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CORPORATE GOVERNANCE MECHANISMS  
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Corporate Governance Mechanisms and Firm Performance: Evidence from Finland

Key words: Corporate governance mechanisms; Agency costs; Firm performance

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# Corporate governance mechanisms and firm performance: evidence from Finland

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## Abstract

This paper examines the association between corporate governance attributes and firm performance of Finnish firms during 1990 – 2000. The empirical results suggest that corporate governance matters for firm performance. First, univariate test results indicate that firms characterized by a high (efficient) level of corporate governance have delivered greater stock returns, are higher valued based on the measure of Tobin's  $Q$ , and exhibit higher ratios of cash flow to assets, on average, in comparison to their counterparts characterized by a low (inefficient) level of corporate governance. Second, controlling for a number of well-known determinants of stock returns, we find evidence that firms categorized by inefficient corporate governance have delivered inferior returns to shareholders during the investigation period. Finally, after controlling for several common determinants of firm value, we find that firms characterized by efficient corporate governance have been valued higher during the investigation period, measured by Tobin's  $Q$ .

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*Keywords:* Corporate governance mechanisms; Agency costs; Firm performance

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\* Corresponding author, contact information: Swedish School of Economics and Business Administration, P.O. Box 479, 00101 Helsinki, Finland; Tel. +358-9-431 33 473; Fax. +358-9-431 33 393; E-mail: matts.rosenberg@hanken.fi. We are indebted to Eva Liljeblom and Anders Löflund for valuable comments and discussions. Furthermore, we acknowledge the contribution of Thomson Financial for providing earnings per share forecast data, available through the Institutional Brokers Estimate System. These data have been provided as part of a broad academic program to encourage earnings expectation research.

## **1. Introduction**

Separation of ownership and control in the modern corporation may cause self-interested managers to act in ways not beneficial to shareholders (see, e.g., Jensen and Meckling, 1976; Jensen, 1986, 1993). Corporate governance addresses the agency problems that are induced by the separation of ownership and control. The corporate governance system of the modern corporation can be factorized into two parts, namely, i) internal governance mechanisms, and, ii) external governance mechanisms. The internal governance mechanisms consist of shareholder meetings, the board of directors, and operating executives. Shareholders may influence executives via general meetings, direct contacts, and with incentive contracts.<sup>1</sup> The external governance mechanism consists of the capital market, the public sector, legislation, and the labor market. Taken together, the corporate governance system of the firm attempts to align incentives of managers with those of shareholders, and hence, motivate managers to maximize shareholder value.

In this paper, we attempt to quantify the most important sources of internal and external governance mechanisms of publicly traded Finnish firms during the time period 1990 – 2000, and examine the association between these governance attributes and firm performance. The most rapidly growing (and debated) form of the internal governance mechanisms, tying managerial wealth to firm performance, is stock option compensation. A vast amount of empirical research has been conducted on the impacts of equity-based compensation. Studies by Tehranian and Waagelein (1985), Brickley et al. (1985), and DeFusco et al. (1990) documented positive abnormal stock returns following the adoption of bonus or stock option plans. In Finland, Ikäheimo et al. (2000) documented a modest positive stock price reaction to firms' initial adoption of stock option compensation, and a negative stock price reaction associated with announcements of broad-based stock option

plans. A related line of research investigates the relation between equity incentives and firm value, measured by Tobin's  $Q$ . Morck et al. (1988) and McConnell and Servaes (1990) found that firm value is positively (although non-linearly) related to managerial ownership. More recently, Gompers et al. (2001) conducted a study on the relation between internal corporate governance provisions and firm performance for a large sample of U.S. firms, and documented strong evidence of a positive relation between the level of corporate governance and firm performance.

The ownership structure of the firm is expected to be correlated with the strength of the firm's internal mechanism of corporate governance. Institutional investors are often characterized as large sophisticated shareholders, with a professional interest in developing the firm's governance system. Hence, it is plausible to assume that the efficiency of internal corporate governance mechanisms is greater in the presence of significant institutional shareholders, which may arise from the direct monitoring function, or indirectly, e.g., by participating in the evaluation and approval of incentive compensation proposals.

In this paper, we argue that the monitoring carried out by financial analysts is one of the most important mechanisms of external corporate control. The relation between financial analysts and corporate governance is straightforward, since outside analysts are information intermediaries between firm management and investors. As part of their vocation financial analysts actively monitor firm management. Moyer et al. (1989) presented evidence supporting the role of analyst monitoring as a device for controlling agency costs of equity. These results imply that the benefits from security analysts should be reflected in higher valuation on owners' claims to corporations. Recent evidence

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<sup>1</sup> Bonuses and performance-pay according to annual financial statement achievements were a common way to incentivize top executives in Finnish firms in the 1980s. In the 1990s, stock options have emerged as the important source of incentive compensation in Finnish (publicly traded) firms (Mäkinen, 2001).

presented by Gebhardt et al. (2001) suggests that analyst following is associated with lower cost of capital and increased market value.

Hence, the corporate governance mechanisms (attributes) which we focus on in this paper consist of stock option compensation and the presence of significant institutional investors, as measures of internal corporate governance strength, as well as analyst coverage, as a proxy for the strength of external corporate governance. By combining significant features of both internal- and external corporate governance mechanisms, we contribute to existing empirical evidence on the association between corporate governance and firm performance.

Our study reveals the following insights. First, univariate test results indicate that firms characterized by a high (efficient) level of corporate governance have delivered greater stock returns, are higher valued based on the measure of Tobin's  $Q$ , and exhibit higher ratios of cash flow to assets, on average, in comparison with firms characterized by a low (inefficient) level of corporate governance. Second, controlling for a number of well-known determinants of stock returns, we show that firms categorized by inefficient corporate governance have delivered inferior returns to shareholders. Finally, after controlling for several common determinants of firm value, we find that firms characterized by efficient corporate governance have been valued higher during the investigation period, measured by Tobin's  $Q$ . In summary, the results suggest that corporate governance, and in particular, the combination of both internal- and external corporate governance mechanisms, seem to be associated with firm performance.

The remainder of the paper is organized as follows. Section 2 describes the data and sample selection. Section 3 describes the methodology and empirical results, and finally, Section 4 concludes the paper.

## 2. Data and sample

This section describes the data employed in the empirical analysis of the paper. Furthermore, the section discusses sample selection issues.

