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# Controlling Shareholders, Agency Problems, and Dividend Policy in Finland\*

## ABSTRACT

*We report that the ownership and control structure significantly affects the dividend policy in Finnish listed firms. The dividend payout ratio is negatively related to the control stake of the controlling shareholder. In addition, the presence of another large shareholder also affects the payout ratio negatively. Our results also indicate that different owner types in control influence dividend policy differently. In particular, we find when the CEO also is a large shareholder firms pay lower dividends. Finally, we report that the separation of ownership and control through high-voting shares and pyramid control structures does not have a significant impact on dividend policy in Finnish listed firms. We conclude that a firm's control structure affects the dividend payout policy and that dominant shareholders in control may collude in generating private benefits of control that are not shared with minority shareholders as indicated by lower dividend payout levels.*

*JEL classification: G32, G35*

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## 1. INTRODUCTION

One of the basic financial policy choices facing a firm is what percent of earnings to pay out as dividends. The seminal work by Modigliani and Miller (1958, 1961) established that, under restrictive set of conditions, when investment policy is held constant, a firm's dividend policy does not affect shareholder wealth because higher dividend payouts lead to lower retained earnings and capital gains, leaving the wealth of shareholders unchanged. Motivated by Lintner's (1956) finding that firms follow well-considered payout strategies, financial theory has offered a range of explanations for dividend policies based on agency conflicts between corporate insiders and outside shareholders, signaling theories, and taxes. In this paper, we present evidence consistent with one of the agency conflict explanations of dividends, particularly, showing that the ownership and control structure of the firm affects its dividend payout strategies.

The basic motivation for the agency models of dividends is that unless a firm's profits are paid out as dividends, corporate managers may divert the cash flow for personal use or pursue unprofitable investment projects. Dividend payouts can be seen as means to reduce the free cash flow that managers can use at their own discretion (Jensen, 1986; Lang and Litzenberger, 1989). As a consequence, outside shareholders may have a preference for dividends over retained earnings.

The agency models on dividends can be divided into at least two distinct groups. The first range of theories considers dividend payouts as an outcome of the agency conflict between managers and shareholders, as well as between controlling shareholders and outside shareholders (La Porta et al. 2000; Faccio et al. 2001). According to La Porta et al. (2000), dividend payouts are an outcome of the legal shareholder protection. Particularly, they find that firms in civil-law countries pay lower dividends than in common-law countries. La Porta et al. (2000) claim that under an effective legal system, minority shareholders use their legal power to force firms to pay out dividends. Contrary to this view, the second set of agency models argues that dividend payout policies are substitutes for governance problems in a firm (Easterbrook, 1984; Gomes, 2000).

Recent empirical research shows that many publicly traded firms in Western Europe, South and East Asia, Middle East, Latin America, and Africa have large shareholders in control – most often families (La Porta et al. 1999; Claessens et al. 2000; European Corporate Governance Network, 2001; Faccio and Lang, 2002). These findings suggest that the relevant agency problem is not the one between corporate managers and shareholders but rather between controlling shareholders and minority shareholders. The controlling shareholders often have managerial ties, which make the collusion between managers and controlling shareholders likely.

The type of the controlling shareholder is also likely to affect a firm's governance. When controlling shareholders are private persons, such as managers, board of directors and families, they are often unambiguously in control of the firm. As a consequence, we try to distinguish not only the impact that controlling shareholders have on dividend policies, but also the difference between various types of private owners, corporate and institutional shareholders. We would expect that some types of controlling shareholders have more power to expropriate minority shareholders, which could come in form of lower dividends.

In this paper, we attempt to explore how different ownership structures and owner types affect the dividend payout decisions in Finnish listed companies. The sample consists of 133 firms in 1999. We start our analysis by describing the ownership and control structures of Finnish firms. We find that the median voting power of the largest shareholder is 33.2 percent which is much higher than in common law countries such as England (9.9 percent) and the US (5.4%), but slightly lower than in eight continental European countries (44%)<sup>1</sup>. We also find that the most common controlling owner category is private persons. In many cases these private owners have managerial and/or board representation, which suggests that they have a strong say in deciding what proportion of earnings to pay out as dividends. As a result, the minority shareholders are the victims of controlling shareholders' potential interest in diverting the firm's profits into private benefits instead of paying them out on pro-rata basis.

We find empirical evidence in favor of the outcome agency model of dividends. Specifically, we find that the concentration of voting rights is associated with lower levels of dividends as a proportion of earnings. The result holds for different measures of control concentration. The negative impact of the concentration of voting rights could be interpreted as an evidence for the existence of private benefits of control by strong blockholders. Moreover, we observe that the negative effect is not driven solely by the largest shareholder's voting power, but also by the second largest owner's stake. We find a significantly negative impact of the presence of another strong shareholder. Our findings suggest that a large controlling shareholder or a coalition of large shareholders have the preference and the ability *not* to pay out profits as pro-rata distributions to all shareholders, but rather to pay themselves only in form of private benefits of control. According to Shleifer and Vishny (1997), controlling shareholders can extract private benefits for instance by exploiting business relationships with the companies they control.

We are also interested in knowing if there is any systematic difference in how different types of controlling shareholders influence dividend decisions. We find that if the CEO is among the three largest shareholders in the firm – which is the case in about 15% of the firms in the

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<sup>1</sup> Comparative figures are from European Corporate Governance Network, 2001.

sample – the firm’s median dividend payout level is significantly lower. Our results also indicate that private investors in general tend to be associated with higher dividend payouts rather than with lower dividends. This finding is inconsistent with some results on Swedish firms by Angeldorff and Novikov (1999) who claim that privately controlled firms behave differently by paying lower dividends. One important difference between Finland and Sweden is the preferential tax treatment of dividends for domestic private investors and firms, which is not the case in Sweden. Our results suggest that, due to imputation tax credit in Finland, private owners, generally, prefer dividends to capital gains. However, when the private owner also is the firm’s CEO private benefits of control could outweigh the benefits of dividend payouts.

We find some support for the hypothesis that the dividend payout rate is lower if the corporation is affiliated to a group structure. It is possible that group-affiliated corporations prefer to retain cash for projects within the group (e.g. cross-subsidizing group companies or empire building), and therefore have, on average, lower dividend payout ratios.

This paper also analyzes the impact of using voting rights in excess of cash-flow rights on dividend payouts. It has been proposed that the separation of ownership and control by using dual-class shares, stock pyramids and cross-holdings creates additional agency problems in firms when large shareholders can exercise significant power while holding only a small fraction of the cash flow rights (Bebchuk et al. 1999). The main idea here is to see whether controlling shareholders that use high voting shares to enhance their control are associated with lower dividend levels due to private benefits of control. We do not find a significant relationship between the level of separation of ownership and control and dividend-to-earnings ratio. One countervailing effect to the hypothesis proposed is the reputation of the controlling shareholder that can reduce the expropriation of minority shareholders (Gomes, 2000). Another explanation is that the deviation from the one share one vote scheme is driven by another factor – namely, the preference for dividends by the type of the controlling owner. Maury and Pajuste (2002) report that private owners are the most common users of high voting shares to maintain control in Finnish listed firms.

The paper is organized as follows. Section 2 presents the data, the institutional setting, and reviews prior research on the relationship between ownership structure and dividend payout policy. Section 3 displays descriptive statistics on ownership and control structures in Finnish listed firms. Section 4 reports our empirical results. Section 5 concludes.

## 2. ECONOMIC FRAMEWORK

### 2.1 Sample

To construct the sample, we start by identifying all companies listed on the Helsinki Stock Exchange; there were 164 firms listed at the end of 1999 or who entered the market before July 2000. Table 1 summarizes the sample construction. The main reason for some loss of observations is the unavailability of alternative sources for ownership data that we need to ensure the reliability of the data. The ownership data is primarily collected from the *annual reports*. The yearbook *Pörssitieto* is particularly helpful in identifying ultimate ownership because the book often reports important indirect owners of unlisted firms who are the largest shareholders. Panel A of Table 1 shows that the selection criteria yield a total of 133 firms with ownership. In Panel B, we report the omissions of observations due to negative earnings for 1999 and outliers (dividends more than five times the earnings). The final sample using 1999 dividend payout ratios includes 127 firms, and the sample for average dividend payout ratios for years 1995–1999 amounts to 131 firms.

All data on dividends and earnings come from *Delphi Economics* published in the publication *Listatut Yhtiöt*. Earnings are measured after taxes and minority interests but before extraordinary items. We collect dividend-to-earnings ratios for the period 1995–1999. The actual dividend-to-earnings ratios are given in Appendix 2. The other accounting data used in the analyses come from the *Nordic Accounting Network* and the annual reports. To get a measure

**TABLE 1. Construction of the sample.**

|  |   |
|--|---|
| <b>Panel A: Construction of the basic sample with ownership data</b> |   |
| 164  | Listed firms (Dec., 1999–June, 2000)  |
| –24  | Unable to cross-check ownership data (of which from main list –7, I-list –11, and NM-list –6) |
| –7   | Merger, reorganization, liquidation, foreign firm or redemption duty by largest shareholder   |
| <u>133</u>   | Basic sample with ownership data used in empirical analyzes                                   |
| <b>Panel B: Construction of sample for empirical analysis</b>        |   |
| <b>Sample 1: Dividend-to-earnings for 1999</b>                       |   |
| 133  | Basic sample with ownership data  |
| –3   | Negative earnings 1999  |
| –3   | Outliers (dividend-to-earnings ratio)   |
| <u>127</u>   | Sample for dividend-earnings ratios 1999  |
| <b>Sample 2: Average dividend-to-earnings ratio 1995–1999</b>        |   |
| 133  | Basic sample with ownership data  |
| –2   | Outlier (average dividend-to-earnings ratio)  |
| <u>131</u>   | Sample for average dividend-to-earnings ratios  |

of foreign ownership, we add nominee registered foreign investors to direct foreign shareholders using data from the *Finnish Central Securities Depository*<sup>2</sup>.

