Corporate Governance and Dividend Pay-out Policy in Germany*

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Abstract

An alternative explanation of why dividends may be informative is put forward in this paper. We claim that dividends signal the severity of the conflict between the large, controlling owner and small, outside shareholders, and accordingly, dividend change announcements provide new information about this conflict. To test the rent extraction hypothesis and to discriminate it from the cash flow signaling explanation, we utilize information on the ownership and control structure of the firm. We analyze 815 dividend change announcements in Germany over the period 1992 to 1998 and find significantly larger negative wealth effects in the order of two percentage points for majority controlled companies that decrease their dividends than for other firms. The rent extraction hypothesis has also implications for the levels of dividends paid. We find larger holdings of the largest owner to reduce, while larger shareholdings of the second largest owner to increase the dividend pay-out ratio.

Keywords: Corporate Governance, Dividend Announcements, Rent Extraction, Germany

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1. Introduction

The causes and consequences of different Corporate Governance systems in place all over the world have been the subject of extensive scrutiny in recent years. There are mainly two mechanisms in place that enable stockholders to compel management to act in their interests: laws and governance structures. In most Anglo-Saxon countries like the U.S. or U.K. ownership is often dispersed and it is claimed that each individual shareholder has only limited incentives and ability to monitor the management. The major conflict in the governance of companies, accordingly, appears to be the conflict between powerful managers and small outside shareholders. While laws often specify fiduciary duties for management such as loyalty to shareholders, in the corporate governance literature dividend pay-outs are seen as a means to reduce the cash flow managers have to use at their discretion (see Jensen, 1986; Lang and Litzenberger, 1989). In addition, dividend payments could force companies to go to capital markets, where the monitoring of managers can be done at lower cost, and hence gives outside shareholders an opportunity to exercise some control (Easterbrook, 1984).

Governance in most other countries functions differently. In Japan, *keiretsus*[1] and cross-shareholdings are common governance devices while legal requirements for management are rather weak. In Continental Europe, such as in Germany, Italy, and France a concentrated ownership structure is the distinguishing feature and corporate laws again play a minor role. Here, large shareholders have ample incentives and ability to control management, therefore, the classic manager-shareholder conflict does not appear predominant. Many authors argue that the main conflict is between the large controlling shareholder and small minority shareholders. Legal protection of minority shareholders is the main issue in these

[1] The Japanese *keiretsu* is a collection of a number of industrial and financial firms, whose members have informal ties and partial interlocking ownership but are managed independently. Berglöf and Perotti (1994) analyze keiretsus in detail.

governance systems.[2]

This paper focuses upon the large-small shareholder conflict by analyzing dividend announcements and dividend pay-out ratios in Germany. Several theories have been put forward to explain the information dividend announcements might convey, most prominently the cash flow signaling and the free cash flow hypothesis. The cash flow signaling hypothesis asserts that managers have more information about the firm's cash flows than do individuals outside the firm, and they have incentives to "signal" that information to investors (see the models by Bhattacharya (1979), John and Williams (1985), Kalay (1980), and Miller and Rock (1985), and recent empirical tests by Yoon and Starks (1995) and Bernheim and Wantz (1995)). The free cash flow hypothesis asserts that the value of the firm should increase if overinvesting managers pay out more of the cash flows as dividends and invest less in negative NPV projects (see Jensen (1986), Lang and Litzenberger (1989) and Dewenter and Warther (1998)). The cash flow signaling hypothesis always expects significant abnormal returns irrespective of the investment opportunity set of the firm, the free cash flow hypothesis expects only significant effects for over-investing firms.