### 2.1. Data sources

The utilized stock option data are obtained from Alexander Corporate Finance Oy (ACF), consisting of complete information on all stock option plans for Finnish firms during the time period 1987 – 2000. The data contain information on the introduction date of the option plan, the target group, vesting schedules, expiration dates, exercise prices, and the number of shares obtainable upon stock option exercise. Financial analysts' earnings per share (EPS) forecasts are extracted from I/B/E/S Detail files. Each observation in the data file represents individual EPS forecasts, and also includes the necessary information for firm and brokerage identification. The extracted data from I/B/E/S Detail files consist of individual analyst forecasts ranging from 1990 to 2000. Financial statement data are obtained from the Research Institute of the Finnish Economy (ETLA). Stock returns (continuously compounded total returns) and interest rates are collected from the database of the Swedish School of Economics and Business Administration (SSEBA). Ownership data are collected from *Pörssitieto* manuals.

### 2.2. Sample selection

The sample in this study consists of firms traded on the main list of the Helsinki Stock Exchange (HEX). The sample construction is initiated by merging the ETLA 1998-, 1999-, 2000-, and 2001-files for publicly traded firms on the main list of HEX. Banks and insurance companies are excluded from the sample. After this, we combine the financial statement data from ETLA with stock return data from SSEBA. For a firm to be included in the final sample, we require two complete years of stock returns.

Furthermore, we restrict the analysis to firm-years (12-month accounting periods) ending December 31<sup>st</sup>. The utilized analyst data from I/B/E/S covers the time period 1990 – 2000, and hence, we restrict the final sample to this period. The aforementioned procedure results in 424 firm-year observations involving 78 firms.

### **3. Methodology and empirical results**

This section reports the empirical results of the paper. First, we describe the specification of the different classifications of corporate governance used in the empirical analysis. Second, the section reports univariate test results regarding the relation between the level of corporate governance and firm performance. Third, the section reports estimation results on the relation between the level of corporate governance and stock returns. Finally, the section reports and discusses estimation results regarding the relation between the level of corporate governance and firm value.

#### *3.1. Measuring the level of corporate governance*

To examine the relation between corporate governance levels and firm performance, we construct a set of indicator variables. In each set, we attempt to capture combinations of both internal and external corporate governance factors, and furthermore, the influence of institutional investors. First, we examine whether the firm has one or more stock option plans in effect during the year, and whether this/these plans are targeted solely to top management, or a broader base of employees.<sup>2</sup> We therefore measure the presence of stock option compensation contracts by defining an indicator variable taking the value of one, if the firm has one or several stock option plans in effect

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<sup>2</sup> Firms may simultaneously have several stock option plans in effect involving several separate stock option tranches. In this context, firm-year observations and corresponding stock option compensation schemes are coded as targeted to top management, if all stock option plans in effect are targeted to the top management of



during the year, and zero otherwise. In a similar manner, we define indicator variables measuring the presence of stock option schemes targeted solely to the top management of the firm, or to a broader base of employees.

Furthermore, from the sample on Finnish firms we calculate the number of analysts following the firm, and the number of revisions of outstanding forecasts for each firm. The nationality of the analyst is not restricted. The number of analysts covering firm  $i$  is defined as the number of analysts that have issued at least one forecast of firm  $i$ 's EPS during the period  $t$ .<sup>3</sup> In addition, we include another proxy for analyst coverage, namely, the number of analyst revisions. This variable should capture more accurately how intense the analysts' monitoring is of firm  $i$  during period  $t$ . Accordingly, the number of revisions is calculated as the number of revisions of outstanding forecasts of firm  $i$ 's EPS during period  $t$ . The firm is defined as having a high degree of analyst coverage if the number of analysts (number of analyst revisions) exceeds the sample annual median.

Finally, we examine the ownership structure of the firm, and specifically, the existence of institutional investors. For each year, we record the presence of a significant institutional owner by an indicator variable taking the value of one if a financial institution is among the three largest shareholders, and zero otherwise. Table 1 presents the distribution of corporate governance attributes across the years for the sample firms.

[Insert Table 1 here]

The figures for the total sample period (1990 – 2000) indicate that 61% of the firm-year observations involve firms with a stock option plan in effect. The corresponding figures

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the firm. On the contrary, if the firm has at least one stock option plan in effect targeted to non-executive employees, the firm's stock option compensation scheme is coded as broad-based.

<sup>3</sup> Prior research has used the number of analysts as a proxy for analyst coverage (see, e.g., Lim, 2001).

for top management plans and broad-based plans are 47% and 13%, respectively.<sup>4</sup> Furthermore, in approximately 84% of the firm-year observations the existence of an institutional owner has been recorded. Finally, the figures for annual analyst coverage indicate that the median number of analysts per firm is 7.0, whereas the median number of analyst revisions per firm corresponds to 11.0.

By combining measures of both internal- and external corporate governance mechanisms, we obtain the utilized set of variables in the study. For each firm-year observation, we construct an indicator variable measuring high corporate governance, and a symmetrically constructed variable measuring low corporate governance, according to the specified conditions. This procedure is conducted according to the target group of the firm's stock option plan(s), i.e., i) all stock option plans, ii) top management plans, and, iii) broad-based plans. The construction and definitions of the variables are presented in Table 2.

[Insert Table 2 here]

The distribution of corporate governance levels across the years in the sample is reported in Table 3. Table 3 reports the percentage of firms belonging to the different classifications of corporate governance in each of the sample years, based on the utilized criteria presented in Table 2.

[Insert Table 3 here]

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<sup>4</sup> Before rounding, these figures sum up to the corresponding figure for general stock option plans (top management and broad-based), i.e.,  $47.17\%+13.44\%=60.61\%$ .

### 3.2. *Univariate results*

In the univariate tests on the relation between corporate governance efficiency and firm performance, we use three different measures of firm performance, i.e., i) annual excess stock returns, ii) Tobin's  $Q$ , and, iii) the ratio of cash flow to assets. Several prior empirical studies utilize Tobin's  $Q$  as a measure of firm performance (see, e.g., Morck et al., 1988). Furthermore, the ratio of cash flow (EBITDA) to assets can be regarded as the return on assets (ROA) of the firm. Hence, we argue that this set of measures adequately describes the performance of the firm. Table 4 presents descriptive statistics for the sample. The total sample consists of 424 firm-year observations for 78 firms during the time period 1990 – 2000.

[Insert Table 4 here]

Inspection of Table 4 reveals that the average and median values for annual excess stock returns have been 0.012 and 0.056, respectively. The corresponding values for Tobin's  $Q$  are 1.314 and 1.047. Finally, the average value of the cash flow to assets ratio in the sample is 0.118, whereas the median value corresponds to 0.112. Table 5 reports the results of the univariate analysis of the relation between corporate governance efficiency and firm performance.