### 2.1.1 Measuring immediate and ultimate control stakes

This study uses two different measures of ownership and control of firms: immediate cash flow and control rights by the largest shareholders, and the control and cash flow stake of the largest ultimate controlling shareholder. In both measures, our definition of control relies on voting rights whereas the definition of ownership rights relies on cash-flow rights.

Immediate control and cash flow ownership stakes are measured at the first layer of control. For each firm, we collect data on votes and cash-flow rights of three largest shareholders ranked by their voting power. Ownership data is collected from the annual reports and are from the end of year 1999. Moreover, we use the yearbook *Pörssitieto* to identify owner groups and indirect holdings by private persons. We distinguish between private shareholders, financial institutions, corporations, state or city, and miscellaneous<sup>3</sup> ownership types. We define a controlling family as the sum of votes held by individuals with the same surname. We assume that every family owns and votes collectively. We calculate the ownership of financial groups, which are identified in *Pörssitieto*, by adding together the holdings of firms belonging to the same financial group<sup>4</sup>. Our measure of immediate control captures one effect of separating ownership from control, i.e. when firms have different classes of shares that provide different voting rights for given cash-flow rights.

The measure of the largest *ultimate* control and cash flow ownership stakes requires some more work. We start by identifying all immediate controlling shareholders – treating family members and financial groups in the same way as for immediate ownership and control stakes – with at least 10% of the votes in a firm. If the largest immediate controlling shareholder is a family or state, we already have the largest ultimate controlling shareholder. However, when other type of owners, mostly other corporations and financial institutions, control the sample firm, we search for the largest shareholder(s) of that owner with at least 10% of the votes along the control path. We follow this procedure for the third and fourth layer of control and so on until we find the ultimate owner. To get a measure of the control stake of the ultimate control-

<sup>2</sup> Foreign investors were the largest investor category with a 69.9% share of the market capitalization of Finnish listed firms as of June 1, 2000 (Karhunen and Keloharju, 2001).

<sup>3</sup> "Miscellaneous" includes, for example, associations and foundations. We realise that some of these types might have particular interest in one or the other dividend policy. But we did not classify these groups separately, because of limited number of observations. This limitation does not allow us to draw any significant conclusions about the impact of these ownership types on dividend policy.

<sup>4</sup> The insurance groups are Fennia-Ryhmä, Merita Oyj (with Merita henkivakuutus Oy), Osuuspankkikeskus, Pohjola-Yhtymä Vakuutus Oyj, Sampo-Varma -ryhmä and Tapiola-yhtiöt (see *Pörssitieto* 1999 for further information).

ling shareholder, we use the minimum share of voting rights along the controlling path exceeding the 10% threshold. By using the weakest voting stake in the control path, we take into account the possible loss of control by using several layers of control. If there are several shareholders with the same amount of control, we use the one with the highest minimum control stake along the control path. When shareholders control a firm both directly and through other firms, we sum the direct and indirect control stakes of that shareholder.

The cash-flow ownership stake can differ from the control stake of the controlling shareholder in two principal ways. Firstly, the ownership can differ from the voting rights if the firm has different classes of shares that provide different amount of votes. Secondly, the voting rights can differ from the ownership rights because the controlling shareholder controls the sample firm through a chain of firms. When the ultimate controlling shareholder controls the firm indirectly, through at least one other firm, we define the cash-flow ownership stake by the *product* of the cash-flow stakes along the control path. Thus, controlling a firm through a pyramid can create a significant wedge between ownership and control even without using high voting shares to increase control. A direct ownership stake in the sample firm is added to the indirect stakes.

An ultimate controlling shareholder can be a family (or unlisted firm)<sup>5</sup>, the state, a widely held corporation, a widely financial institution or of a miscellaneous type. If no one controls at least 10% of the votes, the firm is regarded as being widely held.

## 2.2 Some features of control in Finnish listed firms

In Table 2, we present descriptive statistics on the concentration of voting rights and the separation of ownership and control by the largest immediate shareholders in Finnish listed firms. Interestingly, we find that in about 70% of firms there is a controlling shareholder with at least 20% of votes. In about 46% (15%) of the sample firms, there is also a second controlling shareholder holding at least 10% (20%) of votes. On average (median), the largest shareholder holds 33% (28%) of ownership rights and 38% (33%) of control rights. In comparison to the largest shareholder's median stake of votes in firms operating in common-law countries, such as England (10%) and the US (5%), the concentration of votes is quite high. However, compared to an average of eight continental European countries, where the median control stake is 44%, the Finnish median control concentration is slightly lower. An interesting difference between Finland and continental Europe concerns the median size of the second largest shareholder

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<sup>5</sup> If we could not identify the owners of an unlisted firm, we follow the methodology used in Faccio and Lang (2002) and classify them as a family in the ultimate owner classification. The low likelihood that the owner of an unlisted firm is a widely held firm or financial institution, or the state leaves families as the likely owner in control.

**TABLE 2. Descriptive Statistics on Ownership in Finland.**

This table shows the percentage of firms with controlling shareholders (1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> largest), the average percentage of votes and cash flow rights by the largest owner, and the ownership/control ratio measured by amount of cash flow ownership/votes by the three largest owners respectively. The sample consists of 133 Finnish listed firms. Variables are defined in Appendix 1.

| Panel A: Control concentration  |          |            |
|---|----------|------------|
| Percentage of firms with >20% votes held by the largest owner                 |          | 69.92      |
| Percentage of firms with >20% votes held by the 2 <sup>nd</sup> largest owner |          | 15.04      |
| Percentage of firms with >10% votes held by the 2 <sup>nd</sup> largest owner |          | 45.86      |
| Percentage of firms with >10% votes held by the 3 <sup>rd</sup> largest owner |          | 16.54      |
| Panel B: Largest and second largest owner's control and cash-flow stakes      |          |            |
|   | Mean (%) | Median (%) |
| Ownership by largest owner  | 32.56    | 28.30      |
| Control by the largest shareholder  | 38.13    | 33.22      |
| Ownership by largest <i>ultimate</i> owner                                    | 30.41    | 26.17      |
| Control by the largest <i>ultimate</i> shareholder                            | 38.13    | 33.22      |
| 2 <sup>nd</sup> largest owner's ownership rights                              | 9.72     | 8.10       |
| 2 <sup>nd</sup> largest owner's control rights                                | 11.06    | 9.31       |
| Panel C: Ownership-to-control ratios  |          |            |
|   | Mean     |            |
| Controlling shareholder's Ownership/control ratio                             | 0.95     |            |
| Ultimate controlling shareholder's ownership/control ratio                    | 0.88     |            |
| 2 <sup>nd</sup> largest shareholder's Ownership/control ratio                 | 1.04     |            |
| 3 <sup>rd</sup> largest shareholder's Ownership/control ratio                 | 1.21     |            |

measured by voting rights. The median size of the second largest shareholder is as high as 9% in Finland while it is 6% in the continental Europe<sup>6</sup>.

Table 2 also displays the use of dual-class shares by the largest shareholders. We document that particularly the two largest shareholders hold voting rights in excess of cash-flow rights. Interestingly, as shown in Panel B of Table 3, there is a significant difference (at 1% significance level) in the ownership-to-control ratios between the largest and the third largest shareholder, as well as between the second largest and the third largest shareholder. The difference in the ownership-to-control ratio between the largest and the second largest shareholder is only weakly significant.

To summarize, we have shown that in the vast majority of Finnish listed firms, controlling shareholders hold large control stakes in their firms. The controlling shareholder often chooses to use high-voting shares to strengthen his control. These findings motivate us to focus our

<sup>6</sup> Comparative figures are from European Corporate Governance Network, 2001.

**TABLE 3. Ownership-to-Control Ratios.**

This table shows the number (and percent) of firms where the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> largest owner has ownership-to-control (O/C) ratios equal to one, less than one (i.e. more votes than cash flow rights), and firms with O/C ratios more than one (Panel A). The ownership/control ratio is defined in Appendix 1. Tests of difference in means in the use of dual-class shares to enhance control by the largest, second largest and third largest shareholders are displayed in Panel B. In the tests of difference in means, we cap the O/C ratio for the largest shareholder at the 95<sup>th</sup> percentile to reduce the impact of one outlier.

|  | Largest owner | 2 <sup>nd</sup> owner | 3 <sup>rd</sup> owner |
|--|---------------|-----------------------|-----------------------|
| <b>Panel A: Largest shareholders' use of dual-class shares</b>             |               |                       |                       |
| Number (%) of O/C=1 firms  | 80 (60%)      | 80 (60%)              | 79 (60%)              |
| Number (%) of O/C<1 firms  | 44 (33%)      | 41 (31%)              | 31 (23%)              |
| Number (%) of O/C>1 firms  | 9 (7%)        | 12 (9%)               | 23 (17%)              |
| Total sample (N)   | 133 (100%)    | 133 (100%)            | 133 (100%)            |
| <b>Panel B: Tests of difference in means (t-statistics)</b>                |               |                       |                       |
| <b>Ownership-to-control ratio</b>  |               |                       |                       |
| Largest owner vs 2 <sup>nd</sup> owner                                     | -1.69*        |                       |                       |
| Largest owner vs 3 <sup>rd</sup> owner                                     | -3.37***      |                       |                       |
| 2 <sup>nd</sup> owner vs 3 <sup>rd</sup> owner                             | -2.82***      |                       |                       |
| * , ** , *** Significant at the 10, 5, and 1 percent levels, respectively. |               |                       |                       |

analysis on conflicts of interest between controlling shareholders and minority shareholders in setting the dividend policy.