An alternative explanation of why dividends may be informative is put forward in this paper. We claim that dividends signal the severity of the conflict between the large, controlling owner and small, outside shareholders, and accordingly, dividend change announcements provide new information about this conflict. Large shareholders have often the discretion and the incentives to extract private benefits of control. This incentive arises because the blockholder only bears a fraction of the costs of these payments (i.e. forgone

[2] See, for example, LaPorta et al. (1997, 1999, 2000), Gugler (1999), and Barca and Becht (2000). A number of recent studies found rent extraction of large shareholders from smaller owners. For example, Zingales (1994) obtains extraordinary high voting premia for Italy (around 80%) and measures the average proportion of private benefits to be around 30 percent of firm value. His conjecture is that these private benefits of control are so large in Italy because the legal system is very ineffective in preventing exploitation of a control position.

dividend payments in the proportion of his cash flow rights) but receives the full benefits.[3] Dividend payments, however, guarantee a pro rata pay-out for both large and small shareholders. Dividends are therefore an ideal device for limiting rent extraction of minority shareholders. The large shareholder by granting dividends to small shareholders can signal his unwillingness to exploit them. On the other hand, dividend reductions may then signal an increased potential for rent extraction by leaving more money at the discretionary use of the controlling owner. Accordingly, the rent extraction hypothesis expects positive abnormal returns for dividend increase surprises and negative abnormal returns for announcements of dividend reductions.

To test the rent extraction hypothesis and to discriminate between it and the cash flow signaling explanation, we utilize information on the ownership and control structures of firms[4]. On the basis of this information, we discriminate between firms where we expect this conflict to be severe and firms where we do not. For a sample of 558 dividend increase announcements in Germany over the period 1992 to 1998 we do not find significant differences in Cumulative Average Abnormal Returns (CAAR) across control categories. However, for a sample of 257 announcements of dividend reductions we find significantly larger negative wealth effects in the order of two percentage points for those companies where we expect the discretion of the controlling shareholder to be largest.

Consistent with an agency perspective and the idea that different shareholder groups have different preferences about dividends ("Consensus-dividend hypothesis" See Eckbo and

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[3] Rent extraction can come in several ways, for example, high salaries or perks for the largest shareholder, or the use of the company's assets to favor other companies owned by the largest shareholder. In a case study of an intra-group transfer in Italy (IRI sold its majority stake in Finsiel to STET, controlled by IRI as well, at a too high a price), Zingales (1994) estimates a dilution of minority property rights equal to 7 percent of the value of the equity owned by outside shareholders.

[4] Germany is particularly useful in this regard. First, the ownership structure is very concentrated, and second, the conditions for a tax-based signaling equilibrium are unlikely to apply (See, Amihud and Murgia, 1997 and McDonald, 1999).

Verma, 1994), we find that the dividend pay-out ratio significantly declines with the voting power of the largest owner, while it increases with the voting power of the second largest owner.

The paper is structured as follows. The next section describes our hypotheses. Section 3 details the database, section 4 presents our results, and the last section concludes.

2. The Hypotheses

As already mentioned, the concentrated ownership structure in most countries other than the US or UK leads us to expect that besides the classic shareholder-manager conflict the expropriation of small shareholders by large controlling shareholders is one of the main problems. That is, corporate governance is not only about maximizing the size of the "pie", but also the subsequent distribution of earnings among the different shareholders. Below we try to determine firms that are most likely to suffer from the large-small shareholder conflict.

Majority control gives the largest shareholder considerable power and discretion over the main firm decisions, among them the dividend pay-out decision. Therefore, we distinguish between majority-controlled firms (those firms where the largest shareholder controls more than 50% of the voting shares) and minority-controlled firms (those firms where the largest shareholder controls less than 50% of the votes). We expect that the large-small shareholder conflict should be more severe in majority-controlled firms.

However, as Edwards and Weichenrieder (1999) note, other large shareholders should have the incentive to control and monitor the largest shareholder. First, they have the ability to do so. In Germany even when a shareholder holds more than 50% of the voting shares control may not be complete. The German two-tier board system specifies that also employee

representatives and representatives of other (large) shareholders sit on the supervisory board[5]. Second, for obvious reasons the other large shareholders have the incentive to monitor the largest shareholder.[6] Therefore, to achieve a finer partition of firms with respect to the possible occurrence of the large-small shareholder conflict, we distinguish between "unchecked" firms (those for which there is no second largest shareholder holding more than 5% of the voting shares), and "checked" firms (those for which there is at least one additional shareholder with more than 5% of the votes). We expect that the large-small shareholder conflict should be more severe in "unchecked" firms.[7] The most severe form of this conflict is expected in majority-controlled *and* "unchecked" firms. Given the above discussion, we formulate the following hypotheses:

Hypothesis 1: Abnormal returns on dividend change announcements are significantly different between majority- and minority-controlled firms. The most pronounced differences are expected with announcements of dividend decreases, indicating a change in the largest shareholder's attitude towards increased rent expropriation of small shareholders.