[Insert Table 5 here]

Panel A of Table 5 reports results of  $t$ -tests used to investigate equality in means for average annual excess stock returns for firms included in the high- or low corporate governance sub-groups. Firm-year observations are classified into the different sub-groups based on twelve different conditions, see Table 2 for specifications. The results in Panel A of Table 5 support the hypothesis that the level of corporate governance is

associated with greater performance, in comparison with firms categorized by a low level of corporate governance. The average annual excess stock returns are significantly (at the 5% level, based on a two-tailed test) higher for the high governance sub-group in comparison to the low governance group in specifications [II] – [VIII].

Panel B of Table 5 reports results of corresponding tests based on the measure of Tobin’s  $Q$ . The results, likewise as in Panel A, support the hypothesis that corporate governance matters for firm performance. The average values for Tobin’s  $Q$  are significantly higher in the high governance sub-group compared to the low governance sub-group in all specifications, with the exception of specifications [VII] and [VIII], at the maximum of 5%. Finally, Panel C of Table 5 reports test results where firm performance is measured as the ratio of cash flow to assets. In a similar manner as Panels A and B, the results in Panel C of Table 5 support the hypothesized positive relation between the level of corporate governance and firm performance. The average values of cash flow to assets are statistically significantly greater in the high governance sub-group compared to the low governance counterpart in all specifications with the exception of specification [IX] in Panel C of Table 5. In summary, the univariate test results in Table 5 suggest that corporate governance is positively associated with firm performance.

### 3.3. *Corporate governance and stock returns*

As a more powerful test on the relation between corporate governance and stock price performance, we employ the four-factor model by Carhart (1997). We hypothesize that firms characterized by efficient corporate governance have deliver higher returns to their shareholders, on average, whilst the opposite holds true for firms with a less efficient level of corporate governance. The Carhart (1997) model is defined as follows:

$$R_t = \alpha + \beta_1 RMRF_t + \beta_2 SMB_t + \beta_3 HML_t + \beta_4 Momentum_t + \beta_5 HG_t + \beta_6 LG_t + \varepsilon_t. \quad (1)$$

The dependent variable in Equation (1) is the annual excess (continuously compounded) stock return. As the risk-free rate we use the 12 month HELIBOR/EURIBOR rate, and more specifically, the risk-free return is specified as the one-year (continuously compounded) holding period return, where the yield is calculated on the last trading day of year  $t-1$ .

The first factor in Equation (1), RMRF, is the equally weighted index excess return based on our total sample. The reason for using equal weights instead of value weights is due to the sample size, and that the value weighted Finnish stock market is skewed by one very large company, namely, Nokia. Equation (1) also includes the two Fama and French (1992, 1993) factors, SMB and HML. SMB is the difference between the year  $t$  returns of an equally weighted portfolio of small stocks and one of large stocks, and where HML is the difference between the year  $t$  returns of an equally weighted portfolio of high book-to-market stocks, and one of low book-to-market stocks. Furthermore, Equation (1) includes a zero-investment portfolio related to price momentum. The variable Momentum is defined as the difference between the year  $t$  returns of an equally weighted portfolio of momentum stocks, measured as past 12-month stock return, and one of contrarian stocks.<sup>5</sup> HG and LG are indicator variables capturing possible differences in stock returns due to different levels of corporate governance. See Table 2 for a description of the variables measuring the level of corporate governance.

Table 6 reports the estimated coefficients from the Carhart (1997) model, i.e., Equation (1), and the possible differences in stock returns for high and low levels of corporate governance. All estimations are conducted using ordinary least squares (OLS) regression. The first column reports the estimated intercept, or abnormal return. Columns

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<sup>5</sup> The variables in Equation (1) are orthogonalized as in, e.g., Busse (2001). The orthogonal SMB is the intercept plus residuals from a regression of the SMB variable on the excess returns of an equally weighted index. The orthogonal HML variable is the intercept plus residuals of a regression of the HML variable on the excess returns of an equally weighted index and the orthogonal SMB variable. The Momentum variable is the

2 and 3 report the difference in intercepts for high-governance and low-governance firms, respectively. Columns 4 through 7 report the Carhart (1997) control variables. Table 6 reports twelve different specifications for the high-governance and low-governance indicator variables, as described in Table 2.

[Insert Table 6 here]

Inspection of the results in Table 6 provides support for the hypothesized impact of corporate governance on firm performance. The coefficients measuring differences in intercepts (abnormal returns) indicate that firms characterized by a low (inefficient) level of corporate governance have delivered lower stock returns during the sample period. The coefficients measuring differences in intercepts for low-governance firms are negative and significant at the maximum of 5% in all specifications, except for specifications [V] and [VI]. The coefficients measuring differences in intercepts for firms characterized by a high level of corporate governance do not, in general, deviate statistically significantly from zero (from the base-group, i.e., from firms that do not belong to neither the high- nor low-governance sub-groups).

Inspection of the coefficients for the control variables in Equation (1) reveals that firms' annual excess stock returns are strongly positively related to index excess returns (RMRF). On the contrary, the other control variables (SMB, HML, and Momentum) do not seem to be driving firms' annual excess returns.

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intercept plus residuals of a regression of the Momentum variable on the excess returns of an equally weighted index, the orthogonal SMB variable, and the orthogonal HML variable.

### 3.4. Corporate governance and firm value

To examine the relation between corporate governance levels and firm value we utilize Tobin's  $Q$  as a measure of firm value.<sup>6</sup> Tobin's  $Q$  is specified as the ratio of firm value divided by the replacement value of assets. In line with Himmelberg et al. (1999) among others, we use the market value of the firm's equity added with the book value of total debt as a measure of firm value, and the book value of total assets as a proxy for the replacement value of assets. A reduction in agency costs through incentive alignment between managers and shareholders suggests that firm value is increasing in the efficiency of corporate governance. Specifically, we hypothesize that firm value is determined as follows:

$$\begin{aligned} \text{Tobin's } Q = f(\text{HG, LG, size, size}^2, \text{capital to sales, capital to sales}^2, \text{cash flow, investment,} \\ \text{leverage, dividends, risk, firm focus}). \end{aligned} \quad (2)$$

All variables in Equation (2) are measured at the end of the firm's accounting period, and the construction of the firm's governance level (indicator variables for high/low governance levels) is conducted identically as in the previous tests.