### 2.3 Controlling shareholders and dividend policy: theoretical issues

The main issue addressed in this paper is the influence of firm's ownership and control structure on dividend policy. In Section 2.2, we documented that a large shareholder with at least 20% of the votes is present in approximately 70% of Finnish listed firms. In this institutional setting, it is likely that large shareholders, when they gain nearly full control, start generating private benefits of control that are not shared with minority shareholders, as proposed by Shleifer and Vishny (1997). The discrepancy between voting rights and cash flow rights – created by using dual-class shares, pyramid ownership structures or cross-holdings – may add another layer of agency problems that could affect the dividend payouts. According to La Porta et al. (2000), unless the profits are paid out to shareholders, the insiders may divert profits for personal use or invest in unprofitable projects that provide benefits for themselves. La Porta et al. (2000) classify agency models of dividends into two distinct groups: those considering divi-

dends as an *outcome* of the legal shareholder protection on the one hand, and models taking the view that dividend policy is a *substitute* for the legal shareholder protection on the other hand. They further point out that the key issue in the agency approach to dividends is that "...failure to disgorge cash leads to its diversion or waste, which is detrimental to outside shareholders' interest" (La Porta et al. 2000, p. 2).

La Porta et al. (2000) present empirical evidence in favor of the outcome agency model of dividends. They claim that firms operating in countries with low shareholder protection pay lower dividends due to more agency problems between controlling shareholders and outside shareholders than in countries, such as the US and the UK, where investors are generally more protected. Faccio et al. (2001) address the effect of agency conflicts on dividend behavior, and present some evidence of dividend policies in European and East Asian firms stemming from the firm's ownership and control structure. In particular, Faccio et al. (2001) claim that another large shareholder mitigates agency conflicts in European firms, whereas multiple controlling shareholders intensify the conflicts of interest in East Asian firms, because they tend to collude in expropriating outside shareholders by paying lower dividends. Gugler and Yurtoglu (2001) claim that dividend payouts decrease with an increase in the control stake of the largest shareholder, whereas the size of the second largest shareholder is positively related to dividend payouts.

In another set of agency models, the dividend policy can be seen as a substitute for the conflict of interests between insiders and outsiders. In Zwiebel (1996), managers voluntarily pay dividends in order to avert challenges for control. Myers (2000) proposes that managers can continue in their current positions only if outside equity investors believe that corporate insiders will pay future dividends. Gomes (2000) focuses on the conflict of interests between controlling shareholders and minority shareholders, and argues that controlling shareholders can implicitly commit not to expropriate outside shareholders. More specifically, Gomes (2000) claims that managers can develop a reputation for treating outside shareholders well. He proposes that it is the multi-period nature of the realization of cash flows and the trading of shares that allows managers to commit implicitly not to expropriate outside shareholders.

In contrast to the view of Bebchuk et al. (1999) and Faccio et al. (2001), Gomes (2000) also argues that the costs associated with the separation of ownership and control are not so severe in markets with low protection of shareholders due to the reputation-building mechanism of controlling shareholders. Easterbrook (1984) propose that dividends may keep firms in the capital market where the monitoring of managers is available at lower cost. In sum, the substitute models of dividends rely on the need for firms to come to the external capital markets to raise funds. To be able to raise funds on attractive terms, the controlling shareholder or manager must establish a reputation for not expropriating outside investors.

The relationship between the identity of the controlling shareholder and the dividend payout level is less well understood. Angeldorff and Novikov (1999) claim that firms controlled by private owners have lower dividend levels in Swedish firms<sup>7</sup>. Moreover, Cronqvist and Nilsson (2000) argue that the agency problems of controlling shareholders with votes in excess of cash-flow rights are more severe with family owners as compared to corporate or financial owners. We will explore whether there exists any systematic relationship between the type of the controlling shareholder and dividend payouts in Finnish listed firms.

Other explanations for why firms pay dividends include taxation and signaling<sup>8</sup>. While it is easy to see that investors in different tax positions will have different tax preferences, it is harder to explain explicitly firms' dividend policies based on tax clienteles. In Finland, taxation of dividends is based on the imputation system (*avoir fiscal*), which entitles Finnish shareholders to an imputation tax credit<sup>9</sup>. This tax credit creates a preference for dividends over capital gains. The tax credit system does not, however, apply to non-taxed shareholders (including mutual funds) and foreign shareholders. Foreign shareholders are further subject to a withholding tax at the rate of 29 percent<sup>10</sup>. Consequently, shareholders could be divided into three different groups: (i) shareholders who prefer dividends over capital gains, (ii) shareholders who are indifferent between dividends and capital gains, and (iii) shareholders that prefer capital gains. Private investors and corporations would be in the first group, non-taxed investors, including mutual funds, in the second, and foreigners in the third group<sup>11</sup>.

<sup>7</sup> It should be noted that Finland and Sweden have different dividend tax schedules. Finland still has the imputation tax credit (*avoir fiscal*) system whereas Sweden does not. The *avoir fiscal* system makes dividends more favourable for Finnish private individuals than for Swedish ones, which could affect the preferences for dividends by controlling private individuals.

<sup>8</sup> Important papers on dividends and taxation include Miller and Scholes (1978) and Poterba and Summers (1984). Two influential papers explaining the information content of dividends include Battacharya (1979), and Miller and Rock (1985).

<sup>9</sup> First, firms' profits are taxed at a flat corporate tax rate, which was 28 percent for 1999. Shareholders' dividends and capital gains are then taxed at the capital gains tax rate, which was 29 percent in 2000. Finnish taxed shareholders are further entitled to the imputation tax credit, which was 7/18 in 1999 of the dividends received from the firm. The tax credit means that the investor pays an effective dividend tax rate of 1.4 percent  $((0.29/0.72)-(0.28/0.72))$  for the period. In year 2000 the corporate tax was raised to 29 and the tax credit to 29/71, which made the whole cash dividend untaxed for the domestic taxed investor.

<sup>10</sup> Finland has entered into double taxation treaties with approximately 60 countries in which case the withholding tax is reduced.

<sup>11</sup> See Liljebloom, Löflund and Hedvall (2001) for a further discussion on shareholders' preferences for dividends versus capital gains due to different tax positions in Finland.

### 3. OWNERSHIP AND CONTROL IN FINNISH COMPANIES: DESCRIPTIVE STATISTICS

This section presents descriptive statistics on controlling shareholders' types in Finnish listed firms. Moreover, we explore how the owner type and the control stake differ with firm size, how common dual-class share structures are and how they are used.

Table 3 reports the number of firms in which the controlling shareholder use votes in excess of, equal to, and below their cash-flow rights. In 40% (33% + 7%) of firms in 1999, the votes of the largest shareholder depart from her cash-flow rights. In 33% of these firms, high voting shares are used to increase control, and in 7% of firms the largest shareholder holds more cash-flow rights than votes. We observe that ownership and control separation is higher for the largest and the second largest shareholder. In contrast, the third largest shareholder uses votes in excess of cash-flow rights (23%) less frequently, and instead more often has cash-flow rights in excess of control rights (17%). This pattern suggests that the two largest shareholders appreciate control rights, whereas the third owner has a more passive role.

In Table 4 (Panel A and B), the identity of the controlling shareholder is displayed using the 10% and 20% control cut-off levels. We consider firms with no controlling shareholder, at the 10% or 20% level, as widely held. Panel A shows that in about 30% of all firms the controlling shareholder, at the 20% cut-off level, is an individual or a family. Another frequent controlling owner category is ownership by other corporations, which is the type in control in about 19% of firms. The other ownership categories are state (10%), financial institutions (6%), and miscellaneous (5%). In 30% of firms, no one controls 20% or more of the votes. Panel B in Table 4 shows the distribution of control using the 10% control cut-off. By this definition, financial institutions control roughly 11% of firms. Panel A and B also show how the type of the controlling shareholder varies with firm size (measured by sales). In Panel C of Table 4, we report the largest ultimate shareholder's type. By this control definition, the largest ultimate controlling shareholder category is a family or an unlisted firm in about 65% of the sample firms.

### 4. OWNERSHIP AND DIVIDENDS

This study uses the dividends-to-earnings ratio as the main measure for firms' dividend policy. We use three different specifications: the dividend-to-earnings ratio for the current year, an industry adjusted dividend-to-earnings ratio for the current year, as well as a 5-year average dividend-to-earnings ratio (for 1995–1999). We follow La Porta et al. (2000), who control for industry effects, and Faccio et al. (2001) who use average payout ratios for five years.

**TABLE 4. Control (10 % and 20%) of Finnish listed firms by size.**

This table displays the type of the largest controlling shareholder when control is defined as either  $\geq 20\%$  (Panel A) or  $\geq 10\%$  (Panel B) of the votes based on the firm's size (smallest 20%, middle 60%, and largest 20%) measured by sales as well as for all firms (last column). A firm is defined as having a dispersed ownership structure if no shareholders has 20% (in Panel A) and 10% (in Panel B) of the votes. In Panel C, the proportion of different ultimate owner types is displayed. The ultimate owner type is shown for the largest shareholder of each firm. The sample consists of 133 Finnish listed firms.

|   | Smallest 20% | Middle 60% | Largest 20% | All sample |
|---|--------------|------------|-------------|------------|
| <b>Panel A: Type of largest shareholder at 20% cut-off</b>                        |              |            |             |            |
| Private shareholders  | 26.92%       | 41.98%     | 11.54%      | 30.08%     |
| Corporations  | 19.23%       | 20.99%     | 15.38%      | 18.80%     |
| Financial institutions  | 3.85%        | 6.17%      | 3.85%       | 6.02%      |
| State or city   | 11.54%       | 3.70%      | 26.92%      | 9.77%      |
| Miscellaneous   | 3.85%        | 1.23%      | 3.85%       | 5.26%      |
| Widely held   | 34.62%       | 25.93%     | 38.46%      | 30.08%     |
| <b>Panel B: Type of largest shareholder at 10% cut-off</b>                        |              |            |             |            |
| Private shareholders  | 38.46%       | 40.74%     | 11.54%      | 36.09%     |
| Corporations  | 34.62%       | 25.93%     | 26.92%      | 27.82%     |
| Financial institutions  | 3.85%        | 13.58%     | 11.54%      | 11.28%     |
| State or city   | 11.54%       | 4.94%      | 26.92%      | 10.53%     |
| Miscellaneous   | 7.69%        | 6.17%      | 7.69%       | 6.77%      |
| Widely held   | 3.85%        | 8.64%      | 15.38%      | 7.52%      |
| <b>Panel C: Largest Ultimate Owner Type (10% control along the control chain)</b> |              |            |             |            |
| Family (or unlisted firm)   | 65.39%       | 75.31%     | 34.62%      | 65.41%     |
| Widely held (dispersed)   | 3.85%        | 8.64%      | 19.23%      | 9.77%      |
| State or city   | 11.54%       | 7.41%      | 30.77%      | 12.78%     |
| Widely held corporation   | 11.54%       | 3.70%      | 3.85%       | 5.26%      |
| Widely held financial   | 3.85%        | 1.23%      | 3.85%       | 2.26%      |
| Miscellaneous   | 3.85%        | 3.70%      | 7.69%       | 4.51%      |

The independent variables used in the analysis can be grouped into four main categories: ownership concentration variables, ownership and control separation variables, ownership type variables, and variables that control for firm specific effects such as size and growth. The construction of all variables used in the analysis is presented in Appendix 1.

