakes than capital stakes is not more willing than other shareholders to keep dividends low, and notes that a high relative difference between votes and equity enables divestures

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[13] Compare with Nilsson and Cronqvist (2002) and Gomes (2002).
[14] Compare with Gugler et al (2003).
[15] See tables 5a-b and 16a-b.

of shares while maintaining a control position. Gomes (2002) argues therefore that the controlling shareholder has incentives to treat the minority shareholders fairly, even when the votes-to-equity ratio is high, in order to increase the value of the shares he plans to sell. This implies that the controlling shareholder has incentives to favour a generous dividend policy in order to signal to the minority shareholders that he is not extracting private benefits of control.

Given the ambiguous theoretical support I find that the expected relationship between the votes-to-equity ratio and dividends is uncertain and suggest therefore that this ratio is not related to dividends.

*Hypothesis 1: The votes-over-equity ratio is not related to dividends.*

Non-listed companies have (generally) no minority shareholders and are thus fully controlled by the controlling shareholder. Since shareholders of these companies own all equity themselves, they are more sensitive to changes in equity value than they would be if they held only a fraction of the equity, as suggested by Nilsson and Cronqvist (2003). This implies that owners of non-listed companies are less likely to employ a dividend policy aimed at expropriating minority shareholders (since there are none) than controlling shareholders in listed companies, and dividends hence tend to be higher in non-listed companies than in listed companies. On the other hand, corporate insiders may have an interest in gaining a favourable reputation among minority shareholders to gain access to the external capital market, as suggested by the substitute model above. This implies that controlling shareholders in companies with minority shareholders (i.e. listed companies) have stronger interest in paying dividends than owners of non-listed companies. Given the ambiguous theoretical support for the relationship between market listing and dividends, I expect that market listing is not related to dividends.

*Hypothesis 2: There is no difference in dividend payments between listed and non-listed companies.*

La Porta et al (2000) and Maury and Paujuste (2002) note that if one is not including all types of financing choices at the same time, the interpretations of the results may be limited. Hence, I have included leverage in the analyses to address this issue. Jensen (1986) argues that insiders are only able to extract private benefits of control in overcapitalised firms, i.e. firms with more cash than needed to finance all projects with positive net present value. Since debt increase interest payments and thus reduces cashflows under the control of the insider, Jensen (1986) suggests that debt can be used as a substitute to dividends to reduce agency costs. Assuming that debt is a substitute to dividend payments, I expect that leverage is negatively related to dividends.

*Hypothesis 3: Leverage is negatively related to dividends*

I expect that the ratio between votes and equity of the controlling shareholder is of greater importance than votes alone in explaining the relationship between ownership structures and dividends. However, since many foreign papers aimed at studying the relationship between ownership structures and dividends have focused on votes as the important study variable, I have chosen to include votes in my analyses.[16] Maury and Paujuste (2002) and Gugler et al (2003) argue that largest shareholder's ability to expropriate the minority shareholders by reducing dividend payments is related to his share holdings. Hence, I expect that the larges shareholder's proportion of the votes is negatively related to dividend payments.

*Hypothesis 4: Votes are negatively related to dividends.*

Some scholars argue that the type of the controlling shareholder influence the dividend policy. Cronqvist and Nilsson (2003) suggest that controlling financial institutions and controlling corporations are run by professional managers who focus more on maximising firm value than entrenching minority shareholders, while controlling families are assumed to be more prone to extract private benefits of control. Kahn (2006) argues that institutional ownership is associated with higher dividend levels due to lower agency costs, and that firms controlled by families are associated with lower dividend levels due

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[16] E.g. Maury and Paujuste (2002), Gugler et al (2003) and Hanousek et al (2006).

to higher agency costs. In line with the above mentioned views, I suggest that family control is related to lower dividends and institutional control is related to higher dividends.

*Hypothesis 5: Family control is related to lower dividends and institutional control is related to higher dividends.*

I have defined corporate control as the votes of the largest shareholder. However, the votes of the second largest shareholder may also influence the dividend policy and other corporate decisions, since some laws and regulations require the support of a significant proportion of the shares.[17] Gugler et at (2003) suggest that large minority shareholders have stronger incentives to monitor firms and are able to put pressure on companies to pay dividends and thus strengthen the power of the minority shareholders. On the other hand, Maury and Paujuste (2002) argue that the largest two shareholders may collude against the minority shareholders with the aim of reducing dividends and extracting private benefits of control. Given this ambiguous empirical support, I expect that dividend payments are not related to the presence of another large shareholder

*Hypothesis 6: Dividends are not related to the presence of another large shareholder.*

As mentioned above, I expect that firms controlled by families have higher agency costs than other firms. Faccio et al (2002) argue that if the second largest shareholder is a family, this shareholder may collude with the controlling shareholder if this shareholder is a family instead of monitoring him. Following Faccio et al (2002), I expect that firms having family investors as both the controlling shareholder and as the large minority shareholder have higher agency costs and pay lower dividends than other firms.

*Hypothesis 7: Dividends are lower in companies controlled by a family that have a family as the second largest shareholder than in other firms.*

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[17] See chapter 11 and 12 of the Law of Joint Stock Companies (aktiebolagslagen).

# 3 Data

This study is based primarily on data from two sources: "the Market Manager Partner" (MMP) database and "Ägarna och makten" (the Owners and Power in Sweden's Listed Companies). The prior source contains data from all companies and organisations registered at the Swedish Companies Registration Office (Bolagsverket), from which accounting data is collected basically for fiscal year 2002. The latter source contains information regarding ownership structures of companies listed on the Stockholm Stock Exchange and the Nordic Growth Market (NGM) in February 2003.

## 3.1 Samples

Statistical analyses are employed on four study samples: non-listed companies (sample N1), non-listed companies with positive net earnings and cashflows (sample N2), listed companies (sample L1), and listed companies with positive net earnings and cashflows (sample L2).

### 3.1.1  Non-listed Companies (Sample N1)

The MMP database covers all Swedish joint stock companies; 155 469 stand alone companies and 13 629 corporate groups, in total 169 098 companies as of 31 December 2002. [18] [19] 143 908 companies with sales below SEK 10 million are eliminated since it is difficult to compare a few large listed companies with a large number of very small unlisted companies. I have excluded 618 outliers with dividends more than five times net earnings and/or larger than sales to improve the analyses. Since listed companies belong to another study sample, 266 companies are eliminated. This leaves a basic sample of 24 306 non-listed companies to be used in the empirical analysis (sample N1).

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[18] It should be noted that some stand alone companies are subsidiaries of foreign companies or have Swedish firms or institutions as owners (but in the latter case have less then 50 % of the votes). However, the absolute majority of these firms are assumed to be controlled by Swedish family owners.
[19] Only companies with an organisation number starting with 556, i.e. only normal joint stock companies are included in the study, excluding some firms with special regulations, such as banks and insurance companies.

### 3.1.2 Non-listed Companies with Positive Earnings and Cashflows (Sample N2)

It is difficult to understand the theoretical meaning of negative payout ratios, which may emerge if net earnings and/or cashflows are negative. I have therefore chosen to exclude 12 479 companies that have not reported positive earnings and/or cashflows from sample N1.[20] This leaves a basic sample of 11 827 non-listed companies with positive net earnings and/or cashflows (Sample N2).

*Table 1a*

| Sample N1 | Construction of basic sample for non-listed companies |
|---|---|
| 155 469 | Stand alone companies |
| + 13 629 | Corporate groups |
| - 143 908 | Companies with less than SEK 10 million in sales. |
| -618 | Outliers (dividends $\geq$ 5 x earnings; dividends > sales) |
| -266 | Listed firms |
| *24 306* | *Basic sample of non-listed companies used in empirical analysis* |
| **Sample N2** | **Construction of basic sample for non-listed companies with positive earnings and caschflow** |
| 24 306 | Basic sample |
| - 12 479 | Companies not reporting positive earnings and/or cashflows |
| *11 827* | *Basic sample on non-listed companies with positive earnings and cashflow* |

### 3.1.3 Listed Companies (Sample L1)

325 Swedish companies listed on the Stockholm Stock Exchange and the Nordic Growth Market in February 2003 are collected from the source "Ägarna och makten". 6 financial institutions and other firms without organisation numbers starting with 556 are eliminated from the study sample.[21] 40 companies with less than SEK 10 million are eliminated for the same reasons as above (see section 3.1.1). 8 outliers[22] and 5 firms with insignificant earnings data[23] are eliminated. This leaves a sample of 266 companies with ownership data to be used in the empirical analyses (sample L1).

### 3.1.4 Listed Companies with Positive Earnings and Cashflows (Sample L2)

For the same reasons as mentioned above, in my second sample of listed companies I have excluded 165 firms that have not reported positive earnings and/or cashflows. This

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[20] Note that companies with negative cashflows and/or negative earnings are not mutually exclusive.
[21] Only companies with an organisation number starting with 556, i.e. only normal joint stock companies are included in the study, excluding some firms with special regulations, such as banks and insurance companies.
[22] Outliers: dividends $\geq$ 5 earnings; dividends $\geq$ 1 x sales; average growth rate in sales $\geq$ 400 %.
[23] For example spinnoff companies with proforma accounting only.

leaves a study sample of 101 listed companies with positive net earnings and cashflows (sample L2).

| Table 1b | |
|---|---|
| **Sample L1** | **Construction of the basic sample with ownership data for listed companies** |
| 325 | All listed Swedish firms in Sweden, as of February 2003 |
| -6 | Financial institutions and other firms without an org. number starting with 556 |
| - 40 | Companies with less the 10 SEK million in sales |
| -5 | Companies with insignificant accounting data |
| -8 | Outliers (dividends $\geq$ 5 x earnings; dividends > sales; growth rate >400%) |
| **266** | ***Basic sample with ownership data used in empirical analysis*** |
| **Sample L2 (main sample)** | **Construction of the basic sample with ownership data for listed companies** |
| 266 | Basic sample |
| - 165 | Companies not reported positive earnings and/or cashflows |
| **101** | ***Basic sample with positive earnings and cashflow*** |

## 3.2 Variables

### 3.2.1 Dependent Variables

Following la Porta et al (2000) I have chosen several measures of the payout ratio as dependent variables to be used as proxies for the dividend policy. The numerator in all payout ratios are dividend payments and the denominators are cashflows, net earnings and sales. The dividends-to-earnings ratio (DTE) is the ratio of dividends to net earnings, which is the commonly used measure of dividend payouts. However, this ratio depends on accounting conventions and can easily be manipulated by accounting tricks. The dividends-to-sales ratio (DTS) deals with many of the drawbacks of the DTE ratio since sales are less depended on accounting conventions than earnings and are more difficult to manipulate or smooth. The drawback of this ratio is that its economic interpretations are not as transparent as the DTE. The dividends-to-cashflows s ratio (DTC) is the ratio of dividends to cashflows.