Our control variables in the Tobin's  $Q$  regressions are similar to the set of variables used by Himmelberg et al. (1999). Diminishing returns on capital suggests that firm value falls as firms grow in size. We employ the logarithm of sales as a measure of firm size, and we expect that Tobin's  $Q$  is decreasing in firm size. To control for non-linearity in the relation, the square of firm size is included in the regressions (Himmelberg et al., 1999). The capital to sales ratio of the firm is included to control for monitoring costs and/or asset turnover. Agency theory predicts that lower monitoring costs (measured in this

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<sup>6</sup> More specifically, Tobin's  $Q$  (average  $Q$ ) is used to proxy for the theoretical measure of marginal  $Q$ , i.e., the present value of all future marginal returns to capital.

paper by the proportion of fixed assets to sales) imply a higher firm value, other things equal. Hence, a positive relation between the capital to sales ratio and Tobin's  $Q$  is consistent with lower monitoring costs, and subsequently higher firm value. On the other hand, a negative relation between the capital to sales ratio and Tobin's  $Q$  is plausible, if one assumes that firm value is increasing in the asset turnover of the firm. The square of the capital to sales ratio controls for possible non-linearities in the relation (as in Himmelberg et al., 1999). We also include a measure of cash flow in the firm value analysis. Specifically, we use EBITDA to the book value of assets of the firm. In a similar manner as in the univariate tests, we predict that cash flow is positively correlated with firm value.<sup>7</sup>

Variables measuring growth opportunities are expected to be correlated with firm value (Tobin's  $Q$ ). Hence, we include two measures capturing growth opportunities of the firm, namely, the investment to capital ratio and the ratio of total dividends to assets. The expected relation between Tobin's  $Q$  and investment intensity is positive, and negative in the case of dividend payout. The ratio of long-term debt to assets is included in the model to measure the influence of financial leverage. Tax shields of debt and reduced agency costs (due to the disciplinary role of debt, as in Jensen, 1986, 1993) imply that firm value is increasing in leverage. However, debt can introduce agency costs related to underinvestment (debt overhang problem, Myers, 1977) suggesting a negative relation between the level of debt and firm value. On agency-theoretical grounds, Himmelberg et al. (1999) argue that riskier firms have lower values of Tobin's  $Q$ , other things equal, since risk affects the extent to which a risk-averse manager can be incentivized via stock- and optionholdings. Alternatively, firm value may be decomposed into value of assets in place and the value of growth opportunities. Since the value of growth opportunities is an

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<sup>7</sup> On the contrary, cash flow could be interpreted as a proxy for the availability of free cash flow in the firm. Jensen (1986, 1993) argues that the availability of free cash flow generates agency costs due to



increasing function of risk, one can expect firm risk to be positively related to firm value. Thus, we include a measure of firm risk in the specification.

A measure of firm focus is included to facilitate the possibility that firm value is a function of firm structure. Empirical work has shown that diversification destroys value and results in the well-known diversification discount (see, e.g., Lang and Stulz, 1994; Comment and Jarrell, 1995; Berger and Ofek, 1995).<sup>8</sup> Furthermore, to control for economy-wide factors that affect all firms equally, but vary over time, we include year indicator variables.

The results of the estimation of Equation (2) are presented in Table 7. Estimation is conducted using OLS regression. In a similar manner as in Table 6 (stock returns), we report estimation results for twelve different specifications of the corporate governance indicator variables (high/low).

[Insert Table 7 here]

Inspection of Table 7 reveals several interesting results. According to expectations, all coefficients measuring governance level (high) in Panel A (stock option plans—all) are positive and statistically significant. This is also true in Panel C (broad-based stock option plans). Since the dependent variable in our regressions is the logarithm of Tobin's  $Q$ , the interpretation of the coefficients is straightforward and represents the percentage change in Tobin's  $Q$  induced by either being a firm with a high or low level of corporate governance. For example, in specification [I] in Panel A, the coefficient for high-

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overinvestment (empire-building). Hence, a negative relation between cash flow and firm value is plausible, based on agency-theoretical grounds.

<sup>8</sup> Lamont and Polk (2001) discuss a number of potential explanations for the diversification discount, including incompetent or irrational managers, competent but self-interested managers, wasteful spending in general, and wasteful investment in poorly performing divisions in particular. Clearly, the dominant part of the presented explanations suggests that agency costs can be expected to be higher in diversified firms, which in turn could be explained by the fact that monitoring of the manager's effort is more costly in diversified firms than focused firms.

governance firms (difference in intercept) is 0.084, significant at the 1% level, indicating that high-governance firms are valued 8.4% higher than the base-group (firms that do not belong to neither the high- nor low-governance category). On the contrary, none of the coefficients for governance level (low) turn out statistically significant in Panels A through C. Inspection of the control variables in Table 7 reveals, in general, expected results. The only contradictory result occurs in the case of dividends to assets, where all estimated coefficients are positive and statistically significant. However, although we primarily hypothesize that high dividends signal a lack of growth opportunities in the firm, this variable may, in fact, measure profitability, which is reflected in higher firm valuation.

In summary, the results of Table 7 corroborate the previous results in Tables 5 and 6, in that corporate governance seems to matter for firm performance and value, to some extent. Specifically, the results in Table 7 suggest that especially broad-based stock option plans combined with external corporate governance mechanisms seem to be associated with higher firm value.

#### **4. Summary and conclusions**

Separation of ownership and control in the modern corporation may cause self-interested managers to act in ways not beneficial to shareholders. Corporate governance addresses the agency problems that are induced by the separation of ownership and control. In this paper, we attempt to quantify the most important sources of internal and external governance mechanisms of publicly traded Finnish firms during the time period 1990 – 2000, and examine the association between these governance attributes and firm performance.

The most rapidly growing (and debated) form of the internal governance mechanisms, tying managerial wealth to firm performance, is stock option compensation.

Furthermore, the ownership structure of the firm is expected to be correlated with the strength of the firm's internal mechanism of corporate governance. Institutional investors are often characterized as large sophisticated shareholders, with a professional interest in developing the firm's governance system. Hence, we argue that institutional ownership represents the most important ownership type affecting the strength and efficiency of internal control mechanisms. We also argue that monitoring carried out by the financial analyst community is one of the most important mechanisms of modern external corporate control. The relation between financial analysts and corporate governance is straightforward, since outside analysts are information intermediaries between firm management and investors. Thus, the mechanisms of corporate governance we examine in the study consists of stock option compensation and institutional ownership as measures of the strength of internal control, and the coverage of financial analysts as a proxy for external monitoring.