#### 4.1 Simple statistics on ownership structure and dividend payout ratio

In Table 5, we present some preliminary results by showing median and mean values of the dividend-to-earnings ratios for the whole sample, as well as for firms with different control structures. We also present z-statistics for differences in median values of dividend-to-earnings ratios for control structures that are of particular importance for this study.

**TABLE 5. Dividends-to-earnings by control category and growth opportunities.**

This table classifies firms based on their control structure (Panel A) and the controlling shareholder's type at the 10% cut-off level (Panel C). For the different control classifications, the table reports median and mean values of the dividends-to-earnings ratio. Panel B and Panel D reports the Wilcoxon-Mann-Whitney z-statistic for differences in median dividend-to-earnings ratios between firms in different ownership and control categories and firms with different growth opportunities. The sample includes 127 Finnish listed firms. The dividends are reported as a percentage of the earnings in fiscal year 1999. Variables are defined in Appendix 1.

| Variable   | Median<br>Div/Earn (%) | Mean<br>Div/Earn (%) |
|--|------------------------|----------------------|
| <b>Panel A: Control structures</b>                                       |                        |                      |
| Controlling shareholder's Ownership/control ratio $\geq 1$ (a)           | 42.19                  | 44.95                |
| Controlling shareholder's Ownership/control ratio $< 1$ (b)              | 51.06                  | 70.28                |
| Control by the largest shareholder $\geq 20\%$ of votes                  | 43.75                  | 48.25                |
| Control by the largest shareholder $< 20\%$ of votes                     | 47.48                  | 65.88                |
| 50% voting majority by largest shareholder (N=45)                        | 38.18                  | 39.74                |
| Another large shareholder present (N=19)                                 | 34.94                  | 32.54                |
| Group affiliated firm (N=44)   | 41.84                  | 43.84                |
| Mature firm (N=63)   | 46.51                  | 63.66                |
| Growth firm (N=64)   | 41.08                  | 43.55                |
| All firms (N=127)  | 44.64                  | 53.52                |
| <b>Panel B: Z-Statistics for differences in medians</b>                  |                        |                      |
| Non separation vs separation of ownership & control [(a) vs (b)]         | -2.224**               |                      |
| Non majority vs majority owned firm                                      | 2.438**                |                      |
| Control below 20% vs control above 20%                                   | 1.356                  |                      |
| No large second shareholder vs another large shareholder present         | 2.131**                |                      |
| Mature vs growth firm  | 1.667*                 |                      |
| <b>Panel C: Control (10%) by owner type</b>                              |                        |                      |
| Controlling owner-manager (N=22)   | 33.86                  | 51.97                |
| Controlling family owner (N=20)  | 53.23                  | 54.61                |
| Controlling owner-manager or Controlling family owner                    | 43.75                  | 64.98                |
| CEO a large shareholder (N=20)   | 17.14                  | 43.95                |
| Controlling corporate shareholder (N=33)                                 | 41.88                  | 42.55                |
| Controlling financial institution (N=16)                                 | 38.75                  | 43.82                |
| State (or city) controls the firm (N=13)                                 | 42.86                  | 51.10                |
| <b>Panel D: Z-Statistic for differences in medians</b>                   |                        |                      |
| Controlling family owner vs Controlling owner-manager                    | 1.583                  |                      |
| CEO <i>not</i> a large shareholder vs CEO is a large shareholder         | 2.720***               |                      |
| *, **, *** Significant at the 10, 5, and 1 percent levels, respectively. |                        |                      |

In Panel A of Table 5, we report the dividend payout ratios for different sub-samples – firms that separate ownership and control, firms with concentrated control, group-affiliated firms, and mature vs. growth firms. Panel A shows that a firm controlled by a majority share-

holder (above 50% of votes) has lower median and mean payout ratios compared to the whole sample. When the controlling shareholder uses votes in excess of equity, the payout ratio is higher than the average value for all firms.

In Panel B of Table 5, we report z-statistics for differences in medians between different control structures. The z-statistic (2.224) for the difference between dividend payout ratios in non-majority (N = 82) and majority (N = 45) held firms is positive and statistically significant at 5% level. This preliminary result suggests that when the controlling owner is unambiguously in control firms pay lower dividends. In particular, the result suggests that a large owner in control may enjoy private benefits that are not shared with outside shareholders. We also show that the difference in median dividend payouts between owners using high-voting shares and one-share one-vote schemes is statistically significant at the 5% level. This preliminary finding, which does not consider the level of separation, is contradicting the argument that the separation of ownership and control would be associated with higher agency costs that are reflected in lower dividend payout ratios.

Panel B also shows that dividend-to-earnings ratios are lower in firms with another large shareholder holding at least 20% of the vote. The difference in median payout levels between firms with no large second shareholder and firms with another dominant shareholder is statistically significant at the 5% level. This result indicates that multiple large blockholders may prefer not to share the cash flows of the firm with minority shareholders.

The difference in medians between mature and growth firms is found to be weakly statistically significant, and indicates that mature firms have higher dividend-to-earnings ratios. This finding is partly consistent with La Porta et al. (2000) who find that the dividend payouts are higher in mature firms than in rapidly growing firms, though their result holds only for common-law countries.

In Panel C and D of Table 5, we show dividend payout ratios for different controlling owners depending on their type. Since this study focuses on the agency problems between inside and outside shareholders, we are particularly interested in private owners that directly control the firm. Therefore, we construct three different variables for private owners. The first variable, labeled "controlling owner-manager", indicates that the largest controlling shareholder is also a manager. The second variable, called "controlling family owner", includes all other private owners with or without board representation. At first sight, the dividend-to-earnings ratios for different private owners indicate that the owner-managers pay lower dividends as a percentage of earnings. The test of differences in median values between family owners and owner-managers is positive but not significant at conventional levels (Panel D). The third variable separates between firms in which the CEO is personally one of the three largest shareholders measured by votes and firms where he is not. The test of differences in median divi-

dividend-to-earnings suggests dividend payouts are significantly lower when the CEO is also a large shareholder in the firm.

In Table 6, we show how median dividend-to-earnings ratios vary by industry. Some industries, particularly firms in the telecommunications sector, have lower dividend payout levels. As a consequence, we control for industry-specific effects in the regressions by using an industry adjusted dividend-to-earnings variable.

The preliminary finding about the lower dividend payout levels in majority held firms is generally consistent with the outcome agency model of dividends proposed by La Porta et al. (2000). In the next section, we present the results from the regression analyses that control for different effects including firm size, growth, and industry. Moreover, we test the robustness of the results.

## 4.2 Regressions

In this section, we present the regression results of dividend-to-earnings ratios on ownership variables in a sample of 127 Finnish listed firms. We employ the ordinary-least-squares (OLS) model, and report the estimations conducted with standard errors that are robust with respect to heteroscedasticity. In Appendix 3 we compare our regression results to an iteratively re-weighted least squares model that control for potential observations with high leverage or influence. Tobit models are also used to deal with potential problem due to zero values of dividends in the dependent variable. The Tobit model results are similar to the OLS model results and are only briefly commented on in Section 4.3.

**TABLE 6. Dividend-to-earnings by industry.**

This table shows the median dividend-to-earnings ratios of firms classified by industry. The industry classification is based on the Helsinki Stock Exchange industry classification for Main list firms, and on the industry reported in the annual reports for New markets and I listed firms. The sample includes 127 Finnish listed firms. The dividends are reported as a percentage of the earnings in fiscal year 1999.

| Industry            | N  | Median Div/earn | Industry               | N   | Median Div/earn |
|---------------------|----|-----------------|------------------------|-----|-----------------|
| Banking and Finance | 8  | 52.19           | Metal and Engineering  | 11  | 45.83           |
| Chemicals           | 4  | 67.09           | Multibusiness          | 5   | 62.95           |
| Construction        | 4  | 46.88           | Other Industries       | 15  | 34.71           |
| Energy              | 2  | 45.78           | Other Services         | 10  | 51.15           |
| Food                | 8  | 51.66           | Telecom. & Electronics | 24  | 21.77           |
| Forest              | 4  | 36.27           | Trade                  | 9   | 54.55           |
| Investment          | 10 | 42.68           | Transport              | 5   | 64.62           |
| Media               | 8  | 57.23           | All firms              | 127 | 45.00           |

We control for (1) investment opportunities by using sales growth deciles, (2) firm size by using the logarithm of total book value of assets, and (3) the aggregate foreign ownership. The last variable is included to control for the preference for capital gains to dividends due to double taxation of dividends for foreign investors.

The main purpose of the regressions is to estimate the sign of the relationship between a particular explanatory variable and the dividend level. Therefore, as we are not aiming at measuring the preciseness of the specified model in explaining the differences in dividend levels, but only the sign of the relationship, we believe that low  $R^2$  values (in range of 3–13%) are not a major problem.