Hypothesis 2.a: Abnormal returns on dividend change announcements are significantly different between "checked" and "unchecked" firms.

Hypothesis 2.b: Among the majority-controlled firms, abnormal returns on dividend change announcements are significantly different between "checked" and "unchecked" firms.

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[5] The supervisory board appoints and controls the management board, which runs the corporation. Additionally, the German Aktiengesetz specifies certain minority rights depending on voting equity held. For example, a shareholder or group of shareholders owning 5% of the voting equity can demand an extraordinary shareholders' meeting. Similiar company law regulations are in place in other Germanic legal systems as well, i.e. in Austria and Switzerland.

[6] See Edwards and Weichenrieder (1999) for a model explaining the incentives of the second largest shareholder.

[7] "Unchecked" as defined above could also mean that there is no large shareholder at all. We control for that possibility in the empirical analysis but since the number of firms without large shareholders is extremely low (there are only 13 firms where there is no shareholder owning more than 5%) it does not make a difference to the results whether we include or exclude them.

Again the most pronounced differences are expected with announcements of dividend decreases.

Hypothesis 3: Higher voting power concentrated in the hands of the largest owner is associated with lower dividend pay-out ratios. Other large owners restrict rent extraction leading to a higher dividend pay-out ratio.

3. The Data

We examine dividend announcements made during 1992 through 1998 by 266 companies whose stocks were traded on the major German exchanges and which are contained in the Standard & Poors' Global Vantage database as of mid 1999. We use the stock return data which was compiled by the *Institut für Entscheidungstheorie und Unternehmensforschung* of the University of Karlsruhe. Using the daily price series (adjusted for dividends and rights) for each stock, we calculate the daily returns as the percentage change in stock price from day t-1 to t. We use the return on the stock index CDAX, the composite index, which is capitalisation weighted and adjusted for cash dividends and capital changes, constructed and supplied by the German Stock Exchange (Deutsche Börse AG).

Dividend announcements are gathered from the online database Reuters. We eliminate 465 from the original 2104 announcements since there was no trade at the announcement day. Further we lose 396 announcements due to first differencing and due to missing ownership and balance sheet data. The remaining 1243 announcements consist of 257 decrease and 558 increase announcements, and 428 announcements of unchanged dividends. For each event i in year y, we obtain the announced cash dividend in DM, DIV_{iy}, and the stock price 100 days before the announcement day, P_{iy}. The dividend yield is, then, calculated as DIV_{iy} / P_{iy}, and the change in dividend relative to price $\Delta DIV / P = (DIV_{iy} - DIV_{iy-1}) / P_{iy}$.

To study the stock price reaction to dividend announcements, we estimate the market model over 120 days before the announcement day from day -123 to -3. For event i, the abnormal return on day t, AR_{it}, is calculated as

$$AR_{it} = R_{it} - \left(\hat{\alpha}_i + \hat{\beta}_i \cdot RM_t\right), \tag{1}$$

where R_{it} is the return on event i on day t, $\hat{\alpha}_i$ and $\hat{\beta}_i$ are the estimated parameters of the market model using the Scholes-Williams (1977) method, and RM_t is the rate of return on the CDAX market index on day t. We use two measures for abnormal wealth effects. The average five-day cumulative abnormal return across events, $CAAR = \sum CAR \ / N$, and the average abnormal return at the announcement day $AAR = \sum AR_{i0} / N$, where $CAR_i = \sum_{t=-2}^{+2} AR_{it}$, N is the number of events, and day 0 is the announcement day.

The data on the ownership structure of the sample firms have been gathered from the 1991, 1994, and 1997 editions of the *Wer gehört zu wem*, a publication of the German *Commerzbank* that offers information on the identities and percentage shareholdings of the owners of the German corporations. Since this source of data is available every fourth year, we use the most recent ownership data for missing years, e.g., the 1995 data are taken from the 1994 edition and the 1996 data from the 1997 edition. This procedure is unlikely to introduce much error since the ownership structure of German companies has been very stable.