The empirical results of the study reveal the following insights. First, univariate test results indicate that firms characterized by a high (efficient) level of corporate governance have delivered greater stock returns, are higher valued based on the measure of Tobin's  $Q$ , and exhibit higher ratios of cash flow to assets, on average, in comparison to their counterparts characterized by a low (inefficient) level of corporate governance. Second, controlling for a number of well-known determinants of stock returns, we find evidence that firms categorized by inefficient corporate governance have delivered inferior returns to shareholders during the investigation period. Finally, after controlling for several common determinants of firm value, we find that firms characterized by efficient corporate governance have been valued higher during the investigation period, measured by Tobin's  $Q$ . In summary, the results of the study suggest that corporate governance, and more specifically, the combination of both internal- and external corporate governance mechanisms, seems to be associated with firm performance.

## Appendix A

This section describes the definitions and calculations of the employed variables. Accounting data are obtained from the Research Institute of the Finnish Economy (ETLA). Ownership data are obtained from *Pörssitieto* manuals. Stock returns and interest rates are obtained from the Swedish School of Economics and Business Administration (SSEBA). Data regarding stock option compensation are obtained from Alexander Corporate Finance Oy (ACF). Data on analyst coverage are collected from I/B/E/S Detail files.

### *A.1. Firm variables*

*Annual excess stock return*: measured as the annual logarithmic total firm stock return subtracted by the 12-month risk-free (HELIBOR/EURIBOR) return. The risk-free return is specified as the 12-month continuously compounded holding period return, where the yield is calculated on the last trading day of year  $t-1$ .

*Tobin's Q*: calculated as the sum of market value of equity and book value of total debt, divided by the book value of assets. Market values of equity are obtained from *KOP Pörssiyhtiöt* manuals and *Kauppalehti* databases.

*Firm size*: measured as the logarithm of sales.

*Capital to sales*: measured as the ratio of fixed assets (book value of gross plant, property, and equipment) to sales.

*Cash flow to assets*: measured as the ratio of EBITDA to book value of assets.

*Investment*: measured as gross investment in fixed assets during the accounting period divided by fixed assets (book value of gross plant, property, and equipment).

*Leverage*: measured as the book value of long-term debt divided by the book value of assets.

*Dividend payout*: measured as the total amount of dividends distributed during the firm's accounting period divided by the book value of assets.

*Firm risk*: calculated as the variance of daily stock returns during the firm's accounting period.

*Firm focus*: Firm-year observations are categorized as diversified or focused by analyzing the distribution of annual sales. The employed accounting data provided by ETLA specifies the firm's industry as the area where a minimum of 60% of sales is generated; otherwise the firm is categorized as multi-business. Hence, firm focus is measured as an indicator variable taking the value of one if at least 60% of its annual sales are generated in a single segment, and zero otherwise.

*Institutional owner*: measured as an indicator variable taking the value of one if a financial institution is among the three largest shareholders, and zero otherwise.

#### A.2. *Analyst coverage*

*Number of analysts per firm*: the number of analysts covering the firm is calculated on an annual basis, and is specified as the number of analysts that have issued at least one forecast of the firm's EPS during the year.

*Number of analyst revisions per firm:* the number of analyst revisions is, likewise, calculated on an annual basis, and is specified as the number of revisions of outstanding forecasts of the firm's EPS during the year.

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Table 1  
 Characteristics of corporate governance mechanisms

The sample in the study covers the time period 1990 – 2000, and consists of firms traded on the main list of the Helsinki Stock Exchange (HEX). The sample consists of 424 firm-year observations involving 78 firms. Data regarding stock option compensation contracts are obtained from Alexander Corporate Finance (ACF). Data on analyst coverage are obtained from I/B/E/S Detail files. Ownership data are collected from *Pörssitieto* manuals. The table reports the distribution of provisions across years used to construct variables measuring the level of corporate governance. The existence of stock option plans are identified by examining whether the firm has at least one stock option plan in effect during the year. The distribution of stock option plans is further specified by examining whether stock options are targeted solely to the top management of the firm (top management plans), or whether stock options are in addition targeted also to non-executive employees (broad-based plans). The firm is classified as having an institutional owner if a financial institution is among the three largest shareholders. The number of analysts is calculated as the number of analysts issuing at least one forecast of the firm's earnings per share (EPS) during the year. The number of analyst revisions is specified as the number of revisions of outstanding forecasts of the firm's EPS during the year.

<b>Sample characteristics</b>						
Year	Panel A. Internal corporate governance mechanisms				Panel B. External corporate governance mechanisms	
	Stock option plan	Top management plan	Broad-based plan	Institutional owner	Median number of analysts	Median number of analyst revisions
1990	19 %	19 %	0 %	86 %	2.0	4.0
1991	14 %	14 %	0 %	86 %	1.0	3.0
1992	14 %	14 %	0 %	86 %	1.0	3.0
1993	30 %	30 %	0 %	83 %	2.0	4.5
1994	61 %	58 %	3 %	90 %	3.0	8.0
1995	65 %	59 %	6 %	88 %	7.0	16.5
1996	64 %	52 %	11 %	84 %	6.0	14.5
1997	71 %	58 %	13 %	79 %	9.0	15.0
1998	80 %	62 %	18 %	88 %	11.0	21.5
1999	86 %	59 %	27 %	80 %	11.0	19.0
2000	84 %	49 %	34 %	80 %	8.0	13.0
1990 - 2000	61 %	47 %	13 %	84 %	7.0	11.0

Table 2  
Construction of variables measuring corporate governance levels

The sample in the study covers the time period 1990 – 2000, and consists of firms traded on the main list of the Helsinki Stock Exchange (HEX). Data regarding stock option compensation contracts are obtained from Alexander Corporate Finance (ACF). Data on analyst coverage are obtained from I/B/E/S Detail files. Ownership data are collected from *Pörssitieto* manuals. For each firm-year observation, we construct an indicator variable measuring high corporate governance and a symmetrically constructed variable measuring low corporate governance, according to the specified conditions. This procedure is conducted according to the target group of the firm's stock option plan(s), i.e., in Panel A: all stock option plans, in Panel B: top executive plans, and in Panel C: broad-based plans.