The main regression results are presented in Tables 7 through 9. Table 7 reports the results of regressions with the dividend-to-earnings ratio as the dependent variable. Table 8 re-estimates the same regression models with industry adjusted dividend-to earnings ratios. Finally, Table 9 presents results for dividend-to-earnings and industry adjusted dividend-to-earnings ratios using the ultimate ownership specification. Several other specification tests are left for the robustness section.

### *Ownership concentration*

We find a negative effect of ownership concentration on dividend payout ratios. We measure concentration by the sum of votes held by the three largest shareholders. The significantly negative coefficient indicates that a higher concentration of voting rights is associated with lower dividend payouts. Model (1) of Table 7 shows that the concentration of control by the three largest shareholders has a significantly negative impact on dividend-to-earnings ratios. In Model (2), we use a dummy variable that equals 1 when the largest shareholder has a voting majority (above 50% of votes). This coefficient is significant and is equal to 0.14–0.20 depending on specification. The results are qualitatively the same when using industry adjusted dividend-to-earnings ratios (see Table 8). In Table 9 we test for the influence of the ultimate controlling shareholder on dividend payout levels. The definition of ultimate control differs from immediate control because the control of the largest shareholder is measured by the weakest link along the control path when control is held through other firms or other type of owners. Table 9 confirms the findings in Tables 7 and 8, namely, that the concentration of control influences the dividend-to-earnings ratio significantly negatively.

In Model (5) of Tables 7 and 8, we include variables measuring the votes held by the largest, the second and the third largest shareholders. The results indicate a negative impact of the largest shareholders voting power. An interesting finding in Model (5) is the negative sign for the voting stake of second largest shareholder (the continuous variable). To further explore the role of another large shareholder, we include in Model (6) of Table 7 and 8 a dummy

**TABLE 7. Regression results for dividend-to-earnings ratios.**  
 Estimates of ordinary least squares models relating the dividend-to-earnings ratio to the ownership and control structure of the firm. More detailed variable descriptions are in Appendix 1. The sample consists of 127 Finnish listed firms. The dividends are reported as a percentage of the earnings in fiscal year 1999. Robust *t*-statistics are reported below the coefficient estimates.

|  | (1)                  | (2)                  | (3)                        | (4)                  | (5)                  | (6)                   |
|--|----------------------|----------------------|----------------------------|----------------------|----------------------|-----------------------|
|  |                      |                      | Dividend-to-earnings ratio |                      |                      |                       |
| Concentration of control by 3 largest shareholders | -0.0053**<br>(-2.25) |                      | 0.0060**<br>(-2.58)        | -0.0053**<br>(-2.51) |                      |                       |
| 50% voting majority by largest shareholder (dummy) |                      | -0.2105**<br>(-2.40) |                            |                      |                      |                       |
| Controlling owner-manager (dummy)                  |                      |                      | 0.1289<br>(0.65)           |                      |                      |                       |
| Controlling family owner (dummy)                   |                      |                      | 0.0940<br>(0.74)           |                      |                      |                       |
| Controlling corporate shareholder (dummy)          |                      |                      | -0.1049<br>(-0.91)         |                      |                      |                       |
| Controlling financial institution (dummy)          |                      |                      | -0.1423<br>(-0.97)         |                      |                      |                       |
| Group affiliation (dummy)                          |                      |                      |                            | -0.1332<br>(-1.51)   |                      |                       |
| Controlling shareholder's Ownership/control ratio  |                      |                      |                            | -0.1700<br>(-0.49)   |                      |                       |
| Control by the largest shareholder                 |                      |                      |                            |                      | -0.0052**<br>(-2.10) | -0.0047**<br>(-2.26)  |
| Control by the second largest shareholder          |                      |                      |                            |                      | -0.0061<br>(-1.44)   |                       |
| Another large shareholder present (dummy)          |                      |                      |                            |                      |                      | -0.2423***<br>(-2.93) |
| Control by the third largest shareholder           |                      |                      |                            |                      | -0.0020<br>(-0.23)   |                       |
| Foreign ownership (%)                              | 0.0003<br>(0.05)     | 0.0016<br>(0.25)     | 0.0012<br>(0.19)           | 0.0018<br>(0.29)     | 0.0004<br>(0.06)     | 0.0003<br>(0.04)      |
| Growth decile                                      | -0.0304*<br>(-1.69)  | -0.0304*<br>(-1.70)  | -0.0311<br>(-1.58)         | -0.0297*<br>(-1.68)  | -0.0311*<br>(-1.68)  | -0.0333*<br>(-1.82)   |
| Size   | 0.0135<br>(0.71)     | 0.0231<br>(1.18)     | 0.0209<br>(1.13)           | 0.0218<br>(1.21)     | 0.0148<br>(0.80)     | 0.0144<br>(0.76)      |
| Intercept  | 0.9061***<br>(3.21)  | 0.6220***<br>(2.83)  | 0.9053***<br>(3.17)        | 1.0404**<br>(2.35)   | 0.8865***<br>(3.05)  | 0.8426***<br>(3.32)   |
| R <sup>2</sup>                                     | 0.10                 | 0.08                 | 0.13                       | 0.12                 | 0.09                 | 0.11                  |
| R <sup>2</sup> adj.                                | 0.07                 | 0.04                 | 0.07                       | 0.07                 | 0.05                 | 0.08                  |
| Prob>F   | 0.058*               | 0.041**              | 0.131                      | 0.039**              | 0.109                | 0.009***              |
| Observations                                       | 127                  | 127                  | 127                        | 127                  | 127                  | 127                   |

\* , \*\* , \*\*\* Significant at the 10, 5, and 1 percent levels, respectively (two-tailed test).

variable equal to one if the second largest shareholder holds at least 20% of the voting rights in the firm.<sup>12</sup> We find that the impact of another large blockholder affects the dividend-to-earnings ratio negatively. The coefficient of "another large shareholder" is statistically significant at the 1% level. The second largest shareholder holds at least 20% of the votes in about 15% of the sample firms. This finding contradicts the argument about a positive monitoring role by another large shareholder, as proposed by Faccio et al. (2001) for Europe, and Gugler and Yurtogly (2001) for German corporations.

Our findings about the negative effect of ownership concentration by the three largest shareholders combined, as well as of the voting power held by the second largest shareholder suggest that the largest and second largest shareholders might collude in generating private benefits by paying lower dividends. This result is in line with a companion paper (Maury and Pajuste, 2002) that finds some evidence of collusion between the largest and second largest shareholders; the firms, in which the second largest shareholder is pivotal for gaining majority control, tend to be valued lower (have lower Tobin's Q). The results also support Faccio et al (2001) findings on East Asian companies.

### *Controlling owner's type*

We have argued that various owner categories could have different preferences for dividends for instance due to agency problems or tax reasons. Therefore, we test for the influence of different controlling owner types on the dividend payout ratio. We find a positive coefficient for private owners (owner-manager or family), indicating that private owners are associated with higher rather than lower dividend levels. The coefficients for institutional investors and corporations are both negative (see Model (3) in Table 7 and Table 8). However, the owner type coefficients are not significant at conventional levels in Tables 7 and 8. In Table 9, we use the ultimate ownership specification. The dummy variable taking the value one if the ultimate controlling shareholder is a private investor and zero otherwise is positive and significant (at the 10% level) in Model (3), indicating that private controlling shareholders would prefer higher dividends. When controlling for industry effects the coefficient of ultimate private owner variable is positive but not significant at conventional levels. The results in Appendix 3 confirm the positive impact of ultimate private controlling shareholders on the dividend-to-earnings ratio.

In Table 5 (Panel D) we showed that the dividend-to-earnings ratio is significantly lower in firms where the CEO is among the three largest shareholders. We also estimated the coeffi-

<sup>12</sup> We also used a 10% control specification for the second largest shareholder. This variable was highly insignificant, which suggests that the negative impact of a second blockholder dominates for higher control levels, such as 20% of the votes or more.

**TABLE 8. Regression results for industry adjusted dividend-to-earnings ratios.**  
 Estimates of ordinary-least-squares models relating the industry adjusted dividend-to-earnings ratio to the ownership and control structure of the firm. More detailed variable descriptions are in Appendix 1. The sample consists of 127 Finnish listed firms. The dividends are reported as a percentage of the earnings in fiscal year 1999. Robust *t*-statistics are reported below the coefficient estimates.