The last dependent variable used in this study as a proxy for the dividend policy is the propensity to pay dividend (PTPD). This measure is a binary variable that gives the value one if dividends are paid, and zero otherwise. The drawback of the PTPD is that in practise, the difference between no dividends and very small dividends is not significant, but affects nonetheless this binary measure. The advantage of the PTPD is that it shows the propensity of companies to pay dividends and therefore emphasises the importance of

zero dividends not found in any payout ratio. Especially, this measure highlights "minority freeze-outs" [24], i.e. tendencies to cut dividends to extract private benefits of control.

Earnings are defined as 2002 earnings after corporate taxes, i.e. net earnings. Sales are defined as 2002 sales. Cashflows are defined as change in 2002 cash account adjusted for dividends paid in 2002. Note that the dividends for 2002 are actually paid in 2003.

Share repurchases are not common in Sweden; only 11 percent of the listed companies repurchase shares. Moreover, almost all (86 percent) of those firms pay dividends, while 39 percent of firms that do not repurchase shares pay dividends. Share repurchase can thus be regarded as a complimentary rather than as a substitute to dividends. Hence, I have chosen to disregard share repurchases and to focus only on dividend payout ratios and on the propensity to pay dividend.

### 3.2.2 Independent Variables

I have identified control rights (votes), cashflow rights (equity), and shareholder clienteles (families, corporations, and institutions) for the first and second largest ultimate[26] shareholder ranked by votes. Based on this information, several variables are calculated with the aim of dealing with the issues highlighted above.

*The votes-to-equity variable* is employed to study the effect proportionally more votes than equity of the largest shareholder have on the dividend policy. This variable is defined as the ratio of the proportion of votes of the largest shareholder and the proportion of equity[27] of the largest shareholder.

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[24] See De Angelo et al (1984).
[26] The ultimate shareholder is the largest ultimate owner in a pyramid ownership structure, owning at least 20 percent of the votes in each node of the pyramid. E.g. A is the largest owner with 20 percent of the votes in firm B, which in turn is the largest owner with 20 percent of the votes in firm C. A is regarded to be the ultimate shareholder of firm C.
[27] Note that this is the proportion of the equity of the ultimate shareholder. For example, Lundbergs AB control Cardo AB with 33,5 percent of the equity. The Lundberg family control Lundbergs AB with 67,4 percent of the equity. As the largest ultimate shareholder, the Lundberg family therefore indirectly holds 22,6 percent of the equity in Cardo AB (0,674 * 33,5%).

*The market listing dummy variable* is employed to analyse the effect a market listing have on the dividend policy. This variable gives the value one if the company was listed on the Stockholm Stock Exchange or on the Nordic Growth Market in February 2003, and zero otherwise.

*The leverage ratio* is employed to study the effect leverage have on the dividend policy. This variable is defined as debt divided by equity.

*The vote variable*, defined as the proportion of votes of the largest shareholder, is employed to study the relationship between dividend payments and the votes of the largest shareholder,

*The" another large shareholder" dummy variable* is employed to study the effect another large shareholder have on the dividend policy. This variable gives the value one if there are more than one shareholder holding at least 10 percent of the votes, and zero otherwise.

Owners are categorised as families, corporations and institutions. *Families* include individuals, family trusts, and several individuals who are members of the same family. *Corporations* are private equity firms, foreign firms, widely held companies having no large shareholder, labour unisons, non-profit organisations, and governments (foreign or domestic). *Institutions* include banks, insurance companies, pension funds, mutual funds and other financial institutions.

With the intention of studying the relationship between shareholder clienteles and dividends, dummy variables are calculated to show if the largest shareholder with at least 10 percent of the votes is a controlling family owner (*the controlling family dummy variable*), a controlling corporate owner (*the controlling corporate dummy variable*), or a controlling institutional owner (*the controlling institutional dummy variable*).

To study if firms having families as the two largest shareholders have different payout policies than other firms, I calculate the *Family-Family dummy variables* giving the value one if the firm has(?) families as the largest and second largest shareholder, each holding at least 10 percent of the votes, and zero otherwise.

### 3.2.3 Control Variables

The above mentioned dependent variables were chosen from an agency framework. However, I acknowledge that other factors may also influence the dividend policy and have therefore chosen to control for firm size, growth and profitability.

I expect that firm size is positively related to dividends; partly because larger companies have, on average, lower direct bankruptcy costs and therefore enabling a larger proportion of earnings to be paid out as dividends, and partly because larger companies are assumed to have easier access to capital markets than smaller riskier firms.[28] *The size variable* is defined as the natural logarithm of sales.

I expect that the investment policy is closely related to the dividend policy. Firms that experience growth in sales are expected to keep dividend payments low in order to reduce the need to turn to the external capital market to finance the growth and thus avoid costly transaction costs.[29] *The growth variable* is defined as the average growth rate in sales over the period 1998-2002.

I expect that profitable companies have better access to capital markets and profitability thus affects the payout policy positively.[30] I define profitability as the return on equity and th*e profitability variable* is measured as net earnings divided by average owners´ equity. The average owners' equity is defined as the ingoing balance plus the outgoing balance of the book value of the firm's assets minus the book value of the firm's debt, divided by two.

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[28] See Da Silva et al (2004).
[29] Compare with Rozeff (1982).
[30] Compare with DeAngelo et al (2004).

## 3.3 Descriptive Statistics

The propensity to pay dividend and the dividends-to-sales ratio are calculated for listed companies (sample L1) and non-listed companies (sample N1). The propensity to pay dividend and the dividends-to-sales ratio are also calculated for listed companies with positive earnings and cashflows (sample L2) and for non-listed companies with positive earnings and cashflows (sample N2). In addition, the dividends-to-earnings ratio and the dividends-to-cashflows ratio are calculated for the latter two samples (sample L2 and sample N2).

### 3.3.1 Base Statistics

Tables 2a-d show owner's equity, sales, net earnings, cashflow and dividend payouts for listed companies (tables 2a-b) and non-listed companies (tables 2c-d). As shown, listed companies are much larger (in terms of owners' equity, sales, net earnings and cashflow) and pay notably higher dividends than non-listed companies (in absolute terms). Listed companies with positive cashflows and earnings pay notably higher dividends and are notably larger than listed companies in general, while the size of non-listed companies with positive earnings and cashflows are about the same as non-listed companies in general.

*Table 2a. Base characteristics of listed companies (sample L1), in Million SEK.*

|  | Owners' Equity | Sales | Net earnings | Cashflow | Dividends |
|---|---|---|---|---|---|
| **Mean** | 3 157 | 6 435 | 48 | 128 | 148 |
| **Median** | 320 | 713 | 2 | 2 | 0 |
| **Minimum** | -0,5 | 13 | -19 013 | -9 657 | 0 |
| **Maximum** | 108 829 | 186 198 | 5 693 | 10 664 | 4 965 |
| **Stand. dev.** | 10 888 | 21 259 | 1 525 | 1 131 | 503 |

*Table 2b. Base characteristics of listed companies with positive net earnings and cashflows (sample L2), in million SEK.*

|  | Owners' Equity | Sales | Net earnings | Cashflow | Dividends |
|---|---|---|---|---|---|
| **Mean** | 4 933 | 10 400 | 534 | 439 | 305 |
| **Median** | 844 | 1 699 | 92 | 71 | 37 |
| **Minimum** | 20 | 38 | 0 | 1 | 0 |
| **Maximum** | 78 278 | 186 198 | 5 693 | 6 397 | 4 965 |
| **Stand. dev.** | 11 405 | 26 285 | 1 131 | 1 036 | 749 |

*Table 2c. Base characteristics of non- listed companies (sample N1), in million SEK*

|  | Owners' Equity | Sales | Net earnings | Cashflow | Dividends |
|---|---|---|---|---|---|
| Mean | 50 | 148 | 2 | 4 | 1 |
| Median | 2 | 23 | 0 | 0 | 0 |
| Minimum | -1 388 | 10 | -6 634 | -11 666 | 0 |
| Maximum | 109 078 | 112 735 | 8 132 | 26 065 | 6 175 |
| Stand. dev. | 977 | 1 772 | 118 | 309 | 45 |

*Table 2d. Base characteristics of non- listed companies with  positive net  earnings and cashflows  (sample N2), in million SEK*

|  | Owners' Equity | Sales | Net earnings | Cashflow | Dividends |
|---|---|---|---|---|---|
| Mean | 53 | 128 | 7 | 7 | 2 |
| Median | 3 | 23 | 1 | 1 | 0 |
| Minimum | -29 | 10 | 0 | 0 | 0 |
| Maximum | 109 078 | 112 736 | 8 132 | 20 491 | 6 175 |
| Stand. Dev. | 1 218 | 1 691 | 122 | 207 | 62 |

Tables 3a-b show the proportion of votes and equity for the first end second largest shareholder in listed companies, and tables 3c-d show the same variables in non-listed companies. As can be seen, the largest shareholder in firms with both positive earnings and cashflows holds, on average, a notably larger proportion of votes and equity than the largest shareholder in listed firms in general do.