4. The Results

The final sample for which all the relevant data are available to test hypotheses 1 and 2 consists of 558 events of dividend increases and 257 events of dividend reductions. Table 1 presents detailed summary statistics as well as mean comparison tests on firm characteristics

between majority- versus minority-controlled firms, "checked" versus "unchecked" firms, and "checked" versus "unchecked" firms for the subsample of majority-controlled firms.

As is well known, ownership concentration is very high in Germany, with the largest shareholder holding on average 49% (dividend increases) to 52% (dividend decreases) of the equity (see also Boehmer (1998) and LaPorta et al. (1999)). The shareholdings of the second largest shareholder are also quite substantial and average around 20%. By construction, the control power of the largest shareholder is highest in "unchecked" majority-controlled firms, as the largest shareholder in these firms on average holds around 75% of the equity, with no other large shareholders. For the dividend increase sample, the average dividend yield is 2.3% and the average increase in dividends relative to price is 0.8%. For the dividend reduction sample, the respective numbers are 1.2% and -1.7%.[8] Majority-controlled firms have significantly higher Tobin's q ratios[9], are smaller, have higher dividend yields, and, provided dividends are changed, change dividends by a larger amount relative to stock price than minority-controlled firms. This confirms the suspicion that largest shareholders have considerable discretion over key corporate decisions in these firms.

- TABLE 1 -

The results in Table 2 show a symmetric and significantly positive reaction of stock prices to dividend news if dividends are increased. The *CAAR* is in the order of 0.8% to 1.0%,

[8] These numbers are reasonably in line with Amihud and Murgia (1997), who find for Germany DIV/P=2.6% and ΔDIV/P=0.5% for dividend increases and DIV/P=2.1% and ΔDIV/P=-1.4% for dividend reductions for the time period 1988 to 1992.

[9] Edwards and Weichenrieder (1999) recently found for German listed companies that while the largest shareholder does obtain private benefits of control at the expense of minority shareholders, the net effect on the value of the firm as measured by Tobin's q is positive via increased monitoring intensity. Our results are consistent with theirs.

and the *AAR* slightly lower at 0.5% to 0.7%. For the dividend increase sample, there are no significant differences concerning our control classifications majority- vs. minority-controlled, "checked" vs. "unchecked", and "checked" vs. "unchecked" majority-controlled firms.

In stark contrast, all of our predictions with regard to the influence of the control structure of the firm on the wealth effects of dividend announcements are fulfilled for the subsample of dividend decreases. Strikingly, the *CAAR*s and *AAR*s of firms where there is either majority-control and/or no second largest shareholder and/or, most extreme, majority-control *and* no second largest shareholder are all negative and significant. The magnitude of negative wealth effects rises monotonically from around -1.0% to -1.8% when one moves from majority-control to unchecked majority control. Crucial in determining these wealth effects is the presence of other large shareholders as countervailing balance to the largest owner. In firms where there is a second largest shareholder holding more than 5% of the equity, *CAAR*s and *AAR*s are indistinguishable from zero even when dividends are reduced. What is more, the cumulative effects are always significantly different between the respective control types when dividends are reduced. This is evidence in favor of hypotheses 1 and 2.

At first sight, the insignificant findings with respect to dividend increases might be seen as invalidating our hypotheses. However, the asymmetrical effects may simply be due to the fact that dividend decreases are more informative than dividend increases. In a rising stock market, the market's conditional expected dividend change may be positive so that dividend decreases convey much more information and are more likely to be surprises. The magnitude of dividend decreases is also much higher than the magnitude of dividend increases (see Table 1), so that the information transmitted to the market may be larger for dividend decreases. Therefore, we do not find significant differences for dividend increases.