|  | (1)                  | (2)                 | (3)                  | (4)                  | (5)                 | (6)                   |
|--|----------------------|---------------------|----------------------|----------------------|---------------------|-----------------------|
| Industry adjusted dividend-to-earnings ratio       |                      |                     |                      |                      |                     |                       |
| Concentration of control by 3 largest shareholders | -0.0046**<br>(-2.09) |                     | -0.0053**<br>(-2.40) | -0.0044**<br>(-2.51) |                     |                       |
| 50% voting majority by largest shareholder (dummy) |                      | -0.1446*<br>(-1.72) |                      |                      |                     |                       |
| Controlling owner-manager (dummy)                  |                      |                     | 0.1791<br>(0.92)     |                      |                     |                       |
| Controlling family owner (dummy)                   |                      |                     | 0.0227<br>(0.18)     |                      |                     |                       |
| Controlling corporate shareholder (dummy)          |                      |                     | -0.1019<br>(-0.93)   |                      |                     |                       |
| Controlling financial institution (dummy)          |                      |                     | -0.1305<br>(-0.97)   |                      |                     |                       |
| Group affiliation (dummy)                          |                      |                     |                      | -0.1564*<br>(-1.94)  |                     |                       |
| Controlling shareholder's Ownership/control ratio  |                      |                     |                      | -0.1554<br>(-0.47)   |                     |                       |
| Control by the largest shareholder                 |                      |                     |                      |                      | -0.0044*<br>(-1.92) | -0.0038*<br>(-1.92)   |
| Control by the second largest shareholder          |                      |                     |                      |                      | -0.0059<br>(-1.48)  |                       |
| Another large shareholder present (dummy)          |                      |                     |                      |                      |                     | -0.2167***<br>(-2.71) |
| Control by the third largest shareholder           |                      |                     |                      |                      |                     |                       |
| Foreign ownership (%)                              | -0.0006<br>(-0.10)   |                     |                      |                      | -0.0051<br>(-0.64)  |                       |
| Growth decile                                      | -0.0077<br>(-0.48)   | 0.0007<br>(0.12)    | 0.0005<br>(0.08)     | 0.0012<br>(0.21)     | 0.0007<br>(0.12)    | -0.0005<br>(-0.09)    |
| Size   | 0.0116<br>(0.65)     | -0.0073<br>(-0.45)  | -0.0047<br>(-0.48)   | -0.0070<br>(-0.45)   | -0.0079<br>(-0.48)  | -0.0102<br>(-0.62)    |
| Intercept  | 0.2966<br>(1.14)     | 0.0208<br>(1.09)    | 0.0222<br>(1.34)     | 0.0212<br>(1.29)     | 0.0108<br>(0.62)    | 0.0127<br>(0.70)      |
|  |                      | 0.0256<br>(0.13)    | 0.2740<br>(1.07)     | 0.4076<br>(1.06)     | 0.3130<br>(1.16)    | 0.2268<br>(0.96)      |
| R <sup>2</sup>                                     | 0.06                 | 0.03                | 0.10                 | 0.09                 | 0.06                | 0.07                  |
| R <sup>2</sup> adj.                                | 0.03                 | 0.0001              | 0.04                 | 0.04                 | 0.02                | 0.03                  |
| Prob>F   | 0.27                 | 0.323               | 0.183                | 0.033**              | 0.442               | 0.011**               |
| Observations                                       | 127                  | 127                 | 127                  | 127                  | 127                 | 127                   |

\*, \*\*, \*\*\* Significant at the 10, 5, and 1 percent levels, respectively (two-tailed test).

**TABLE 9. Regression results for dividend-to-earnings ratios using ultimate ownership.**  
 Estimates of ordinary least squares models relating the dividend-to-earnings ratio to the largest ultimate controlling shareholder's control and cash-flow ownership stake in the firm. More detailed variable descriptions are in Appendix 1. The sample using dividend-to-earnings ratios and industry adjusted dividend-to-earnings ratios consists of 127 Finnish listed firms. The dividends are reported as a percentage of the earnings in fiscal year 1999. Robust *t*-statistics are reported below the coefficient estimates.

|   | Dividend-to-earnings ratio |                      |                       | Industry adjusted dividend-to-earnings ratio |                     |                      |
|---|----------------------------|----------------------|-----------------------|--|---------------------|----------------------|
|   | (1)                        | (2)                  | (3)                   | (4)  | (5)                 | (6)                  |
| Control by the largest ultimate shareholder                 | -0.0048**<br>(-2.44)       |                      | -0.0045***<br>(-2.78) | -0.0039**<br>(-2.19)                         |                     | -0.0047**<br>(-2.47) |
| 50% voting majority by largest ultimate shareholder (dummy) |                            | -0.2071**<br>(-2.41) |                       |  | -0.1431*<br>(-1.79) |                      |
| Ultimate private controlling shareholder (dummy)            |                            |                      | 0.1859*<br>(1.78)     |  |                     | 0.1624<br>(1.55)     |
| Ultimate controlling shareholder's ownership/control ratio  | 0.0133<br>(0.05)           | 0.0330<br>(0.12)     | 0.0092<br>(0.04)      | -0.0081<br>(-0.03)                           | 0.0145<br>(0.06)    | -0.0117<br>(-0.05)   |
| Foreign ownership (%)                                       | 0.0011<br>(0.18)           | 0.0016<br>(0.24)     | 0.0023<br>(0.36)      | 0.003<br>(0.04)                              | 0.0007<br>(0.12)    | 0.0013<br>(0.22)     |
| Growth decile   | -0.0300*<br>(-1.67)        | -0.0307*<br>(-1.70)  | -0.0332*<br>(-1.80)   | -0.0070<br>(-0.43)                           | -0.0074<br>(-0.45)  | -0.0098<br>(-0.58)   |
| Size  | 0.0200<br>(1.05)           | 0.0229<br>(1.19)     | 0.0306*<br>(1.77)     | 0.0178<br>(0.98)                             | 0.0207<br>(1.11)    | 0.0271<br>(1.66)     |
| Intercept   | 0.7411**<br>(2.29)         | 0.5964*<br>(1.87)    | 0.6635**<br>(2.20)    | 0.1524<br>(0.52)                             | 0.0161<br>(0.05)    | 0.0845<br>(0.31)     |
| R <sup>2</sup>  | 0.09                       | 0.08                 | 0.11                  | 0.05   | 0.03                | 0.07                 |
| R <sup>2</sup> adj.   | 0.05                       | 0.04                 | 0.07                  | 0.01   | -0.01               | 0.02                 |
| Prob>F  | 0.069*                     | 0.060*               | 0.029**               | 0.229  | 0.338               | 0.082*               |
| Observations  | 127                        | 127                  | 127                   | 127  | 127                 | 127                  |

\*, \*\*, \*\*\* Significant at the 10, 5, and 1 percent levels, respectively (two-tailed test).

cient of the CEO variable in an OLS model. The coefficient was not statistically significant indicating that the result is affected by some influential observations. To explore the role of the CEO variable further, we employ an iteratively reweighted least squares model (see Appendix 3) that gives lower values to observations with high leverage or influence. When we include the largest shareholders voting stake and the control variables used in Tables 7–9, the coefficient for the CEO variable is negative and statistically significant at the 1% level<sup>13</sup>. The t-value varies between –3.25 and –3.30 depending on the model specification. This result supports the argument that a controlling shareholder that has a large control stake and also is a top executive in the firm may become entrenched and start to extract private benefits instead of paying out cash flows as pro-rata distributions to all shareholders.

It seems that private investors prefer dividends to capital gains due to tax reasons; the imputation tax credit system available in Finland was discussed in section 2.3. At first sight, one would argue that this interpretation contradicts the traditional agency problem theory of entrenched private controlling shareholders that suggests that private owners pay lower dividends in order to retain cash for projects that generate private benefits. However, we could argue that the previous studies do not look at different tax systems in the sample countries, which suggests that in some cases, especially when private owners have limited access to private benefits (e.g. if they do not have managerial representation) tax advantages may outweigh the private benefits. We conjecture this argument by showing that dividend payouts are lower when the CEO is among the three largest shareholders (see Table 5 and Appendix 3). Therefore, we may propose that private owners face a trade-off between tax advantages and private benefit extraction. As a result, private owners without inside representation would pay on average higher dividends than the ones with managerial ties.

What could be the reason for corporations and financial institutions to pay on average lower dividends? Model (3) in Tables 7 and 8 show that corporate and institutional shareholders have a negative impact on the dividend payout ratio (although not significant). One of the explanations is group affiliation, which is explored in Model (4) of Tables 7 and 8. Group affiliation is measured by a dummy variable that takes value 1 if the firm, by using 20% of the votes as the control criteria, (1) is controlled by another firm in the sample, (2) has the same controlling shareholders as at least one another shareholder in the sample, or (3) if it is controlled indirectly through another firm in the sample. The variable is close to the definition used by Faccio et al. (2001) and attempts to capture the idea that in group-affiliated firms profits can be channeled away by other means than dividend payouts, e.g. cross-subsidization

<sup>13</sup> The insignificant result in the OLS model is likely to be driven by few influential observations. Motivated by the significantly negative relationship between the variable “CEO a large owner” and the dividend payouts found in Table 5, panel D, we use a weighted least squares model to further test this relationship.

of firms in the group. We find that the group-affiliation is negatively related to dividend payout ratios (the variable is statistically significant only in industry adjusted dividend-to-earnings regressions, but, nevertheless, it keeps the right sign also in other specifications). This finding suggests that firms affiliated to a group might experience more agency problems; cross-subsidization within the group might motivate these firms to retain cash rather than pay it out as dividends.

### *Separation of ownership and control*

We hypothesized that if the controlling shareholder uses votes in excess of cash-flow rights, i.e. have an ownership-to-control ratio less than one, the negative effect of control would come with lower dividends-to-earnings ratios. This argument does not get empirical support. Model (4) in Tables 7 and 8 show that the variable for separation of ownership and control is negative, but highly insignificant.<sup>14</sup>

The ultimate controlling shareholder's ownership-to-control ratio takes into account not only the use of dual-class shares to enhance control but also the effect of pyramiding because the cash-flow ownership stake of the ultimate controlling shareholder is measure as the product of cash-flow ownership along the control path. Also under this specification (see Table 9), the ownership-to-control ratio does not show a significant impact on dividend-to-earnings ratios.

This result indicates that the level of controlling shareholder's deviation from one share one vote scheme does not have a negative influence on dividend payouts. Our interpretation of the result is as follows. As most of the firms that use dual-class shares have private controlling shareholders, this leads us back to the discussion on owner's type. We may argue that these owners face the trade-off between tax advantages of dividends and private benefits by retaining the cash within the company. It seems that owner's type is a more dominant factor than pure separation of ownership and control. Therefore the ownership and control separation result is inconclusive.

### **4.3 Robustness**

As a robustness test we re-estimate the regressions in Table 7 and 8 using censored (Tobit) models as in Barclay et al. (1995). Although only 15% of the dividends-to-earnings ratios in the observations are zero, this bunching problem could affect the results. We find that the censored models produce qualitatively similar results to the models of Table 7 and Table 8. The ownership concentration variable is significantly negative in all measures of the dividend payout ratio.

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<sup>14</sup> We cap the ownership-to-control ratio at the 99<sup>th</sup> percentile to reduce the impact of one influential observation in both the immediate and ultimate ownership specification of the variable.

In Appendix 3 we compare OLS models to iteratively re-weighted least squares models. The comparative statistics further reinforce our earlier results on the relationship between the firm's control structure and dividend payouts.