*Table 3a. Ownership structure of listed companies (sample L1)*

|  | Equity of the largest shareholder | Votes of the largest shareholder | Equity of the second largest shareholder | Votes of the second largest shareholder |
|---|---|---|---|---|
| Mean | 24,6% | 35,6% | 9,3% | 10,7% |
| Median | 20,1% | 32,2% | 7,4% | 8,1% |
| Minimum | 1,2% | 2,4% | 0,2% | 0,2% |
| Maximum | 90,0% | 92,7% | 45,5% | 39,7% |

*Table 3b. Ownership structure of listed companies with positive  net earnings and cashflows (sample L2)*

|  | Equity of the largest shareholder | Votes of the largest shareholder | Equity of the second largest shareholder | Votes of the second largest shareholder |
|---|---|---|---|---|
| Mean | 25,4% | 38,1% | 9,9% | 10,9% |
| Median | 21,6% | 34,0% | 7,0% | 8,1% |
| Minimum | 1,8% | 4,6% | 0,8% | 1,3% |
| Maximum | 85,8% | 89,5% | 45,5% | 39,7% |

### 3.3.2 Dependent Variables

The dependent variables are shown in tables 4a-d below. As seen, listed companies appear to pay more dividends than non-listed companies. Moreover, companies with positive net earnings and cashflows (both listed and listed) seem to be more likely to pay dividend than other companies. Finally, payout ratios are, on average, higher in listed companies than in non-listed companies.

*Table 4a. Dependent variables of listed companies (sample L1)*

|  | Propensity to pay dividend | Dividends to Sales |
|---|---|---|
| Mean | 0,44 | 0,02755 |
| Median | - | 0 |
| Minimum | - | 0 |
| Maximum | - | 0,72720 |

*Table 4a. Dependent variables of listed companies with positive net earnings and cashflows (sample L2)*

|  | Propensity to pay dividend | Dividends to Earnings | Dividends to cashflows s | Dividends to Sales |
|---|---|---|---|---|
| Mean | 0,78 | 0,541322 | 1,1069 | 0,050136 |
| Median | - | 0,425850 | 0,5439 | 0,021464 |
| Minimum | - | 0,0000 | 0,00 | 0,0000 |
| Maximum | - | 2,4089 | 17,79 | 0,7272 |

*Table 4c. Dependent variables of non- listed companies (sample N1)*

|  | Propensity to pay dividend | Dividends to Sales |
|---|---|---|
| Mean | 0,40 | 0,006606 |
| Median | - | 0,000000 |
| Minimum | - | 0,0000 |
| Maximum | - | 0,9720 |

*Table 4d. Dependent variables of non- listed companies with positive net earnings and cashflows (sample N2)*

|  | Propensity to pay dividend | Dividends to Earnings | Dividends to cashflows s | Dividends to Sales |
|---|---|---|---|---|
| Mean | 0,53 | 0,272506 | 1,1139 | 0,009312 |
| Median | - | 0,035672 | 0,0266 | 0,000904 |
| Minimum | - | 0,0000 | 0,00 | 0,0000 |
| Maximum | - | 4,9793 | 600,00 | 0,9720 |

### 3.3.3 Independent Variables

Tables 5a-b show statistics for dependent variables of listed companies (sample L1) and listed companies with positive earnings and cashflows (sample L2). The votes-to-equity ratio is about the same in both samples, and so is the proportion of votes of the largest shareholder. Families control around 2/3 of the companies, corporations around 17-18 percent, and institutions about 6-9 percent. There is another large shareholder in about 41 percent of the firms, and 23-25 percent of the firms have a family as a large minority shareholder and as a controlling shareholder. Tables 15a-b in the appendix show that the votes to equity ratio is notably higher in firms controlled by families than in firms controlled by financial institutions or corporations.

*Table 5a. Independent variables of listed companies (sample L1)*

| | Votes-to-equity | Votes of the largest shareholder | Leverage (debt/equity) | Controlling family | Controlling corporation | Controlling institution | Another large shareholder | Family-family |
|---|---|---|---|---|---|---|---|---|
| **Mean** | 1,975 | 35,6% | 1,25 | 66,5% | 18,4% | 5,6% | 40,6% | 22,9% |
| **Median** | 1,237 | 32,2% | 1,28 | - | - | - | - | - |
| **Minimum** | 0,64 | 2,4% | -177,01 | - | - | - | - | - |
| **Maximum** | 32,0 | 92,7% | 16,10 | - | - | - | - | - |

*Table 5b. Independent variables of listed companies with positive net earnings and cashflows (sample L2)*

| | Votes-to-equity | Votes of the largest shareholder | Leverage (debt/equity) | Controlling family | Controlling corporation | Controlling institution | Another large shareholder | Family-family |
|---|---|---|---|---|---|---|---|---|
| **Mean** | 1,860 | 38,1% | 1,64 | 67,3% | 16,8% | 8,9% | 41,6% | 24,8% |
| **Median** | 1,339 | 34,0% | 1,29 | - | - | - | - | - |
| **Minimum** | 0,73 | 4,6% | 0,11 | - | - | - | - | - |
| **Maximum** | 10,8 | 89,5% | 7,96 | - | - | - | - | - |

### 3.3.4 Control Variables

Tables 6a-d show the control variables: natural logarithm of sales, return on equity, and growth in sales. As mentioned above, listed firms are notably larger than non-listed firms. This difference is underestimated since only companies having revenues above 10 MSEK are included in the samples. Non-listed companies are notably more profitable than listed companies and the growth rate in sales is about the same for listed companies and non-listed companies. However, for companies with positive earnings and cashflow, listed companies are notably more profitable than non-listed ones.

**Table 6a. Control variables of listed companies (sample L1)**

|          | Ln Sales | Return on Equity | Growth in Sales |
|----------|----------|------------------|-----------------|
| Mean     | 20,5     | -23,8%           | 29,1%           |
| Median   | 20,4     | 1,4%             | 13,4%           |
| Minimum  | 16,4     | -771,6%          | -50,6%          |
| Maximum  | 26,0     | 76,2%            | 374,8%          |

**Table 6b. Control variables of listed companies with positive net earnings and cashflows (sample L2)**

|          | Ln Sales | Return on Equity | Growth in Sales |
|----------|----------|------------------|-----------------|
| Mean     | 21,4     | 15,7%            | 21,4%           |
| Median   | 21,3     | 13,6%            | 11,8%           |
| Minimum  | 17,5     | 0,6%             | -22,4%          |
| Maximum  | 26,0     | 76,2%            | 374,8%          |

**Table 6c. Control variables of non listed companies (sample N1)**

|          | Ln Sales | Return on Equity | Growth in Sales |
|----------|----------|------------------|-----------------|
| Mean     | 17,3     | 18,8             | 28,3%           |
| Median   | 16,9     | 17,9             | 10,3%           |
| Minimum  | 16,1     | -351,2%          | -90,1%          |
| Maximum  | 25,5     | 232,0%           | 881,0%          |

**Table 6d. Control variables of non-listed companies with positive net earnings and cashflows (sample N2)**

|          | Ln Sales | Return on Equity | Growth in Sales |
|----------|----------|------------------|-----------------|
| Mean     | 17,3     | 24,3%            | 27,9%           |
| Median   | 16,9     | 21,4,%           | 11,1%           |
| Minimum  | 16,1     | -178,0%          | -76,0%          |
| Maximum  | 25,5     | 215,o%           | 861,0%          |

# 4 Empirical Results

## 4.1 Regressions

With the aim of testing the hypotheses above, I have chosen to employ ordinary least squares (OLS) regressions and logistic regressions. OLS regressions are employed for all payout ratios and logistic regressions are employed for the propensity to pay dividend (PTPD). I have chosen logistic regressions in the latter case since one cannot use the OLS procedure to estimate binary parameters, such as the choice to pay or not to pay dividends.[31] The results from the employed regressions are shown in tables 7-13 below. Tables 7-10 present dividends-to-earnings (DTE), dividends-to-cashflows (DTC), dividends-to-sales (DTS), and the propensity to pay dividend (PTPD) as the dependent variables for listed companies with positive net earnings and cashflows (sample L2). Tables 11-12 present the PTPD and DTS as the dependent variables for listed companies (sample L1). Table 13 shows the effect a market listing has on DTE, DTC, DTS, and the PTPD.

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[31] Compare with Gujarati (2003) p. 595.

The primary intention with these regressions is to investigate if there is a positive, negative, or neutral relationship between a specific dependent variable and the independent variables, rather than measuring the precision of a particular model in explaining dividend levels and the propensity to pay dividend. I therefore believe that the low $R^2$ values found in the employed regressions are not a major problem.[32] The regression models are tested and found to fulfil necessary assumptions of homoscedasticity and no multicollinearity.

### 4.1.1 Separation between control rights (votes) and cashflow rights (equity)

Model 1 in tables 7-12 shows that the coefficient of the votes-to-equity variable is insignificant for all specifications of the payout ratio and the propensity to pay dividend. Therefore, I find no empirical support for the view that the votes-to-equity ratio is related to dividends. My interpretation of this outcome is that controlling shareholders with proportionally more votes than equity do not use their power to reduce dividends with the aim of acquiring private benefits of control. Alternatively, the type of the controlling shareholder with the largest relative difference between votes and equity, that currently control most Swedish companies (controlling families) do not use their power to reduce dividends.

A similar result is found by Maury and Paujuste (2002) in their study of Finnish firms listed on the Helsinki Stock Exchange in 2000, where the votes-to-equity ratio and the dividends-to-earnings ratio are not significantly related. They suggest that other factors have a countermining effect to the controlling shareholders' incentives to pay low dividends and extract private benefits of control. Maury and Paujeste (2002) propose that the controlling shareholder's incentive to increase the value of the shares he intends to sell by increasing dividends, as argued by Gomes (2002), reduces his incentives to expropriate the minority shareholders.

### 4.1.2 Comparing Listed and Non-listed Companies

As seen in table 13, listed companies have significantly higher payout ratios and propensity to pay dividend than non-listed companies. The coefficients are positive and

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[32] Compare with Maury and Paujuste (2002).

highly significant (at the 1 percent level) for all specifications of the payout ratio and the propensity to pay dividend, except for the dividends-to-cashflows ratio which exhibits no significant coefficients. Hence, I find significant support for the view that companies with minority shareholders (listed companies) pay significantly higher dividends than companies with no minority shareholders (non-listed companies).

My interpretation of this finding is that the controlling shareholder's incentives to signal to the minority shareholders that he is not extracting private benefits of control, by employing a generous dividend policy as suggested by the substitute model, outweigh any perceived benefits of rent extraction. Alternatively, the minority shareholders are able to put pressure on the controlling shareholder to increase dividend payments and thus limit insider entrenchments as suggested by the outcome model.