Governance level	Specification	Variable definition
<b>Panel A. Stock option plans [All]</b>		
High	[I]	Stock option plan in effect + above annual median number of analysts.
Low	[I]	No stock option plan in effect + below annual median number of analysts.
High	[II]	Stock option plan in effect + above annual median number of analyst revisions.
Low	[II]	No stock option plan in effect + below annual median number of analyst revisions.
High	[III]	Stock option plan in effect + above annual median number of analysts + institutional owner.
Low	[III]	No stock option plan in effect + below annual median number of analysts + no institutional owner.
High	[IV]	Stock option plan in effect + above annual median number of analyst revisions + institutional owner.
Low	[IV]	No stock option plan in effect + below annual median number of analyst revisions + no institutional owner.
<b>Panel B. Stock option plans [Top management]</b>		
High	[V]	Top management stock option plan in effect + above annual median number of analysts.
Low	[V]	No stock option plan in effect + below annual median number of analysts.
High	[VI]	Top management stock option plan in effect + above annual median number of analyst revisions.
Low	[VI]	No stock option plan in effect + below annual median number of analyst revisions.
High	[VII]	Top management stock option plan in effect + above annual median number of analysts + institutional owner.
Low	[VII]	No stock option plan in effect + below annual median number of analysts + no institutional owner.
High	[VIII]	Top management stock option plan in effect + above annual median number of analyst revisions + institutional owner.
Low	[VIII]	No stock option plan in effect + below annual median number of analyst revisions + no institutional owner.
<b>Panel C. Stock option plans [Broad-based]</b>		
High	[IX]	Broad-based stock option plan in effect + above annual median number of analysts.
Low	[IX]	No stock option plan in effect + below annual median number of analysts.
High	[X]	Broad-based stock option plan in effect + above annual median number of analyst revisions.
Low	[X]	No stock option plan in effect + below annual median number of analyst revisions.
High	[XI]	Broad-based stock option plan in effect + above annual median number of analysts + institutional owner.
Low	[XI]	No stock option plan in effect + below annual median number of analysts + no institutional owner.
High	[XII]	Broad-based stock option plan in effect + above annual median number of analyst revisions + institutional owner.
Low	[XII]	No stock option plan in effect + below annual median number of analyst revisions + no institutional owner.

Table 3

The distribution of corporate governance levels across the years in the sample

The sample in the study covers the time period 1990 – 2000, and consists of firms traded on the main list of the Helsinki Stock Exchange (HEX). The sample consists of 424 firm-year observations involving 78 firms. Data regarding stock option compensation contracts are obtained from Alexander Corporate Finance (ACF). Data on analyst coverage are obtained from I/B/E/S Detail files. Ownership data are collected from *Pörssitieto* manuals. For each firm-year observation, we construct an indicator variable measuring high corporate governance and a symmetrically constructed variable measuring low corporate governance, according to the specified conditions. See the notes to Table 2 for the construction of the variables.

Governance level	Specification	Distribution of firms according to governance classification across years										
		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
High	[I]	14 %	11 %	11 %	10 %	32 %	38 %	43 %	42 %	44 %	47 %	46 %
Low	[I]	48 %	57 %	64 %	47 %	29 %	26 %	32 %	23 %	18 %	12 %	13 %
High	[II]	10 %	11 %	11 %	13 %	39 %	41 %	45 %	42 %	48 %	45 %	48 %
Low	[II]	43 %	54 %	50 %	33 %	29 %	26 %	32 %	23 %	18 %	12 %	15 %
High	[III]	14 %	11 %	11 %	10 %	32 %	35 %	39 %	35 %	40 %	43 %	39 %
Low	[III]	14 %	14 %	14 %	17 %	6 %	9 %	11 %	8 %	4 %	8 %	8 %
High	[IV]	10 %	11 %	11 %	13 %	39 %	38 %	41 %	33 %	44 %	39 %	43 %
Low	[IV]	10 %	11 %	14 %	13 %	6 %	9 %	9 %	8 %	4 %	8 %	8 %
High	[V]	14 %	11 %	11 %	10 %	32 %	35 %	39 %	35 %	38 %	37 %	30 %
Low	[V]	48 %	57 %	64 %	47 %	32 %	29 %	39 %	29 %	30 %	29 %	31 %
High	[VI]	10 %	11 %	11 %	13 %	39 %	38 %	41 %	35 %	38 %	37 %	33 %
Low	[VI]	43 %	54 %	50 %	33 %	32 %	29 %	39 %	29 %	26 %	31 %	34 %
High	[VII]	14 %	11 %	11 %	10 %	32 %	32 %	34 %	31 %	36 %	33 %	25 %
Low	[VII]	14 %	14 %	14 %	17 %	6 %	9 %	11 %	8 %	4 %	10 %	8 %
High	[VIII]	10 %	11 %	11 %	13 %	39 %	35 %	36 %	29 %	36 %	31 %	28 %
Low	[VIII]	10 %	11 %	14 %	13 %	6 %	9 %	9 %	8 %	4 %	10 %	10 %
High	[IX]	0 %	0 %	0 %	0 %	0 %	3 %	5 %	6 %	6 %	10 %	16 %
Low	[IX]	52 %	61 %	68 %	67 %	55 %	50 %	45 %	46 %	42 %	35 %	33 %
High	[X]	0 %	0 %	0 %	0 %	0 %	3 %	5 %	6 %	10 %	8 %	15 %
Low	[X]	52 %	57 %	54 %	50 %	48 %	47 %	43 %	46 %	42 %	35 %	31 %
High	[XI]	0 %	0 %	0 %	0 %	0 %	3 %	5 %	4 %	4 %	10 %	15 %
Low	[XI]	14 %	14 %	14 %	17 %	10 %	9 %	11 %	15 %	8 %	14 %	13 %
High	[XII]	0 %	0 %	0 %	0 %	0 %	3 %	5 %	4 %	8 %	8 %	15 %
Low	[XII]	10 %	11 %	14 %	13 %	10 %	9 %	9 %	13 %	8 %	12 %	13 %
Total number of firms		21	28	28	30	31	34	44	48	50	49	61

Table 4  
Descriptive statistics

The sample in the study covers the time period 1990 – 2000, and consists of firms traded on the main list of the Helsinki Stock Exchange (HEX). Annual excess stock returns are continuously compounded. Firm risk (the variance of daily stock returns) is multiplied by 100. See Appendix A for variable definitions.