- TABLE 2 -

The logic of our hypotheses imply that the more concentrated the holdings of the largest shareholder become the more negative will be the stock price reaction in case of dividend decreases. On the other hand, the presence of another large owner with the ability and incentives to control the largest owner will alter this assumed relationship. In particular, if there is another owner holding more than 5 % it is less likely that a dividend decrease signals expropriation of minority shareholders. Therefore, we do not expect an influence on *CAR* or *AR* of the holdings of the largest shareholder in the presence of another large owner. The estimated regression therefore includes an interaction term of *SH1* with a dummy variable (*DSH2*) indicating the presence of another large owner. *DSH2* takes on the value 1 if there is another large holder and 0 else. The results are:

AR =	- 0.0013763	- 0.000232 *SH1*	+ 0.0002781 *SH1*DSH2*	N=257, Adj.R^2 = 0.037
(t =)	(-0.20)	(-2.02)**	(2.27)**	

CAR =	- 0.0026499	- 0.0001732 *SH1*	+ 0.0002967 *SH1*DSH2*	N=257, Adj.R^2 = 0.021
(t =)	(-0.33)	(-1.38)	(2.27)**	

The estimated coefficients imply that if *DSH2* = 0, then the *CAR* (*AR*) falls from -1.13 %, t = 2.66 (-1.3 %, t = 3.48) to -1.82 %, t = 2.91 (-2.22 %, t = 3.72) when we increase *SH1* from 50 (simple majority control, ≅ sample mean) to *SH1* = 90 (super majority control). In contrast, if there is a second large shareholder (*DSH2* = 1), then *CAR*s and *AR*s are essentially zero and independent of the holdings of the largest shareholder (the values are 0.035%, t = 0.70 for *CAR* and 0.09%, t = 0.19 for *AR* if *SH1* = 50 and 0.84%, t = 0.78 for *CAR* and 0.28%, t = 0.27 for *AR* if *SH1* = 90).

The large vs. small shareholder conflict has not only implications for dividend changes (which we analyzed so far), but also for the level of dividends and, hence, for the dividend pay-out ratio. Given the logic of our theory, we expect higher voting power concentrated in the hands of the largest owner to be associated with lower dividend pay-out ratios. Other large owners (which we proxy using the holdings of the second largest owner) restrict rent extraction leading to a higher dividend pay-out ratio.

To test hypothesis 3, we first consider a simple regression of dividend pay-out ratio on ownership structure as discussed above. The estimated coefficient of *SH1* is negative and highly significant, indicating that more voting power of the largest owner is associated with lower dividend pay-out ratios (Table 3, Panel A). The impact of the second largest shareholder on the dividend pay-out policy is captured, again, by the *SH1*DSH2* interaction. The regression yields a positive and significant impact of this variable on the dividend pay-out ratio, i.e., the presence of another large shareholder neutralizes the influence of the controlling owner[10]. The two ownership variables along with 116 3-digit industry and 7 year dummies explain 32% of the variation in the 1275 dividend pay-out ratios[11]. The second equation we estimate includes, in addition to *SH1* and *SH1*DSH2*, the firm's debt ratio (*DEBT/TA*) to capture the possible impact of dividend constraints embedded in debt contracts on dividend pay-out ratios, and the natural logarithm of total assets (*Ln TA*) to control for size. The coefficient estimates of *SH1* and *SH1*DSH2* retain the right sign and their significance. *DEBT/TA* has the expected negative sign and is significant at the 1% level. Size has no significant impact on the dividend pay-out ratio.

- Table 3 -

[10] We obtain consistent results if we replace *SHi*DSH2* by the continuous shareholdings of the second largest owner (*SH2*). In Panel B, we use *SH2*.

[11] This sample includes also the firm-years with no change in dividends.

So far, we have assumed that ownership is exogenous. It is possible, however, that the firm's dividend pay-out ratio and ownership structure are determined simultaneously. We take this into account by estimating the following system by three-stage least squares (3SLS):

$$Dividend\ \ payout\ ratio = f_1\left(SH_i, DEBT / TA, Ln TA\right),$$

$$SH_i = f_2\left(Dividend\ Payout\ Ratio, ROA, STDR, Ln TA\right), \quad i = 1,2. \qquad (2)$$