As far as I know, no previous study has investigated the relationship between market listing and dividend policy. Hence, I have not been able to compare my results with other studies. Nevertheless, my findings support the view that controlling shareholders do not expropriate minority shareholders by limiting dividend payments.

### 4.1.3 Leverage

As seen in model 2 in tables 7-12, the coefficient of the debt-to-equity variable is insignificant for all specifications of the payout ratio and the propensity to pay dividend. Therefore, I have found no empirical evidence supporting the view that the debt-to-equity ratio is related to dividends which implies that companies with high leverage are no less prone to pay dividends than other companies.

This outcome may to some extent be explained by the empirical methodology employed and how some of the dependent variables are defined. In their study, la Porta et al (2000) note that the denominators in the dividends-to-earnings ratio and the dividends-to-cashflows ratio already take out interest payments. Hence, higher leverage may reduce both the nominators and the denominators in the above mentioned dependent variables and the resulting effect of increased leverage may therefore be ambiguous. However, since neither of the other two dependent variables employed in this study (dividends-to-

sales and the propensity to pay dividend) are significantly related to leverage, I conclude that leverage does not seem to be a substitute to dividends as suggested by Jensen (1986). This finding corresponds to la Porta et al (2000), where no significant relationship between dividends and leverage was found in their study of 4000 companies in 33 countries.

### 4.1.4 Ownership Concentration of the Largest Shareholder

As seen in Model 3 in tables 7 and 8, the dividends-to-earnings ratio and the dividends-to-cashflows ratio exhibit no significant relationship with the votes of the largest shareholder. However, model 3 in tables 9 and 12 shows that the votes of the largest shareholder are significantly positive but very close to zero for the dividends-to-sales ratios. As seen in Model 3 in table 10 and 11, the votes of the largest shareholder are positive and significant for the propensity to pay dividend. My interpretation of these findings is that the votes of the largest shareholder are not related to dividend levels but significantly positively related to the propensity to pay dividend. Hence, I reject the hypothesis that the votes of the largest shareholder are negatively related to dividends.

One possible explanation for this result is that by paying dividends controlling shareholders in companies with high ownership concentration can, as suggested by the substitute model, signal to the minority shareholders that no rent extraction is taking place. Alternatively, minority shareholders may anticipate that controlling shareholders in companies with high ownership concentration will expropriate them and therefore put pressure on these firms to pay dividends, as suggested by the outcome model.

This outcome contradicts the results of several recent European studies. Maury and Paujuste (2002) found a significant negative relationship between the votes of the largest shareholder and the payout ratios, measured as dividends in proportion to net earnings. They suggested that shareholders holding a larger proportion of the votes tend to expropriate minority shareholders in Finnish firms by reducing dividend payments. Also Gugler et al (2003) found in their study of large listed German firms that ownership concentration and payout ratios are negatively related and that controlling shareholders use their control position to extract private benefits of control.

## 4.1.5 Categories of Shareholder

Model 4 in table 7-12 shows the effect controlling families, controlling corporations, and controlling institutions have on dividends. The coefficient of the corporate dummy variable is insignificant for all specifications of the payout ratio and the propensity to pay dividend. The coefficients for the controlling family dummy variable and the controlling institutional dummy variable is also insignificant for all specifications of the payout ratio. However, the controlling family dummy is positive and significant for the propensity to pay dividend based on listed companies with positive earnings and cashflows (see table 10), and the controlling institutional dummy is positive and significant for the propensity to pay dividend based both on listed companies with positive earnings and cashflows (see table 10) and on listed companies in general (see table 11). Moreover, the propensity to pay dividend is notably larger for institutions than for families (higher beta value in the logistic regressions). Consequently, family owners and institutional owners have higher propensity to pay dividend; no other relationship between shareholder categories and dividends is found.

I find no evidence supporting the view that family control is associated with lower dividends levels, as suggested by Kahn (2002). Rather, the propensity to pay dividend seems to be positively related to family control. However, I find some support for the hypothesis that institutional control is positively related to dividends since firms controlled by institutional shareholders have higher propensity to pay dividends than other firms.

These results partly contradict and partly confirm other recent European studies. Kahn (2006) finds in his study of 330 listed companies in the United Kingdom that institutional ownership is associated with higher dividend levels, while a negative relationship between dividend levels and ownership concentration is found for family ownership. Maury and Paujuste (2002) on the other hand find that family ownership is associated with higher dividend levels in their study of Finnish companies. Consequently, the effect different categories of shareholders have on the dividend policy seems to be country specific.

**4.1.6 Another Large Shareholder**

Model 5 in tables 7-12 shows that the coefficient of the "another large shareholder" variable is insignificant for all specifications of the payout ratio and the propensity to pay dividends. Hence, I find no empirical support for the view that having another large shareholder raises dividends. Companies with more than one large shareholder do not pay significantly different dividend levels or have different propensity to pay dividend. I find therefore no empirical evidence supporting the theory that the largest two shareholders collude against the minority shareholders with the intention to extract private benefits of control, as suggested by Maury and Paujuste (2002). Nor do I find any support for the view that another large shareholder monitors the controlling shareholder as suggested by Gugler et al (2003).

As recent European studies show, the role of another large shareholder is not conclusive. Maury and Paujuste (2002) report that the presence of another large shareholder in Finnish firms reduces payout ratios. Faccio and Young (2002) find in their comparative study of ownership concentration and dividend policy in 5897 firms in Western Europe and Asia that another large shareholder raises the payout ratio, measured as dividends in proportion to net earnings, in Western Europe but reduce it in Asia. Gugler et al (2003) find that the presence of another large shareholder is significantly positively related to the payout ratio. A similar result is find by Hanousek et al (2005) in their cross sectional analysis of 1664 Czech companies listed on the Prague Stock Exchange, and report that companies with another large shareholder have, on average, both higher payout ratios and higher propensity to pay dividend.

**4.1.7 Families as the Largest Two shareholders**

Model 6 in table 7-12 shows that the coefficient of the Family-Family dummy variable is negative but insignificant for all specifications of the payout ratio and the propensity to pay dividends, except for the dividends-to-sales ratio for listed companies (see table 12) where a significantly negative relationship between this variable and dividends is found. This gives a weak indication that having a family as both the largest and second largest shareholder reduces dividends. I therefore cannot reject the hypothesis that having family investors as the largest two shareholders reduce dividends. My interpretation of this

finding is that the largest two families may cooperate with the intention to share private benefits of control, although the evidence for this occurrence is quite weak. This result weakly confirms findings by Faccio and Young (2002) showing that dividend levels are lower in many Asian countries than in Western European countries. Faccio and Young (2002) argue that this is the result of collusions between the two largest owners in Asia - who often are families.

**Table 7. Dividends to earnings (sample L2)**

Estimates of OLS models relating to the dividends to earnings ratio to the independent variables of interest, and controlling for growth, size and profitability of 101 listed companies with positive net earnings and cashflows (sample L2). P-values are shown within parenthesis below each beta value. Stars (*) represent the level of significance at the 10, 5,  and 1 percent level.

| Models | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| **Variables** | | | | | | |
| Votes-to-equity | -0,021 (0,558) | | | | | |
| Debt-to-equity | | -0,003 (0,934) | | | | |
| Votes of the largest shareholder | | | 0,003 (0,163) | | | |
| Controlling family dummy | | | | 0,192 (0,347) | | |
| Controlling corporation dummy | | | | 0,185 (0,413) | | |
| Controlling institution dummy | | | | 0,129 (0,615) | | |
| Another large shareholder dummy | | | | | -0,097 (0,347) | |
| Family-family dummy | | | | | | -0,013 (0,909) |
| Size | 0,032 (0,268) | 0,030 (0,296) | 0,033 (0,248) | 0,034 (0,253) | 0,026 (0,462) | 0,029 (0,310) |
| Profitability | -0,986** (0,024) | -0,975 (0,026) | -0,942** (0,030) | -0,931 (0,036) | -1,054** (0,018) | -0,983 (0,026) |
| Growth | -0,158 (0,157) | -0,155 (0,167) | -0,171 (0,124) | -0,158 (0,162) | -0,160 (0,152) | -0,154 (0,168) |
| F | 2,522** | 2,429* | 2,971** | 1,765 | 2,672** | 2,430* |
| $R^2$ | 0,095 | 0,096 | 0,110 | 0,101 | 0,100 | 0,092 |

**Table 8. Dividends to cashflows s  (sample L2)**

Estimates of OLS models relating to dividends the to cashflows s  ratio to the independent variables of interest, and controlling for growth, size and profitability of 101 listed companies with positive net earnings and cashflows (sample L2). P-values are shown within parenthesis below each beta value. Stars (*) represent the level of significance at the 10, 5, and 1 percent level.

| Models | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| **Variables** | | | | | | |
| Votes-to-equity | 0,067 (0,679) | | | | | |
| Debt-to-equity | | -0,047 (0,791) | | | | |
| Votes of the largest shareholder | | | 0,017 (0,102) | | | |
| Controlling family dummy | | | | -0,481 (0,599) | | |
| Controlling corporation dummy | | | | 0,421 (0,678) | | |
| Controlling institution dummy | | | | -1,132 (0,326) | | |
| Another large shareholder dummy | | | | | -0,002 (0,997 ) | |
| Family-family dummy | | | | | | -0,779 (0,143) |
| Size | 0,167 (0,203) | 0,176 (0,180) | 0,190 (0,143) | 0,125 (0,352) | 0,174 (0,188) | 0,145 (0,268) |
| Profitability | 0,035 (0,986) | 0,005 (0,998) | 0,178 (0,927) | -0,248 (0,899) | 0,000 (1,000) | -0,461 (0,814) |
| Growth | 0,395 (0,436) | 0,381 (0,452) | 0,293 (0,559) | 0,440 (0,384) | 0,382 (0,451) | 0,411 (0,413) |
| F | 0,567 | 0,541 | 1,217 | 0,907 | 0,523 | 1,081 |
| $R^2$ | 0,023 | 0,022 | 0,048 | 0,055 | 0,21 | 0,043 |