We also explore the sensitivity of the results to a particular point in time. To examine this issue, we re-estimate the models in Table 7 using a five-year average of the dividend-to-earnings variable rather than an annual measure for available years. The results are generally similar to the previous results.

Finally, as La Porta et al. (2000) point out, the fact that one does not look at all financing choices at the same time may limit the interpretation of the results. For instance, Jensen (1986) argues that debt and dividends are substitutes in dealing with agency problems in firms. To address this issue, we include the leverage ratio in the models in Table 7. Contrary to the prediction, the coefficient for the leverage measure is positive although insignificant for the alternative model specifications in Table 7. Including the leverage ratio in the regressions does not alter the results.

## 5. CONCLUSIONS

This study on controlling shareholders and dividend policy in Finnish listed firms provides several valuable insights on the important topic of agency problems between various insider-outsider groups. We spot several blocks of potentially clashing interests.

First, we find that the concentration of control is negatively related to the dividend-to-earnings ratio. This result holds for alternative specifications of control concentration, including votes held by the largest, the three largest shareholders, and the controlling shareholder with a majority stake. We also observe that the negative effect of ownership concentration is not driven by the concentration of only the largest shareholder's voting power, but also the second largest shareholder's stake. These findings propose that the largest and second largest shareholders might collude in generating private benefits that are not shared with minority shareholders as indicated by the lower dividend payout levels.

Second, we observe that various owner types may have different preferences for dividends due to agency problems, or tax reasons. Our results indicate that ultimate private controlling shareholders are associated with higher dividends. One possible explanation for the positive relationship is the preferential tax treatment of dividends for private investors. In addition, we find evidence of differences in dividend payouts among private owners. In particular, we find that if the CEO also is a controlling shareholder the dividend payout ratio tend to be lower. This result suggests that a CEO who also is a large shareholder may become entrenched. Therefore, we propose that private owners may face a trade-off between tax advantages and private

benefit extraction. As a result, private owners with inside representation tend to pay on average lower dividends than the ones without managerial ties.

There is some evidence of a conflict between group-affiliated controlling shareholders and other shareholders. If the controlling owner is a corporation or financial institution with links to other companies, it may have other gains than security benefits. For example, they may gain from internal capital markets (cash is retained for cross subsidizing of companies) or empire building (cash is retained for buying new companies).

Finally, the results indicate that the separation of ownership and control does not have a negative influence on dividend payouts. Private owners control most of the firms that use dual-class shares. As we already discussed, there are considerable differences within the private owners' category that rests on a trade-off between the tax advantages of dividends and private benefits. Moreover, the controlling owner's type seems to be a more dominant factor than pure separation of ownership and control. Therefore, our results show that ownership and control separation *per se* does not help to explain differences in dividend payout ratios.

This study is by far not claiming to give a full picture of ownership structures and agency problems in Finland. Nevertheless, it is a building block, which opens an interesting discussion on how different ownership and control structures influence firm behavior and dividend policy in Finnish listed firms. ■

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**APPENDIX 1. Definitions of variables used in the analysis.**

This table describes the variables used in the analysis. The amount of cash flow rights and voting rights are immediate stakes if not labeled *ultimate* ownership or control. The votes and cash-flow rights of family members with the same surname (among the largest 20 shareholders) are summed up to obtain the total share of votes held by that family. An insurance group, as reported in the yearbook *Pörssitieto*, is considered as one shareholder.

| Variable   | Definition  |
|--|---|
| Foreign ownership (%)  | = The aggregate amount of votes held by foreign investors.  |
| Growth decile  | = Rank decile for average annual growth in sales over the period 1995–1999. Firms are divided into 10 equal groups and in ascending order of sales growth and ranked 1–10.  |
| Size   | = Natural logarithm of the book value of total assets.  |
| Concentration of control by 3 largest shareholders                       | = The sum of votes held by the 3 largest shareholders.  |
| Control by the largest (2 <sup>nd</sup> or 3 <sup>rd</sup> ) shareholder | = Proportion of votes held by the largest (2 <sup>nd</sup> or 3 <sup>rd</sup> ) immediate shareholder.  |
| Ownership by largest owner   | = Proportion of cash-flow rights held by the largest immediate shareholder  |
| Control by the largest <i>ultimate</i> shareholder                       | = Proportion of votes held by the <i>ultimate</i> controlling shareholder. An ultimate controlling shareholder is defined as the largest shareholder controlling the firm directly or through another firm or several other firms. If the firm is controlled directly and indirectly, the sum of votes is used. Control is measured by the weakest link along the control path. |
| Ownership by largest <i>ultimate</i> owner                               | = Proportion of cash-flow rights held by the largest <i>ultimate</i> controlling shareholder. Cash-flow rights are measured as the product of ownership stakes along the control path when the controlling shareholder is controlling the firm through one or several other firms. Direct and indirect ownership stakes are summed up.  |
| Controlling shareholder's Ownership/control ratio                        | = The cash-flow rights divided by votes held by the largest controlling shareholder.  |
| <i>Ultimate</i> controlling shareholder's ownership/control ratio        | = The cash-flow rights divided by votes held by the largest <i>ultimate</i> controlling shareholder.  |
| <i>Ultimate</i> private controlling shareholder                          | = The <i>ultimate</i> controlling shareholder is a family, private individual or an unlisted firm.  |
| 50% voting majority by largest shareholder                               | = 1 if the largest owner holds more than 50% of the votes; 0 otherwise.   |
| 50% voting majority by largest <i>ultimate</i> shareholder               | = 1 if the largest <i>ultimate</i> owner holds more than 50% of the votes; 0 otherwise.   |
| Another large shareholder present  | = 1 if the second largest shareholder holds 20% or more of the voting rights; 0 otherwise.  |

| Variable                               | Definition  |
|--|---|
| Controlling family owner               | = 1 if the largest controlling shareholder with $\geq 10\%$ of votes is a family or a single individual with or without board representation but without managerial representation; 0 otherwise.  |
| Controlling owner-manager              | = 1 if the largest controlling shareholder with $\geq 10\%$ of votes is a private investor who also is a part of the operational management in the firm; 0 otherwise.   |
| CEO a large shareholder                | = 1 if the CEO of the firm is directly among the firm's 3 largest immediate shareholders; 0 otherwise.  |
| Controlling corporate shareholder      | = 1 if the largest controlling shareholder with $\geq 10\%$ of votes is another firm; 0 otherwise.  |
| Controlling financial institution      | = 1 if the largest controlling shareholder with $\geq 10\%$ of votes is a bank, insurance company, mutual fund or investment company; 0 otherwise.  |
| State controls the firm                | = 1 if the largest controlling shareholder with $\geq 10\%$ of votes is the state or a city; 0 otherwise.   |
| Group affiliation                      | = 1 if the meets one of the following criteria: (1) it controls another firm in the sample; (2) it has the same controlling shareholder as at least one other firm in the sample; (3) it is controlled by a shareholder via pyramiding, i.e. indirectly through another firm in the sample. |
| Mature firm                            | = 1 if the firm's growth decile is 1–5; 0 otherwise.  |
| Growth firm                            | = 1 if the firm's growth decile is 6–10; 0 otherwise.   |
| Dividend-to-earnings                   | = Dividends divided by earnings in fiscal year 1999. Earnings are measured after taxes and minority interests but before extraordinary items.   |
| Industry adjusted dividend-to-earnings | = Difference between the firm's dividend-to-earnings ratio and the median dividend-to-earnings ratio of the firm's industry in fiscal year 1999.  |
| Average dividend-to-earnings           | = Average of the dividends-to-earnings ratio for the period 1995–1999 or the available years.   |