Variable	Mean	Median	Std. Dev.	1st Quart.	3rd Quart.	Minimum	Maximum
	Number of observations [424]						
Annual excess stock return	0.012	0.056	0.481	-0.290	0.333	-1.430	1.537
Tobin's $Q$	1.314	1.047	1.135	0.908	1.322	0.428	15.132
Sales [€000.000]	1 386.945	554.263	2 526.826	189.632	1 489.472	24.219	30 375.917
Capital to sales	0.626	0.462	0.808	0.276	0.730	0.002	10.614
Cash flow to assets	0.118	0.112	0.068	0.081	0.147	-0.242	0.379
Investment to capital	0.209	0.174	0.158	0.105	0.269	0.004	1.114
Long-term debt to assets	0.260	0.239	0.159	0.137	0.373	0.000	0.856
Dividends to assets	0.017	0.012	0.022	0.006	0.022	0.000	0.249
Firm risk	0.081	0.060	0.070	0.038	0.092	0.001	0.612
Firm focus [1/0]	0.795						
Number of firms	78						

Table 5  
Univariate analysis of the level of corporate governance and firm performance

The sample in the study covers the time period 1990 – 2000, and consists of firms traded on the main list of the Helsinki Stock Exchange (HEX). The sample consists of 424 firm-year observations involving 78 firms. For each firm-year observation, we construct an indicator variable measuring high corporate governance and a symmetrically constructed variable measuring low corporate governance, according to the specified conditions. See the notes to Table 2 for the construction of the variables. A *t*-test (assuming unequal variances) is used to investigate equality in means. The significance levels 1%, 5%, and 10% are denoted with \*\*\*, \*\*, and \*, respectively. The number of firm-year observations (belonging to either the high- or low governance classification) are reported in brackets beneath each coefficient. See Appendix A for variable definitions.

Specification	Panel A. Annual excess stock return			Panel B. Tobin's <i>Q</i>			Panel C. Cash flow to assets		
	High-governance firm	Low-governance firm	<i>t</i> -value [equal means]	High-governance firm	Low-governance firm	<i>t</i> -value [equal means]	High-governance firm	Low-governance firm	<i>t</i> -value [equal means]
[I]	0.052 [147]	-0.040 [124]	(1.54)	1.651 [147]	1.074 [124]	(3.82)***	0.133 [147]	0.094 [124]	(4.75)***
[II]	0.054 [153]	-0.066 [115]	(1.97)**	1.627 [153]	1.071 [115]	(3.83)***	0.134 [153]	0.094 [115]	(4.86)***
[III]	0.054 [133]	-0.153 [41]	(2.18)**	1.650 [133]	1.161 [41]	(2.78)***	0.132 [133]	0.084 [41]	(2.87)***
[IV]	0.045 [138]	-0.156 [37]	(2.05)**	1.628 [138]	1.135 [37]	(2.97)***	0.133 [138]	0.081 [37]	(2.96)***
[V]	0.095 [123]	-0.035 [157]	(2.37)**	1.518 [123]	1.103 [157]	(2.65)***	0.131 [123]	0.100 [157]	(4.22)***
[VI]	0.096 [129]	-0.054 [148]	(2.69)***	1.496 [129]	1.103 [148]	(2.62)**	0.129 [129]	0.098 [148]	(4.21)***
[VII]	0.082 [112]	-0.145 [42]	(2.44)**	1.490 [112]	1.212 [42]	(1.49)	0.127 [112]	0.089 [42]	(2.26)**
[VIII]	0.084 [116]	-0.181 [39]	(2.66)**	1.471 [116]	1.203 [39]	(1.50)	0.127 [116]	0.083 [39]	(2.48)**
[IX]	-0.168 [24]	-0.007 [201]	(-1.09)	2.335 [24]	1.149 [201]	(2.74)**	0.143 [24]	0.114 [201]	(1.32)
[X]	-0.171 [24]	-0.025 [186]	(-1.01)	2.331 [24]	1.154 [186]	(2.72)**	0.157 [24]	0.115 [186]	(2.10)**
[XI]	-0.095 [21]	-0.109 [53]	(0.08)	2.502 [21]	1.309 [53]	(2.43)**	0.160 [21]	0.113 [53]	(1.75)*
[XII]	-0.160 [22]	-0.114 [47]	(-0.27)	2.456 [22]	1.305 [47]	(2.44)**	0.165 [22]	0.114 [47]	(1.94)*

Table 6  
Corporate governance levels and stock returns

The table reports annual abnormal returns earned on an investment strategy based on firms' corporate governance level. The sample consists of 424 firm-year observations involving 78 firms. The intercepts report abnormal returns for firms that are not subject to the corporate governance specifications (base-group), whereas the high-governance and low-governance indicator variables represent firms that are subject to the corporate governance specifications (high/low). See Table 2 for a description of the governance level specifications. The variable RMRF corresponds to the sample equally weighted index excess returns. The variable SMB corresponds to the difference between the year  $t$  returns of an equally weighted portfolio of small stocks and one of large stocks. HML is the difference between the year  $t$  returns of an equally weighted portfolio of high book-to-market stocks and one of low book-to-market stocks. The variable Momentum is calculated as the difference between the year  $t$  returns of an equally weighted portfolio of momentum stocks, measured as past 12-month stock return, and one of contrarian stocks. The SMB, HML, and Momentum variables are orthogonalized as in, e.g., Busse (2001). All estimations are conducted using OLS regression. The  $t$ -statistics (reported beneath each regression coefficient) are calculated using robust standard errors. The significance levels 1%, 5%, and 10% are denoted with \*\*\*, \*\*, and \*, respectively.

Dependent variable: Annual excess stock return							
Specification	Difference in intercept			Carhart (1997) factors			
	Intercept	High-governance firm	Low-governance firm	RMRF	SMB	HML	Momentum
[I]	0.018 (0.30)	0.020 (0.46)	-0.083** (-2.03)	0.989*** (19.21)	-0.027 (-0.15)	0.029 (0.13)	0.053 (0.17)
[II]	0.022 (0.36)	0.016 (0.38)	-0.095** (-2.25)	0.985*** (19.14)	-0.012 (-0.06)	0.028 (0.12)	0.051 (0.16)
[III]	0.011 (0.20)	0.029 (0.72)	-0.207*** (-2.97)	0.992*** (19.26)	-0.026 (-0.15)	0.056 (0.25)	0.013 (0.04)
[IV]	0.014 (0.24)	0.021 (0.52)	-0.212*** (-2.82)	0.992*** (19.24)	-0.006 (-0.03)	0.060 (0.27)	-0.010 (-0.03)
[V]	-0.008 (-0.13)	0.074* (1.66)	-0.046 (-1.11)	0.984*** (19.29)	-0.042 (-0.23)	0.051 (0.23)	0.001 (0.01)
[VI]	-0.002 (-0.03)	0.064 (1.48)	-0.059 (-1.40)	0.981*** (19.24)	-0.028 (-0.15)	0.052 (0.23)	-0.012 (-0.04)
[VII]	0.004 (0.07)	0.053 (1.35)	-0.198*** (-2.90)	0.991*** (19.37)	-0.037 (-0.21)	0.071 (0.32)	-0.013 (-0.04)
[VIII]	0.006 (0.11)	0.052 (1.33)	-0.228*** (-3.00)	0.990*** (19.36)	-0.025 (-0.14)	0.079 (0.36)	-0.036 (-0.11)
[IX]	0.051 (0.90)	-0.178 (-1.56)	-0.084** (-2.42)	0.987*** (19.31)	0.004 (0.02)	0.058 (0.26)	-0.026 (-0.08)
[X]	0.046 (0.80)	-0.170 (-1.52)	-0.087** (-2.48)	0.982*** (19.20)	0.029 (0.16)	0.015 (0.07)	-0.028 (-0.09)
[XI]	0.025 (0.45)	-0.087 (-0.75)	-0.167*** (-2.76)	0.989*** (19.27)	0.005 (0.03)	0.072 (0.32)	-0.063 (-0.20)
[XII]	0.026 (0.48)	-0.129 (-1.09)	-0.165** (-2.52)	0.984*** (19.23)	0.020 (0.11)	0.072 (0.32)	-0.070 (-0.22)