**Table 9. Dividends to sales (sample L2)**

Estimates of OLS models relating to the dividends to sales ratio to the independent variables of interest, and controlling for growth, size and profitability of 101 listed companies with positive net earnings and cashflows (sample L2). P-values are shown within parenthesis below each beta value. Stars (*) represent the level of significance at the 10, 5, and 1 percent level.

| Models | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| **Variables** | | | | | | |
| Votes-to-equity | 0,002 (0,778) | | | | | |
| Debt-to-equity | | -0,008 (0,265) | | | | |
| Votes of the largest shareholder | | | 0,001* (0,051) | | | |
| Controlling family dummy | | | | 0,012 (0,766) | | |
| Controlling corporation dummy | | | | 0,019 (0,658) | | |
| Controlling institution dummy | | | | -0,014 (0,772) | | |
| Another large shareholder dummy | | | | | -0,028 (0,155) | |
| Family-family dummy | | | | | | -0,035 (0,119) |
| Size | -0,005 (0,396) | -0,004 (0,443) | -0,004 (0,491) | -0,005 (0,417) | -0,006 (0,309) | -0,006 (0,290) |
| Profitability | 0,042 (0,613) | 0,042 (0,613) | 0,050 (0,540) | 0,041 (0,639) | 0,018 (0,829) | 0,020 (0,807) |
| Growth | -0,012 (0,583) | -0,012 (0,561) | -0,017 (0,431) | -0,012 (0,581) | -0,014 (0,521) | -0,011 (0,608) |
| F | 0,321 | 0,618 | 1,293 | 0,336 | 0,821 | 0,928 |
| R$^2$ | 0,013 | 0,025 | 0,051 | 0,021 | 0,003 | -0,003 |

**Table 10. PTPD (sample L2)**

Estimates of logistic regression models relating to dividends to the PTPD to the independent variables of interest, and controlling for growth, size and profitability of 101 listed companies with positive net earnings and cashflows (sample L2). P-values are shown within parenthesis below each beta value. Stars (*) represent the level of significance at the 10, 5, and 1 percent level.

| Models | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| **Variables** | | | | | | |
| Votes-to-equity | 0,032 (0,861) | | | | | |
| Debt-to-equity | | -0,063 (0,737) | | | | |
| Votes of the largest shareholder | | | 0,026 ** (0,044) | | | |
| Controlling family dummy | | | | 0,941 (0,326) | | |
| Controlling corporation dummy | | | | 1,432 (0,247) | | |
| Controlling institution dummy | | | | 0,903 (0,460) | | |
| Another large shareholder dummy | | | | | 0,194 (0,707) | |
| Family-family dummy | | | | | | -0,247 (0,658) |
| Size | 0,376** (0,027) | 0,379** (0,025) | 0,427 ** (0,018) | 0,405 (0,027) | 0,383** (0,024) | 0,371 (0,030) |
| Profitability | 1,425 (0,511) | 1,384 (0,521) | 1,792 (0,425) | 1,682 (0,4549 | 1,581 (0,475) | 1,264 (0,556) |
| Growth | -0,222 (0,643) | -0,237 (0,619) | .0,382 (0,444) | -0,215 (0,655) | -0,225 (0,639) | -0,219 (0,646) |
| Cox & Snell R$^2$ | 0,067 | 0,068 | 0,109 | 0,079 | 0,068 | 0,069 |

**Table 11. PTPD (sample L1)**

Estimates of logistic regression models relating to the PTPD to the independent variables of interest, and controlling for growth, size and profitability of 266 listed companies with positive net earnings and cashflows (sample L2). P-values are shown within parenthesis below each beta value. Stars (*) represent the level of significance at the 10, 5, and 1 percent level.

| Models | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| **Variables** | | | | | | |
| Votes-to-equity | -0,101 (0,169) | | | | | |
| Debt-to-equity | | -0,027 (0,256) | | | | |
| Votes of the largest shareholder | | | 0,024*** (0,004) | | | |
| Controlling family dummy | | | | 1,640** (0,027) | | |
| Controlling corporation dummy | | | | 1,023 (0,209) | | |
| Controlling institution dummy | | | | 2,139** (0,026) | | |
| Another large shareholder dummy | | | | | -0,180 (0,604) | |
| Family-family dummy | | | | | | -0,244 (0,538) |
| Size | 0,599*** (0,000) | 0,545*** (0,000) | 0,572*** (0,000) | 0,614*** (0,00) | 0,540 *** (0,00) | 0,532 *** (0,00) |
| Profitability | 5,088*** (0,00) | 6,375*** (0,000) | 6,330*** (0,000) | 6,679*** (0,00) | 6,285*** (0,00) | 6,290*** (0,00) |
| Growth | -0,661 (0,165) | -0,625 (0,179) | -0,600 (0,148) | -0,517 (0,256) | -0,618 (0,182) | -0,621 (0,175) |
| Cox & Snell $R^2$ | 0,447 | 0,443 | 0,461 | 0,456 | 0,442 | 0,443 |

**Table 12. Dividends to sales (sample L1)**

Estimates of OLS models relating to the dividends to sales ratio to the independent variables of interest, and controlling for growth, size and profitability of 266 listed companies with positive net earnings and cashflows (sample L2). P-values are shown within parenthesis below each beta value. Stars (*) represent the level of significance at the 10, 5, and 1 percent level.

| Models | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| **Variables** | | | | | | |
| Votes-to-equity | -0,002 (0,439) | | | | | |
| Debt-to-equity | | 0,000 (0,869) | | | | |
| Votes of the largest shareholder | | | 0,000* (0,071) | | | |
| Controlling family dummy | | | | 0,006 (0,731) | | |
| Controlling corporation dummy | | | | 0,007 (0,717) | | |
| Controlling institution dummy | | | | 0,055** (0,029) | | |
| Another large shareholder dummy | | | | | -0,012 (0,217) | |
| Family-family dummy | | | | | | -0,021* (0,064) |
| Size | 0,001 (0,694) | 0,001 (0,829) | 0,000*** (0,858) | 0,000 (0,909) | 0,000 (0,871) | 0,000 (0.942) |
| Profitability | 0,014** (0,033) | 0,014** (0,027) | 0,013 ** (0,039) | 0,013 ** (0,039) | 0,014** (0,023) | 0,015** (0,018) |
| Growth | -0,010 (0,217) | -0,010 (0,232) | -0,010 (0,223) | -0,009 (0,271) | -0,010 (0,220) | -0,010 (0,223) |
| F | 2,420** | 2,272* | 3,113** | 2,552** | 2,661** | 3,158** |
| $R^2$ | 0,036 | 0,034 | 0,046 | 0,056 | 0,039 | 0,046 |

**Table 13. Listed company dummy variable**

Estimates of OLS models and logistic regression models relating to the payout ratios and to the PTPD to stock exchange listing, employing a dummy variable giving the value one if the firm is listed on the Stockholm Stock Exchange or the Nordic Growth Market, and controlling for growth, size and profitability of Sample L2 + N2 for DTE, DTC, DTS, AND PTPD, and sample L1 + N1 for PTPD and DTS. P-values are shown within parenthesis below each beta value. Stars (*) represent the level of significance at the 10, 5, and 1 percent level.

| | Independent variables | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| | DTE | DTC | DTS | PTPD | PTPD | DTS |
| **Dependent variables** | *Sample L2 + sample N2* | *Sample L2 + sample N2* | *Sample L2 + sample N2* | *Sample L2 + sample N2* | *Sample L1 + sample N1* | *Sample L1 + sample N1* |
| Listed Company dummy | 0,222*** | -0,749 | 0,037 *** | 0,843 *** | 0,294*** | 0,022*** |
| | (000) | (0,536) | (0,000) | (0,001) | (0,047) | (0,000) |
| Size | 0,007 | 0,200 * | 0,001*** | 0,082 *** | 0,115 | 0,001*** |
| | (0,225) | (0,075) | (0,001) | (0,000) | (0,000) | (0,000) |
| Profitability | 0,110*** | 0,260 | 0,015 *** | 1,801*** | 2,315*** | 0,011*** |
| | (0,000) | (0,664) | (0,000) | (0,000) | (0,000) | (0,000) |
| Growth | -0,061*** | -0,212 | -0,002 | -0,381*** | -0,320*** | -0,001 *** |
| | (0,000) | (0,304) | (0,001) | (0,000) | (0,000) | (0,001) |
| | | | | | | |
| F | 16,783*** | 1,086 | 54,700*** | | | 88,529*** |
| $R^2$ | 0,008 | 0,001 | 0,025 | | | 0,021 |
| Cox & Snell $R^2$ | | | | 0,036 | 0,066 | |

## 4.2 Robustness

### 4.2.1 Industries

Following da Silva et al (2004), I argue that since it is easier for companies in non-cyclical industries to predict future cashflows, they can afford to pay higher dividends. However, for firms in industries with very volatile earnings, high payout ratios may be regarded to be too costly to maintain in years of bad business cycles. Accordingly, I control for this "industry effect" by employing regressions controlling for industry dummy variables for manufacturing companies, retail companies, real estate companies, and research/consulting companies, holding the remaining companies as a reference entity. No industry dummy category is found to be significant and these control variables does not change the overall results in the regressions

### 4.2.2 Zero Dividends

I find that 56 percent of the listed companies (sample L1) and 22 percent of the listed companies with positive net earnings and cashflows (sample L2) pay no dividends. This large proportion of observations with zero dividends may distract the results. Following Maury and Paujuste (2002) I have therefore re-estimated the regression models found in table 7 using Tobit models. Moreover, I have computed OLS regressions and Tobit

regressions on DTE for sample L1. I find that these Tobit regressions produce very similar results to the original OLS regressions.

### 4.2.3 Size

In all regressions, the natural logarithm of sales is used as a proxy for firm size. I have checked the correlation between sales with other proxies for firm size, namely equity and total assets. The correlation between assets and sales is 0,907, and the correlation between equity and sales is 0,822 using Pearson 2-tailed correlation test. Because of the high correlations found, I regard sales to be a good proxy for firm size.