The first equation assumes that the dividend pay-out ratio is determined by the percentage shareholdings of the largest or second largest owner (*SHi, i=1, 2)*, respectively, the firm's debt ratio (*DEBT/TA*), and the natural logarithm of total assets (*Ln TA*). The rent extraction hypothesis predicts a negative impact of *SH1* on the pay-out ratio and a positive impact of *SH2*. In the second equation, the percentage shareholdings of the owner *i*, *SHi* , is a function of the firm's dividend pay-out ratio, *Ln TA*, the firm's return on assets (*ROA*) in the fiscal year before the dividend payment, and firm risk measured by the standard deviation of monthly stock returns in the fiscal year before the dividend payment, *STDR*. The inclusion of the dividend pay-out ratio allows for the possibility that higher dividends induce some investors to hold larger stakes in a firm (to form dividend clienteles). *STDR* is a measure of total risk and reflects the increased cost of having a given ownership stake in the firm and we expect a negative coefficient for this variable. *ROA* may influence ownership structure in a number of ways. To the extent that high *ROA*s lead to high share prices, controlling owners have incentives to diversify their holdings suggesting a negative coefficient. On the other hand, it is more attractive to hold high *ROA* firms leading to a positive coefficient prediction.

The system is estimated by pooling seven cross-sections after subtracting out the 3-digit industry means from each variable and includes year dummies. Our final sample consists again of 266 firms and 1275 firm-years.

The results in Panel B of Table 3 confirm our earlier results. The holdings of the largest shareholder (*SH1)* have a significantly negative effect on the dividend pay-out ratio, whereas the holdings of the second largest owner (*SH2*) have a significantly positive effect. In the second structural equation, dividend pay-out ratio has no effect on *SH2* , however, it significantly and positively affects *SH1* suggesting a two-way causality between dividend policy and holdings of the largest shareholder.

The holdings of the largest owner decrease with the size and the profitability of the firm, while *SH2* increases with these two variables. This is consistent with a diversification argument. The impact of firm risk (*STDR*) is only marginally significant. In the structural equation (1) size (*Ln TA*) has a negative impact on the pay-out ratio which may be due to the reduced informativeness of dividends as a signal of firm value (See also, Eckbo and Verma, 1994). Debt ratio (*DEBT/TA*) has a significantly negative impact on the dividend pay-out ratio, which confirms the prediction that debt contracts constrain dividend payments.

5. Conclusions

In this paper we propose a new theory to explain the wealth effects of dividend announcements, i.e. as rent extractions. In countries characterized by high ownership concentration the conflict between large and controlling owners and small outside shareholders is one of the main issues in corporate governance. If there is expropriation of minority (small) shareholders by controlling (large) shareholders, an increase in the dividend will reduce the funds at the discretion of the controlling shareholder and increase the market valuation of the firm. Similarly, a decrease in dividends signals more severe rent extraction and expropriation of small shareholders. We hypothesize and find significant differences in abnormal returns to dividend changes between firms where this conflict is likely to be at work and firms where it is not. The market reacts more negatively when large uncontrolled shareholders reduce the dividends they are willing to pay out to minority shareholders. In

companies with a majority shareholder and no significant second largest owner, reductions in dividends are followed by significantly lower valuation effects than in those companies with a second shareholder "taking care" of the majority owner. The abnormal adverse effects are estimated to be up to two percentage points of equity value. We obtain supporting evidence analyzing dividend pay-out ratios.

Dividends have always been a bit of a puzzle in the theory of the firm. In the neoclassical world of Miller and Modigliani (1961) "dividends do not matter". Why then are dividends paid? There have been a number of theories explaining dividends and/or the wealth effects of dividend changes, most prominently the cash flow signaling and free cash flow hypothesis, which have been widely tested for the Anglo-Saxon corporate governance regime. Institutional differences in most other countries as in Germany make these two hypotheses less likely to explain dividend policy, however. As Amihud and Murgia (1997, p.401) point out "the necessary conditions for a tax-based signaling equilibrium do not apply" in Germany, since dividends are treated not worse than capital gains by the German tax code for most investors. So if one finds that dividends convey information, this must be due to reasons other than taxation. A competing theory is the free cash flow hypothesis. A necessary condition for the free cash flow hypothesis to apply is that managers have considerable discretion. Ownership is highly concentrated in Germany which leaves little room for managers to exercise discretion, therefore we think that the necessary conditions for the free cash flow hypothesis are also not fulfilled on average in Germany.