## APPENDIX 2. Firms, industry, and dividend/earnings.

|                                 | Div/earn<br>1999 | Av.Div/earn<br>1995–1999 |  | Div/earn<br>1999 | Av.Div/earn<br>1995–1999 |
|---------------------------------|------------------|--------------------------|--|------------------|--------------------------|
| <i><u>Banks and finance</u></i> |                  |                          | <i><u>Other industries</u></i>         |                  |                          |
| Ålandsbanken                    | 0.88             | 1.25                     | Amer-yhtymä                            | 0.35             | 0.54                     |
| Conventum                       | 0.53             | 0.52                     | Exel                                   | 0.48             | 0.39                     |
| Mandatum Pankki                 | 0.92             | 0.36                     | Metsä Tissue                           | 1.09             | 0.46                     |
| OKO                             | 0.41             | 0.30                     | Rapala Normark                         | 0.08             | 0.53                     |
| Sampo                           | 0.51             | 0.40                     | Sanitec                                | 0.28             | 0.24                     |
| EQ Online                       | 0.00             | 0.00                     | Tamfelt                                | 0.59             | 0.50                     |
| Nordic Baltic Holding           | 0.38             | 0.48                     | Kasola                                 | 2.00             | 0.59                     |
| Pohjola                         | 0.96             | 0.80                     | Kekkilä                                | 0.50             | 0.38                     |
| <i><u>Chemicals</u></i>         |                  |                          | Larox                                  | 0.30             | 0.97                     |
| Kemira                          | 1.00             | 0.49                     | Martela                                | 0.30             | 0.31                     |
| Orion-yhtymä                    | 0.92             | 0.75                     | Saunatec                               | 0.50             | 0.47                     |
| Uponor                          | 0.42             | 0.32                     | Vahto Group                            | 0.00             | 0.38                     |
| Biotie Therapies                | 0.00             | 0.00                     | Biohit                                 | 0.00             | 0.00                     |
| <i><u>Construction</u></i>      |                  |                          | Leo-Longlife                           | 0.38             | 0.68                     |
| Lemminkäinen                    | 0.56             | 0.68                     | Nokian Renkaat                         | 0.34             | 0.35                     |
| Tulikivi                        | 0.50             | 0.55                     | <i><u>Other services</u></i>           |                  |                          |
| YIT-Yhtymä                      | 0.38             | 1.13                     | Aldata Solution                        | 0.00             | 0.17                     |
| Honkarakenne                    | 0.44             | 0.54                     | A-Rakennusmies                         | 0.48             | 0.31                     |
| Espoon Sähkö                    | 0.49             | 0.37                     | Jaakko Pöyry Group                     | 0.41             | 0.22                     |
| Fortum                          | 0.43             | 0.40                     | Novo Group                             | 0.43             | 0.43                     |
| <i><u>Food industry</u></i>     |                  |                          | Rakentajan Konev.                      | 0.60             | 0.41                     |
| Atria                           | 0.45             | 0.41                     | Tietoenator                            | 0.54             | 0.46                     |
| Chips                           | 0.65             | 0.79                     | Markkinointi Viherj.                   | 0.94             | 0.94                     |
| Hartwall                        | 0.22             | 0.67                     | Panostaja                              | 3.00             | 0.60                     |
| Lännen Tehtaat                  | 0.65             | 0.44                     | PI-Consulting                          | 0.00             | 0.00                     |
| Olvi                            | 0.45             | 0.48                     | Sysopen                                | 0.61             | 0.67                     |
| Raisio                          | 3.00             | 0.87                     | <i><u>Telecom. and electronics</u></i> |                  |                          |
| HK Ruokatalo                    | 0.58             | 0.45                     | Aspocomp Group                         | 0.31             | 0.31                     |
| Huhtamaki van Leer              | 0.34             | 0.44                     | Comptel                                | 0.20             | 0.07                     |
| <i><u>Forest industry</u></i>   |                  |                          | Eimo                                   | 0.86             | 0.33                     |
| Metsä-Serla                     | 0.32             | 0.65                     | Elcoteq                                | 0.52             | 0.27                     |
| Stora Enso                      | 0.40             | 0.46                     | F-Secure                               | 0.00             | 0.17                     |
| Stromsdal                       | 0.00             | 0.02                     | Helsingin Puhelin                      | 0.18             | 0.28                     |
| UPM-Kymmene                     | 0.58             | 0.40                     | Instrumentarium                        | 0.97             | 0.57                     |
| <i><u>Investment</u></i>        |                  |                          | JOT Automation Gr.                     | 0.14             | 0.13                     |
| Castrum                         | 0.67             | 0.13                     | Nokia                                  | 0.36             | 0.33                     |
| Citycon                         | 0.64             | 0.25                     | Perlos                                 | 0.20             | 0.07                     |
| Interavanti                     | 0.43             | 0.39                     | PKC Group                              | 0.36             | 0.31                     |
| Julius Tallberg-Kiint.          | 0.53             | 0.42                     | PMJ automec                            | 0.25             | 0.14                     |
| Norvestia                       | 0.26             | 0.37                     | Sonera                                 | 0.24             | 0.31                     |
| Polar Kiintelstöt               | 0.00             | 0.00                     | Stonesoft                              | 0.00             | 2.11                     |
| Sponda                          | 0.43             | 0.22                     | Tampereen Puhelin                      | 0.47             | 0.20                     |
| A Company Finland               | 0.00             | 0.00                     | Teleste                                | 0.25             | 0.15                     |
| Menire                          | 0.00             | 0.00                     | TJ Group                               | 0.00             | 0.25                     |
| Neomarkka                       | neg              | 1.06                     | Vaisala                                | 0.32             | 0.33                     |
| Technopolis                     | 0.70             | 0.46                     | Benefon                                | 0.00             | 0.33                     |
|                                 |                  |                          | Basware                                | 0.69             | 0.67                     |
|                                 |                  |                          | Liinos                                 | 0.20             | 0.23                     |
|                                 |                  |                          | Nedeccon                               | 0.00             | 0.00                     |
|                                 |                  |                          | Proha                                  | 0.00             | 0.00                     |
|                                 |                  |                          | Satama Interactive                     | 0.00             | 0.00                     |
|                                 |                  |                          | Efore                                  | 18.00            | 8.86                     |

## APPENDIX 2 cont.

| Div/earn                            | Av.Div/earn<br>1999 | Div/earn<br>1995–1999 |                         | Av.Div/earn<br>1999 | 1995–1999 |
|-------------------------------------|---------------------|-----------------------|-------------------------|---------------------|-----------|
| <i><u>Media and publishing</u></i>  |                     |                       | <i><u>Trade</u></i>     |                     |           |
| Alma Media                          | 0.56                | 0.33                  | Ford                    | 0.27                | 0.18      |
| Janton                              | 0.59                | 1.00                  | Kesko                   | 1.52                | 0.67      |
| Keskisuomalainen                    | 0.65                | 0.39                  | Rautakirja              | 0.45                | 0.54      |
| SanomaWSOY                          | 0.85                | 0.56                  | Stockmann               | 0.55                | 0.57      |
| Ilkka-Yhtymä                        | 0.48                | 0.35                  | Tamro                   | 0.79                | 0.91      |
| Kauppakaari                         | 0.49                | 0.49                  | Kontram-Yhtiöt          | 6.00                | 2.36      |
| Pohjois-Karj. Kirjap.               | 0.00                | 1.07                  | Plandent                | 0.40                | 0.38      |
| Talentum                            | 2.50                | 0.86                  | Suomen Spar             | 0.89                | 0.45      |
| <i><u>Metal and engineering</u></i> |                     |                       | Yleiselektroniikka      |                     |           |
| Componenta                          | 0.56                | 0.51                  | Beltton-Yhtiot          | 0.61                | 0.63      |
| KCI Konecranes Int.                 | 0.47                | 0.35                  | <i><u>Transport</u></i> |                     |           |
| Kone                                | 0.34                | 1.27                  | Birka Line              | 0.65                | 1.00      |
| Nordic Aluminium                    | 0.35                | 0.31                  | Finnair                 | 0.68                | 0.39      |
| Outokumpu                           | 0.39                | 1.13                  | Finnlines               | 0.40                | 0.24      |
| Partek                              | 0.46                | 0.57                  | Viking Line             | 0.81                | 1.20      |
| Ponsse                              | 0.54                | 0.44                  | Silja                   | 0.00                | 0.00      |
| Raute                               | 1.56                | 0.75                  |                         |                     |           |
| Rocla                               | 0.39                | 0.25                  |                         |                     |           |
| Wärtsilä                            | 1.17                | 1.20                  |                         |                     |           |
| Fiskars                             | 0.43                | 0.50                  |                         |                     |           |
| Metso                               | neg                 | 0.36                  |                         |                     |           |
| Rautaruukki                         | neg                 | 0.33                  |                         |                     |           |
| <i><u>Multibusiness</u></i>         |                     |                       |                         |                     |           |
| Aspo                                | 14.29               | 7.14                  |                         |                     |           |
| Finvest                             | 1.55                | 1.75                  |                         |                     |           |
| Hackman                             | 2.63                | 1.67                  |                         |                     |           |
| Kyro                                | 0.59                | 1.96                  |                         |                     |           |
| Lassila & Tikanoja                  | 0.63                | 0.50                  |                         |                     |           |
| Incap                               | 0.63                | 0.39                  |                         |                     |           |

Source: *Delphi Economics* (dividends), *Helsinki Stock Exchange and Annual Reports* (industry classification).

*APPENDIX 3. Regression results for dividend-to-earnings ratios using OLS and Weighted Least Squares. OLS and iteratively reweighted least squares (WLS) models relating the dividend-to-earnings ratio to ownership and control variables. More detailed variable descriptions are in Appendix 1. The sample consists of 127 Finnish listed firms. The dividends are reported as a percentage of the earnings in fiscal year 1999. t-statistics are reported below the coefficient estimates.*

|  | Dividend-to-earnings ratio |                       |                       |                       |
|--|----------------------------|-----------------------|-----------------------|-----------------------|
|  | OLS<br>(1a)                | OLS<br>(2a)           | WLS<br>(1b)           | WLS<br>(2b)           |
| Control by the largest ultimate shareholder                | -0.0058***<br>(-2.83)      |                       | 0.0030**<br>(-2.49)   |                       |
| Concentration of control by 3 largest shareholders         |                            | -0.0064***<br>(-2.81) |                       | -0.0024**<br>(-2.09)  |
| CEO a large shareholder                                    | -0.084<br>(-0.47)          | -0.0788<br>(-0.43)    | -0.2742***<br>(-3.30) | -0.2715***<br>(-3.24) |
| Ultimate private controlling shareholder                   | 0.2162**<br>(2.60)         | 0.2107**<br>(2.51)    | 0.1150*<br>(1.83)     | 0.1007<br>(1.59)      |
| Another large shareholder present                          | -0.2529***<br>(-2.97)      |                       | -0.095<br>(-1.34)     |                       |
| Ultimate controlling shareholder's ownership/control ratio | -0.0151<br>(-0.06)         | -0.0257<br>(-0.10)    | -0.0420<br>(-0.48)    | -0.0245<br>(-0.28)    |
| Foreign ownership (%)                                      | 0.0011<br>(0.19)           | 0.0011<br>(0.18)      | -0.0026<br>(-1.21)    | -0.0025<br>(-1.15)    |
| Growth decile  | -0.0359<br>(-1.84)         | -0.0328<br>(-1.70)    | -0.0066<br>(-0.73)    | -0.0039<br>(-0.43)    |
| Size   | 0.0206<br>(1.22)           | 0.0189<br>(1.06)      | 0.0197<br>(1.44)      | 0.0196<br>(1.42)      |
| Intercept  | 0.8127<br>(2.69)           | 0.9053<br>(2.81)      | 0.4938<br>(3.33)      | 0.4770<br>(2.94)      |
| R <sup>2</sup>   | 0.14                       | 0.12                  | n. a.                 | n. a.                 |
| Prob>F   | 0.002***                   | 0.024**               | 0.0004***             | 0.001***              |
| Observations   | 127                        | 127                   | 127                   | 127                   |

\*, \*\*, \*\*\* Significant at the 10, 5, and 1 percent levels, respectively (two-tailed test).