### 4.2.4 Time

To investigate how sensitive the results in the analyses are to a particular point in time, I have chosen to re-estimate the regression models in table 7 and 9 by employing a five year average of the dividends-to-earnings variable (ADTE) and a five year average of the dividends-to-sales variable (ADTS) (see table 14 and 15 below).[33] The only significant difference found between DTE and ADTE is that the votes-to-equity variable and the debt to equity variable are significantly positive in the ADTE regression. The only significant difference between DTS and ADTS is that controlling institutions and controlling families exhibit a negative relation to the ADTS. My interpretation of these findings is that the some of the results in the analyses may be sensitive to a particular point in time.

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[33] Compare with Maury and Paujuste (2002).

**Table 14. Average dividends to earnings (sample L2)**

Estimates of OLS models relating to the average dividends to earnings ratio to the independent variables of interest, and controlling for growth, size and profitability of 101 listed companies with positive net earnings and cashflows (sample L2). P-values are shown within parenthesis below each beta value. Stars (*) represent the level of significance at the 10, 5, and 1 percent level.

| Models | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| **Variables** | | | | | | |
| Votes-to-equity | O,238* (0,058) | | | | | |
| Debt-to-equity | | 0,508*** (0,000) | | | | |
| Votes of the largest shareholder | | | 0,003 (0,679) | | | |
| Controlling family dummy | | | | 0,081 (0,912) | | |
| Controlling corporation dummy | | | | -0,087 (0,914) | | |
| Controlling institution dummy | | | | -0,283 (0,757) | | |
| Another large shareholder dummy | | | | | -0,445 (0,224) | |
| Family-family dummy | | | | | | -0,372 (0,373) |
| Size | -0,100 (0,324) | -0,096 (0,312) | -0,073 (0,473) | -0,069 (0,519) | -0,094 (0,361) | -0,090 (0,380) |
| Profitability | -1,191 (0,430) | -1,353 (0,343) | -1,277 (0,407) | -1,332 (0,395) | -1,667 (0,281) | -1,533 (0,323) |
| Growth | -0,419 (0,284) | -0,448) (0,225) | -0,481 (0,229) | -0,476 (0,237) | -0,487 (0,218) | -0,450 (0,256) |
| F | 1,531 | 4,531*** | 0,629 | 0,448 | 0,968 | 0,790 |
| $R^2$ | 0,060 | 0,159 | 0,026 | 0,028 | 0,039 | 0,032 |

**Table 15. Average dividends to sales (sample L2)**

Estimates of OLS models relating to the average dividends to sales ratio to the independent variables of interest, and controlling for growth, size and profitability of 101 listed companies with positive net earnings and cashflows (sample L2). P-values are shown within parenthesis below each beta value. Stars (*) represent the level of significance at the 10, 5, and 1 percent level.

| Models | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| **Variables** | | | | | | |
| Votes-to-equity | -0,002 (0,705) | | | | | |
| Debt-to-equity | | -0,004 (0,462) | | | | |
| Votes of the largest shareholder | | | 0,000 (0,188) | | | |
| Controlling family dummy | | | | -0,059** (0,035) | | |
| Controlling corporation dummy | | | | -0,045 (0,151) | | |
| Controlling institution dummy | | | | -0,061* (0,084) | | |
| Another large shareholder dummy | | | | | -0,011 (0,434) | |
| Family-family dummy | | | | | | -0,017 (0,298) |
| Size | -0,001 (0,792) | -0,001 (0,785) | -0,001 (0,831) | -0,003 (0,444) | -0,002 (0,677) | -0,002 (0,640) |
| Profitability | 0,044 (0,460) | 0,046 (0,446) | 0,050 (0,404) | 0,028 (0,637) | 0,036 (0,553) | 0,035 (0,559) |
| Growth | -0,012 (0,458) | -0,011 (0,465) | -0,013 (0,387) | -0,010 (0,535) | -0,012 (0,447) | -0,011 (0,493) |
| F | 0,327 | 0,429 | 0,735 | 1,015 | 0,447 | 0,568 |
| $R^2$ | -0,013 | 0,018 | -0,011 | 0,061 | 0,018 | 0,023 |

# 5 Conclusions

As mentioned above, the purpose of my paper is to investigate how ownership structures are related to dividends, or more precisely to dividend levels and to the propensity to pay dividend (PTPD) in public (listed) and private (non-listed) Swedish firms. I find no evidence supporting the view that controlling shareholders in Sweden expropriate minority shareholders by reducing dividend payments. Firstly, companies having controlling shareholders holding a notably larger proportion of votes than equity do not show significantly different dividend levels or exhibit significantly different propensity to pay dividend than other companies. This implies that controlling shareholders do not seem to expropriate minority shareholders even when the negative wealth consequences of insider entrenchments are relatively low. Secondly, companies listed on the Stockholm Stock Exchange and the Nordic Growth Market have significantly higher dividend levels and have significantly higher propensity to pay dividend than large non-listed companies. This implies that companies with minority shareholders (listed companies) pay higher dividends than other companies; either because minority shareholders put pressure of the controlling shareholders to pay dividends or because the controlling shareholder attempts to signal to the minority shareholders that he is not extracting private benefits of control. Thirdly, the proportion of the votes under the control of the largest shareholder are not related to dividend levels but significantly positively related to the propensity to pay dividend. My interpretation of this finding is that controlling shareholders do not expropriate the minority shareholders even when their voting power increases. Fourthly, the type of the controlling shareholder does not seem to affect dividend levels. However, companies controlled by families or institutions have significantly higher propensity to pay dividend than other companies, where companies controlled by institutions have the highest propensity to pay dividend. Hence, the type of the controlling shareholder seems to some extent affect the dividend policy. Fifth, I find that companies having more than one large shareholder do not generally have higher dividends levels or higher propensity to pay dividend. However, I find some weak indications suggesting that companies having family investors as the two largest owners have lower dividend levels. My interpretation of this finding is that the largest two families may cooperate with the

intention to share private benefits of control, although the evidence for this occurrence is quite weak.

Finally, although ownership structures to some extent seem to be linked to the dividend policy of Swedish firms, the low $R^2$ values found in the regression analyses suggest that ownership structures may not be the most important factor in determining the variance of dividends. Since leverage does not seem to be related to dividends, I conclude that debt does not work as a substitute to dividends in limiting agency costs.

# 6 Suggestions for Future Research

In 2003, taxation laws were changed and allowed owners holding at least 10 percent of the equity to be exempted from taxation on dividend income and capital gain. It would be of interest to investigate if and how ownership structures and dividend policies will be affected by this change in tax policy.

As suggested by my results, the dividend policy seems to some extent to be time dependent. Investigating the occurrence of dividends smoothing (i.e. the tendency to keep dividends rather constant over the years regardless of changes in earnings etc) and other factors affecting the dividend policy over time might therefore be valuable.

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**Appendix 1**

2002-04-08

# Aktiespararna urges Mandamus shareholders: Vote against Akelius' proposals

The Swedish Shareholders' Association, Aktiespararna, urges Mandamus shareholders to give power of attorney to Aktiespararna in order to stop the plans that Akelius has for Fastighetsbolaget Mandamus AB.

Aktiespararna has anxiously followed developments in Mandamus in recent months. The Cyprus-based company Akelius Insurance Ltd. has bought almost 40% of the shares in Mandamus and wants to carry out changes that in Aktiespararna's view seriously risk harming Mandamus and its other shareholders.

In letters to shareholders Akelius has outlined the following plans:

- Akelius wants to immediately and permanently abolish all share dividends.
- For the money, Akelius wants Mandamus to buy back its own shares. Akelius wants to thereby circumvent the mandatory bid requirement for Mandamus shares.
- Akelius wants to strongly increase the borrowing in Mandamus. This will increase the risks and reduce the company's credit rating.
- Akelius' goal is to merge Mandamus with Akelius Fastigheter, which is not listed on the stock exchange, and change the name Mandamus to Akelius Bostad.

These measures will entail shareholders losing their dividends and finding themselves with an investment with a far higher risk than earlier. The measures could in addition result in the banks losing their trust in Mandamus. Aktiespararna therefore urges Mandamus shareholders to vote against Akelius' proposal at the shareholders' meeting on 10th June. Alternatively, shareholders are urged to give Sveriges Aktiesparares Riksförbund their power of attorney ahead of the shareholders' meeting.

Akelius is of course completely at liberty to try to totally change the focus and strategy of Mandamus. This, however, presumes that Akelius first acquires all of the listed company.

The form for giving power of attorney can be found on our website, www.aktiespararna.se.

THE SWEDISH SHAREHOLDERS' ASSOCIATION
SVERIGES AKTIESPARARES RIKSFÖRBUND

Stockholm 8 April 2002

Sten Trolle          Lars-Erik Forsgårdh
Chairman           Managing Director

# Appendix 2

**Table 16a**

**Statistics**

VTE

| | | | |
|---|---|---|---|
| No controlling shareholders | N | Valid | 25 |
| | | Missing | 0 |
| | Mean | | 1,2649 |
| | Median | | 1,0000 |
| | Minimum | | ,94 |
| | Maximum | | 5,00 |
| Controlling Family | N | Valid | 177 |
| | | Missing | 0 |
| | Mean | | 2,2999 |
| | Median | | 1,5041 |
| | Minimum | | ,79 |
| | Maximum | | 32,00 |
| Controlling Corporation | N | Valid | 49 |
| | | Missing | 0 |
| | Mean | | 1,4424 |
| | Median | | 1,0000 |
| | Minimum | | ,64 |
| | Maximum | | 5,01 |
| Controlling Institution | N | Valid | 15 |
| | | Missing | 0 |
| | Mean | | 1,0620 |
| | Median | | 1,0000 |
| | Minimum | | ,73 |
| | Maximum | | 2,20 |

**Table 16b**

**Statistics**

VTE

| | | | |
|---|---|---|---|
| No controlling shareholders | N | Valid | 7 |
| | | Missing | 0 |
| | Mean | | 1,5628 |
| | Median | | 1,0000 |
| | Minimum | | ,94 |
| | Maximum | | 5,00 |
| Controlling Family | N | Valid | 68 |
| | | Missing | 0 |
| | Mean | | 2,0648 |
| | Median | | 1,5335 |
| | Minimum | | ,90 |
| | Maximum | | 10,83 |
| Controlling Corporation | N | Valid | 17 |
| | | Missing | 0 |
| | Mean | | 1,5630 |
| | Median | | 1,0000 |
| | Minimum | | 1,00 |
| | Maximum | | 5,01 |
| Controlling Institution | N | Valid | 9 |
| | | Missing | 0 |
| | Mean | | 1,1034 |
| | Median | | 1,0000 |
| | Minimum | | ,73 |
| | Maximum | | 2,20 |

Table 16a shows the votes to equity ratio for different shareholder clienteles in listed companies (sample L1).