Table 7  
Corporate governance levels and firm value

The total sample coverage is 1990 – 2000, and consists of firms traded on the main list of the Helsinki Stock Exchange (HEX). All estimations are conducted using OLS regression. Panels A through C report estimation results according to governance level classifications. See Table 2 for a description of the governance level specifications. A full set of year dummies is included in all specifications (not reported). The measures of firm risk are multiplied by 100. The *t*-statistics (reported beneath each regression coefficient) are calculated using robust standard errors. See Appendix A for variable definitions. The significance levels 1%, 5%, and 10% are denoted with \*\*\*, \*\*, and \*, respectively.

Independent variables	Dependent variable: $\ln(\text{Tobin's } Q)$											
	Panel A.				Panel B.				Panel C.			
	[I]	[II]	[III]	[IV]	[V]	[VI]	[VII]	[VIII]	[IX]	[X]	[XI]	[XII]
High-governance firm [1/0]	0.084*** (2.63)	0.070** (2.16)	0.074** (2.09)	0.062* (1.77)	0.012 (0.36)	0.008 (0.25)	0.015 (0.45)	0.007 (0.23)	0.188** (2.57)	0.163** (2.23)	0.203** (2.43)	0.187** (2.32)
Low-governance firm [1/0]	0.009 (0.24)	-0.001 (-0.02)	0.041 (0.77)	0.033 (0.57)	-0.016 (-0.49)	-0.017 (-0.49)	0.047 (0.87)	0.052 (0.88)	-0.022 (-0.69)	-0.025 (-0.75)	0.043 (0.87)	0.034 (0.61)
Control variables												
$\ln[\text{sales}]$	0.185 (1.02)	0.173 (0.96)	0.208 (1.12)	0.199 (1.09)	0.190 (1.05)	0.187 (1.03)	0.213 (1.16)	0.213 (1.16)	0.147 (0.81)	0.142 (0.79)	0.161 (0.88)	0.159 (0.87)
$\ln[\text{sales}]$ [squared]	-0.009 (-0.78)	-0.008 (-0.72)	-0.010 (-0.86)	-0.010 (-0.82)	-0.009 (-0.76)	-0.009 (-0.74)	-0.010 (-0.84)	-0.010 (-0.84)	-0.006 (-0.55)	-0.006 (-0.52)	-0.007 (-0.58)	-0.007 (-0.57)
Capital to sales	-0.037 (-1.01)	-0.034 (-0.93)	-0.030 (-0.81)	-0.029 (-0.78)	-0.036 (-0.94)	-0.035 (-0.93)	-0.025 (-0.67)	-0.025 (-0.66)	-0.037 (-1.06)	-0.034 (-0.95)	-0.030 (-0.84)	-0.029 (-0.82)
Capital to sales [squared]	0.007* (1.94)	0.006* (1.85)	0.006* (1.76)	0.006* (1.74)	0.006* (1.87)	0.006* (1.86)	0.006 (1.62)	0.006 (1.61)	0.006* (1.93)	0.006* (1.81)	0.006* (1.78)	0.006* (1.76)
Cash flow to assets	3.214*** (6.18)	3.204*** (6.18)	3.240*** (6.39)	3.239*** (6.40)	3.227*** (6.09)	3.224*** (6.09)	3.275*** (6.41)	3.290*** (6.47)	3.243*** (6.33)	3.204*** (6.27)	3.211*** (6.37)	3.194*** (6.32)
Investment to capital	0.305** (2.13)	0.293** (2.02)	0.317** (2.30)	0.306** (2.21)	0.309** (2.20)	0.307** (2.16)	0.324** (2.35)	0.323** (2.34)	0.301** (2.23)	0.299** (2.16)	0.315** (2.34)	0.310** (2.30)
Long-term debt to assets	-0.507*** (-4.38)	-0.528*** (-4.54)	-0.525*** (-4.56)	-0.539*** (-4.61)	-0.517*** (-4.46)	-0.522*** (-4.51)	-0.532*** (-4.59)	-0.530*** (-4.55)	-0.474*** (-4.03)	-0.503*** (-4.39)	-0.493*** (-4.35)	-0.508*** (-4.50)
Dividends to assets	2.119** (2.27)	2.140** (2.28)	2.161** (2.36)	2.164** (2.35)	2.232** (2.40)	2.226** (2.39)	2.243** (2.44)	2.237** (2.43)	1.920* (1.94)	1.958** (2.00)	1.898* (1.95)	1.914** (1.97)
Firm risk	2.105*** (6.03)	2.135*** (6.03)	2.116*** (6.05)	2.128*** (6.07)	2.172*** (6.12)	2.183*** (6.07)	2.134*** (5.97)	2.119*** (5.88)	2.063*** (6.26)	2.107*** (6.32)	2.048*** (6.05)	2.058*** (6.05)
Firm focus [1/0]	0.094*** (3.45)	0.093*** (3.47)	0.091*** (3.40)	0.090*** (3.41)	0.092*** (3.32)	0.091*** (3.35)	0.085*** (3.19)	0.084*** (3.16)	0.094*** (3.46)	0.092*** (3.37)	0.084*** (3.18)	0.086*** (3.27)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R-squared	0.557	0.555	0.556	0.555	0.552	0.551	0.552	0.552	0.563	0.560	0.562	0.561
Number of observations	424	424	424	424	424	424	424	424	424	424	424	424

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