Table 16b shows the votes to equity ratio for different shareholder clienteles in listed companies with positive net earnings and cashflows (sample L2).

Appendix 3.

| Company | DTE | DTC | DTS | PTPD |
|---|---|---|---|---|
| A-com | ,0000 | ,00 | ,0000 | 0 |
| AcadeMedia | ,0000 | ,00 | ,0000 | 0 |
| ACSC | ,2973 | ,48 | ,0290 | 1 |
| Addtech | ,6007 | ,35 | ,0135 | 1 |
| Adera | ,0000 | ,00 | ,0000 | 0 |
| Affärsstrategerna | ,0000 | ,00 | ,0000 | 0 |
| Alfa Laval | ,0000 | ,00 | ,0000 | 0 |
| Allgon | ,0000 | ,00 | ,0000 | 0 |
| Artimplant | ,0000 | ,00 | ,0000 | 0 |
| Aspiro | ,0000 | ,00 | ,0000 | 0 |
| Assa Abloy | ,3602 | -2,28 | ,0180 | 1 |
| Atlas Copco | -,3099 | 92,71 | ,0253 | 1 |
| AudioDev | ,0000 | ,00 | ,0000 | 0 |
| Avanza | ,0000 | ,00 | ,0000 | 0 |
| Axfood | ,4258 | 7,00 | ,0080 | 1 |
| Axis | ,2882 | -,20 | ,0154 | 1 |
| B&N | ,0000 | ,00 | ,0000 | 0 |
| Ballingslöv | ,4156 | ,61 | ,0231 | 1 |
| Beijer & Alma | -,1074 | ,60 | ,0081 | 1 |
| Beijer Electronics | ,6122 | ,77 | ,0396 | 1 |
| Beijer G & L | ,6391 | 1,42 | ,0176 | 1 |
| Biacore | ,3622 | ,22 | ,0476 | 1 |
| Bilia | ,5677 | ,90 | ,0060 | 1 |
| Billerud | ,4705 | ,80 | ,0533 | 1 |
| BioGaia | ,0000 | ,00 | ,0000 | 0 |
| BioInvent International | ,0000 | ,00 | ,0000 | 0 |
| Biora | ,0000 | ,00 | ,0000 | 0 |
| Boliden | ,0000 | ,00 | ,0000 | 0 |
| Bong Ljungdahl | ,0000 | ,00 | ,0000 | 0 |
| Borås Wäfveri | ,0000 | ,00 | ,0000 | 0 |
| Boss Media | ,0000 | ,00 | ,0000 | 0 |
| Brio | ,0000 | ,00 | ,0000 | 0 |
| Broströms | ,9147 | -1,55 | ,0337 | 1 |
| BTS Group | ,4598 | ,22 | ,0171 | 1 |
| Bure Equity | ,0000 | ,00 | ,0000 | 0 |
| Capio | ,0000 | ,00 | ,0000 | 0 |
| Capona | ,7121 | ,62 | ,1499 | 1 |
| Cardo | 1,7778 | 1,34 | ,1157 | 1 |
| Cartesia | ,0000 | ,00 | ,0000 | 0 |
| Cashguard | ,0000 | ,00 | ,0000 | 0 |
| Castellum | ,0000 | ,00 | ,0000 | 0 |
| Cell Network | ,0000 | ,00 | ,0000 | 0 |
| Celtica | ,0000 | ,00 | ,0000 | 0 |
| CF Berg | -,4032 | ,67 | ,0045 | 1 |
| Cherryföretagen | ,0000 | ,00 | ,0000 | 0 |
| Clas Ohlson | ,4178 | ,53 | ,0417 | 1 |
| Cloetta Fazer | ,4258 | ,34 | ,0390 | 1 |
| Concordia Martime | ,0000 | ,00 | ,0000 | 0 |
| Confidence | ,0000 | ,00 | ,0000 | 0 |
| Consilium | ,0000 | ,00 | ,0000 | 0 |
| CTT Systems | ,0000 | ,00 | ,0000 | 0 |
| Custos | ,4857 | -,08 | ,5949 | 1 |
| Cyber Com | ,0000 | ,00 | ,0000 | 0 |
| D. Carnegie | 2,3816 | -,06 | ,2197 | 1 |
| Diffchamb | ,0000 | ,00 | ,0000 | 0 |
| Digital Vision | ,0000 | ,00 | ,0000 | 0 |
| Dimension | ,0000 | ,00 | ,0000 | 0 |
| Doro | ,0000 | ,00 | ,0000 | 0 |
| Drott | ,8252 | 1,02 | ,1235 | 1 |
| Duroc | ,0000 | ,00 | ,0000 | 0 |
| EBP Group | ,0000 | ,00 | ,0000 | 0 |
| ECTA Resurs | ,0000 | ,00 | ,0000 | 0 |
| Elanders | ,0000 | ,00 | ,0000 | 0 |
| Electrolux | ,3721 | ,56 | ,0142 | 1 |
| Elekta | ,0000 | ,00 | ,0000 | 0 |
| ElektronikGruppen BK | -,2394 | -,91 | ,0131 | 1 |
| Enea Data | ,0000 | ,00 | ,0000 | 0 |
| Eniro | -,3228 | -1,43 | ,0521 | 1 |
| Enlight | ,0000 | ,00 | ,0000 | 0 |

| Company | DTE | DTC | DTS | PTPD |
|---|---|---|---|---|
| Epsilon | ,0000 | ,00 | ,0000 | 0 |
| Ericsson | ,0000 | ,00 | ,0000 | 0 |
| Expanda | 1,3410 | ,49 | ,0121 | 1 |
| Facile & Co | ,0000 | ,00 | ,0000 | 0 |
| Fagerhult | ,3916 | -1,41 | ,0252 | 1 |
| Fast Partner | ,7845 | 2,98 | ,0827 | 1 |
| Fenix Outdoor | ,6619 | ,44 | ,0263 | 1 |
| Finnveden | ,0000 | ,00 | ,0000 | 0 |
| Firefly | ,0000 | ,00 | ,0000 | 0 |
| Forum SQL | ,0000 | ,00 | ,0000 | 0 |
| Framfab | ,0000 | ,00 | ,0000 | 0 |
| Frango | ,0000 | ,00 | ,0000 | 0 |
| Freetal - koncern | ,0000 | ,00 | ,0000 | 0 |
| Frontec | ,0000 | ,00 | ,0000 | 0 |
| Frontyard | ,0000 | ,00 | ,0000 | 0 |
| Gambro | ,6193 | 8,81 | ,0137 | 1 |
| Getinge | ,3450 | 4,43 | ,0248 | 1 |
| Geveko | -,4886 | -1,68 | ,0563 | 1 |
| Glocalnet | ,0000 | ,00 | ,0000 | 0 |
| Gorthon Lines | ,4848 | ,14 | ,0258 | 1 |
| Gotlandsbolaget | ,0000 | ,00 | ,0000 | 0 |
| Graninge | ,5341 | ,44 | ,0784 | 1 |
| Gunnebo | ,3713 | ,60 | ,0122 | 1 |
| Hagströmer&Qviberg | 2,1568 | ,03 | ,0574 | 1 |
| Haldex | ,4243 | -2,10 | ,0052 | 1 |
| Havsfrun | -2,6854 | -,08 | ,0245 | 1 |
| Heba | ,6370 | ,97 | ,2403 | 1 |
| Hennes&Mauritz | ,8731 | ,78 | ,1091 | 1 |
| Hexagon | ,4549 | -,35 | ,0122 | 1 |
| HiQ International | ,0000 | ,00 | ,0000 | 0 |
| HL Display | ,2890 | ,27 | ,0110 | 1 |
| Hoist International | 3,3987 | -8,76 | ,3066 | 1 |
| Holmen | ,4491 | ,85 | ,0547 | 1 |
| HQ fonder | ,8019 | 1,17 | ,1867 | 1 |
| Hufvudstaden | ,6892 | 1,11 | ,1724 | 1 |
| Höganäs | ,5394 | 1,11 | ,0526 | 1 |
| IAR Systems | ,0000 | ,00 | ,0000 | 0 |
| IBS | ,0000 | ,00 | ,0000 | 0 |
| Icon Medialab | ,0000 | ,00 | ,0000 | 0 |
| IFS | ,0000 | ,00 | ,0000 | 0 |
| In warehouse | ,0000 | ,00 | ,0000 | 0 |
| Inac | ,0000 | ,00 | ,0000 | 0 |
| Industrivärden | ,2566 | ,44 | ,1190 | 1 |
| Infinicom | ,0000 | ,00 | ,0000 | 0 |
| Intellecta | ,0000 | ,00 | ,0000 | 0 |
| Intentia | ,0000 | ,00 | ,0000 | 0 |
| Investor | 1,6201 | ,79 | ,4770 | 1 |
| Invik | -,0511 | -,09 | ,0237 | 1 |
| Itab | ,3653 | ,83 | ,0094 | 1 |
| JC | ,0000 | ,00 | ,0000 | 0 |
| JLT Mobile Computers | ,0000 | ,00 | ,0000 | 0 |
| JM | 1,2002 | ,83 | ,0342 | 1 |
| Kabe | ,2444 | 1,44 | ,0074 | 1 |
| karlshamns | ,4839 | 3,11 | ,0226 | 1 |
| Karo Bio | ,0000 | ,00 | ,0000 | 0 |
| Kinnevik | -,4417 | 19,55 | ,0411 | 1 |
| Klippan | ,2726 | ,41 | ,0074 | 1 |
| Klövern | ,0000 | ,00 | ,0000 | 0 |
| KMT | -,2660 | ,13 | ,0072 | 1 |
| Know IT | ,0000 | ,00 | ,0000 | 0 |
| Kungsleden | ,7072 | -8,72 | ,1048 | 1 |
| Labs2 Group | ,0000 | ,00 | ,0000 | 0 |
| Latour | ,6954 | -6,33 | ,0738 | 1 |
| LGP Telecom Holding | ,0000 | ,00 | ,0000 | 0 |
| Lindex | ,5343 | 1,22 | ,0164 | 1 |
| ljungbergGruppen | ,5203 | 5,07 | ,0858 | 1 |
| lundbergs | ,6231 | -1,58 | ,2974 | 1 |
| Malmbergs Elektriska | ,0000 | ,00 | ,0000 | 0 |
| Mandamus | ,8217 | ,48 | ,0453 | 1 |
| Meda | ,0000 | ,00 | ,0000 | 0 |
| Medirox | ,0000 | ,00 | ,0000 | 0 |
| Medivir | ,0000 | ,00 | ,0000 | 0 |

| Company | DTE | DTC | DTS | PTPD |
|---|---|---|---|---|
| Megacon | ,0000 | ,00 | ,0000 | 0 |
| Mekonomen | ,3240 | -,30 | ,0205 | 1 |
| Micronic Laser Systems | ,0000 | ,00 | ,0000 | 0 |
| Midway Holding | 2,3565 | ,47 | ,0126 | 1 |
| MNW Records Group | ,0000 | ,00 | ,0000 | 0 |
| Modul 1 | ,0000 | ,00 | ,0000 | 0 |
| Mogul | ,0000 | ,00 | ,0000 | 0 |
| MSC | ,0000 | ,00 | ,0000 | 0 |
| MTG | ,0000 | ,00 | ,0000 | 0 |
| MTV Production | ,0000 | ,00 | ,0000 | 0 |
| MultiQ International | ,0000 | ,00 | ,0000 | 0 |
| Munters | ,3220 | 1,56 | ,0183 | 1 |
| NCC | ,3430 | ,36 | ,0062 | 1 |
| Nea | ,7233 | 1,27 | ,0243 | 1 |
| Nefab | ,5833 | ,22 | ,0189 | 1 |
| Neonet | ,0000 | ,00 | ,0000 | 0 |
| Net Insight | ,0000 | ,00 | ,0000 | 0 |
| Netwise | ,0000 | ,00 | ,0000 | 0 |
| New Wave | ,2436 | ,12 | ,0151 | 1 |
| Nexus | ,0000 | ,00 | ,0000 | 0 |
| NGS | ,0000 | ,00 | ,0000 | 0 |
| Nibe Industrier | ,3054 | ,89 | ,0166 | 1 |
| Nilörngruppen | ,4008 | -,47 | ,0085 | 1 |
| Nobia | ,3186 | -1,88 | ,0136 | 1 |
| Nocom | ,0000 | ,00 | ,0000 | 0 |
| Nolato | ,0000 | ,00 | ,0000 | 0 |
| Nordnet | ,0000 | ,00 | ,0000 | 0 |
| NovaCast | ,0000 | ,00 | ,0000 | 0 |
| Novotek | ,5258 | 2,72 | ,0267 | 1 |
| Obducat | ,0000 | ,00 | ,0000 | 0 |
| Observer | 1,1686 | ,12 | ,0180 | 1 |
| OEM International | 2,3893 | -1,82 | ,0229 | 1 |
| OM Gruppen | -1,1831 | -,22 | ,0328 | 1 |
| Opcon | ,0000 | ,00 | ,0000 | 0 |
| OptiMail | ,2545 | ,16 | ,0279 | 1 |
| Optimum Optik | ,0000 | ,00 | ,0000 | 0 |
| Orc Software | ,5108 | ,54 | ,1806 | 1 |
| Ortivus | ,0000 | ,00 | ,0000 | 0 |
| PA Resources | ,0000 | ,00 | ,0000 | 0 |
| Pandox | ,5668 | ,84 | ,1882 | 1 |
| Parisab | ,0000 | ,00 | ,0000 | 0 |
| PartnerTech | ,0000 | ,00 | ,0000 | 0 |
| Peab | ,3931 | 2,04 | ,0097 | 1 |
| Pergo | ,0000 | ,00 | ,0000 | 0 |
| Peribo Science | ,2404 | 6,22 | ,0254 | 1 |
| Poolia | -,1297 | -,10 | ,0073 | 1 |
| Precise Biometrics | ,0000 | ,00 | ,0000 | 0 |
| Prevas | ,0000 | ,00 | ,0000 | 0 |
| Pricer | ,0000 | ,00 | ,0000 | 0 |
| Proact IT Grouop | ,0000 | ,00 | ,0000 | 0 |
| Probi | ,0000 | ,00 | ,0000 | 0 |
| Proffice | -8,3700 | -,16 | ,0055 | 1 |
| ProfilGruppen | ,8788 | ,26 | ,0056 | 1 |
| Protect Data | ,0000 | ,00 | ,0000 | 0 |
| Q-med | ,0000 | ,00 | ,0000 | 0 |
| Ratos | 1,4624 | ,54 | ,7272 | 1 |
| ReadSoft | ,0000 | ,00 | ,0000 | 0 |
| Realia | ,0000 | ,00 | ,0000 | 0 |
| Resco | ,0000 | ,00 | ,0000 | 0 |
| Retail and Brands | ,0000 | ,00 | ,0000 | 0 |
| RKS | ,0000 | ,00 | ,0000 | 0 |
| Rottneros | ,9981 | -,86 | ,0220 | 1 |
| Rörvik Timber | ,0000 | ,00 | ,0000 | 0 |
| Saab | ,5096 | -,74 | ,0226 | 1 |
| SalusAnsvar | ,0000 | ,00 | ,0000 | 0 |
| Sandvik | ,7276 | 1,09 | ,0513 | 1 |
| Sapa | ,0000 | ,00 | ,0000 | 0 |
| Sardus | ,6610 | ,59 | ,0266 | 1 |
| SCA | ,3886 | ,98 | ,0251 | 1 |
| Scandiaconsult | 1,1311 | ,55 | ,0828 | 1 |
| Scania | ,4016 | 4,74 | ,0233 | 1 |
| Scribona | ,0000 | ,00 | ,0000 | 0 |

| Company | DTE | DTC | DTS | PTPD |
|---|---|---|---|---|
| Seco Tools | ,9091 | 1,16 | ,0999 | 1 |
| Sectra | ,3241 | ,25 | ,0307 | 1 |
| Securitas | ,4914 | ,30 | ,0111 | 1 |
| Semcon | ,0000 | ,00 | ,0000 | 0 |
| Senea | ,0000 | ,00 | ,0000 | 0 |
| Sigma | ,0000 | ,00 | ,0000 | 0 |
| Sign On | ,0000 | ,00 | ,0000 | 0 |
| Skanditek - koncern | ,0000 | ,00 | ,0000 | 0 |
| Skanska | -1,0001 | -,72 | ,0058 | 1 |
| SKF | ,3693 | ,16 | ,0215 | 1 |
| Skistar | ,5940 | 1,30 | ,0653 | 1 |
| Smarteq | ,0000 | ,00 | ,0000 | 0 |
| Softronic | ,0000 | ,00 | ,0000 | 0 |
| Song Networks Holding | ,0000 | ,00 | ,0000 | 0 |
| SRAB Holding | ,0000 | ,00 | ,0000 | 0 |
| SSAB | 1,0485 | -13,75 | ,0314 | 1 |
| Stille | ,0000 | ,00 | ,0000 | 0 |
| Strand | ,0000 | ,00 | ,0000 | 0 |
| Strålfors | 1,2635 | ,76 | ,0117 | 1 |
| Studsvik | ,0000 | ,00 | ,0000 | 0 |
| Sweco | 1,6268 | ,61 | ,0502 | 1 |
| Svedbergs | ,9369 | ,69 | ,0760 | 1 |
| Swedish Match | ,3746 | ,58 | ,0392 | 1 |
| Svenska Orient Linien | ,0000 | ,00 | ,0000 | 0 |
| Tele2 | ,0000 | ,00 | ,0000 | 0 |
| Teleca | ,9303 | ,99 | ,0212 | 1 |
| Telelogic | ,0000 | ,00 | ,0000 | 0 |
| TeliaSonera | -,2318 | -1,00 | ,0314 | 1 |
| Teligent | ,0000 | ,00 | ,0000 | 0 |
| Thalamus Networks | ,0000 | ,00 | ,0000 | 0 |
| The Empire | ,0000 | ,00 | ,0000 | 0 |
| Ticket | ,0000 | ,00 | ,0000 | 0 |
| Tivox | ,0000 | ,00 | ,0000 | 0 |
| Tornet | ,2237 | ,39 | ,0505 | 1 |
| Traction | -,3672 | -,06 | ,0190 | 1 |
| Trelleborg | ,8647 | -,56 | ,0201 | 1 |
| Trio - koncern | ,0000 | ,00 | ,0000 | 0 |
| TurnIT | ,0000 | ,00 | ,0000 | 0 |
| TV 4 | 1,3713 | ,68 | ,0440 | 1 |
| Utfors | ,0000 | ,00 | ,0000 | 0 |
| Wallenstam | ,3950 | ,77 | ,0846 | 1 |
| VBG | ,5925 | 17,79 | ,0176 | 1 |
| Westergyllen | ,0000 | ,00 | ,0000 | 0 |
| Wihlborgs | ,3953 | ,47 | ,1682 | 1 |
| Viking Telecom | ,0000 | ,00 | ,0000 | 0 |
| Wilh Sonesson | ,0000 | ,00 | ,0000 | 0 |
| Vitrolife | ,0000 | ,00 | ,0000 | 0 |
| VLT | 2,0411 | -,22 | ,0330 | 1 |
| WM-data | ,0000 | ,00 | ,0000 | 0 |
| Vodafone | ,0000 | ,00 | ,0000 | 0 |
| Volvo | 2,4089 | 2,16 | ,0180 | 1 |
| XPonCard Group | ,0000 | ,00 | ,0000 | 0 |
| Ångpanneföreningen | -,0902 | -,16 | ,0060 | 1 |

**DTE: Dividends  to earnings**
**DTS: Diviends to sales**
**DTC: Dividends to cashflows s**
**PTPD: Propensity to pay dividends**