Concentrated ownership, however, has its own agency problems. Large shareholders have the incentive and ability to expropriate small, outside shareholders and extract rents. We find that this conflict manifests itself also in dividend policy. Consistent with the "outcome model" of La Porta et al. (2000), we show that concentrated holdings by owners other than the largest shareholder lead to higher dividend pay-outs. In the face of weaker legal minority

shareholder rights protection, dividends are effective means to reduce the agency costs associated with the large vs. small shareholder conflict in most countries other than the Anglo-Saxon countries.

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Table 1
Characteristics of the sample
(Total number of firms: 266; Time period: 1992 to 1998)

Table 1 presents summary statistics on the structure of ownership, Tobin's q, size, the dividend yield *DIV/P*, and the change in dividends relative to price *ΔDIV/P*, as well as mean comparison tests in these variables between majority- versus minority-controlled firms, "checked" versus "unchecked" firms, and "checked" versus "unchecked" firms only for the subsample of majority-controlled firms. Majority-controlled firms are those where the largest shareholder controls more than 50% of the voting shares. Minority-controlled firms are those where the largest shareholder controls less than 50% of the votes. "Unchecked" firms are those for which there is no second largest shareholder holding more than 5% of the voting shares. "Checked" firms have at least one additional shareholder with more than 5% of the votes. Largest (*SH1*) and second largest shareholder (*SH2*) are the percentage shareholdings of the largest, respectively second largest shareholder, Tobin's q is defined as the market value of the firm's equity plus total debt divided by total assets, size is measured by total sales, dividend yield, *DIV/P*, is total dividends divided by the stock price 100 days before the announcement day, and *ΔDIV/P* is the change in dividends relative to price.

	No. cases	*SH1* (%)	*SH2* (%)	Tobin's q	Size (Sales in Mn. DM)	*DIV/P* (%)	*ΔDIV/P* (%)
Dividend increases							
All firms	558	49.0	17.6	1.40	8,913	2.3	0.81
Minority-controlled firms	271	27.5***	18.6	1.04*	13,748***	1.8***	0.5***
Majority-controlled firms	287	71.2	17.8	1.73	3,330	2.7	1.1
"Checked" firms	294	41.1***	19.3	1.10*	10,435***	2.1*	0.8
"Unchecked" firms	264	58.3	---	1.74	5,245	2.5	0.9
Majority-controlled AND "Checked" firms	108	60.6***	18.1	1.04	4,030	2.4	1.2
Majority-controlled AND "Unchecked" firms	179	77.9	---	2.13	2,889	2.9	1.1
Dividend decreases							
All firms	257	52.2	19.5	0.82	6,581	1.2	-1.7
Minority-controlled firms	94	26.2***	18.8	0.69**	14,454***	1.0	-0.8*
Majority-controlled firms	163	68.5	20.4	0.90	1,823	1.3	-2.2
"Checked" firms	118	43.6***	20.4	0.75	7,128	1.3	-1.6
"Unchecked" firms	139	60.0	---	0.88	6,076	1.1	-1.8
Majority-controlled AND "Checked" firms	58	58.0***	20.4	0.87	1,186	1.4	-2.1
Majority-controlled AND "Unchecked" firms	105	74.7	---	0.92	2,193	1.2	-2.2

*, **, *** significantly different at the 10%, 5%, 1% level, respectively (two-tailed mean comparison test).

Table 2

Abnormal Returns for Dividend Changes in Germany
(Total number of firms: 266; Time period: 1992 to 1998)

Table 2 presents cumulative average abnormal returns measured over the event window -2 to +2 relative to the announcement date (*CAAR*) and average abnormal returns (*AAR*) on day 0, and differences in them of majority- versus minority-controlled firms, "checked" versus "unchecked" firms, and "checked" versus "unchecked" firms only for the subsample of majority-controlled firms. T-values for the tests are in parentheses.

	No. cases	*CAAR* (%) (t-value)	Difference (%) (t-value)	*AAR* (%) (t-value)	Difference (%) (t-value)
Dividend increases					
Minority-controlled firms	271	0.86 (3.84)***		0.55 (2.71)***	
Majority-controlled firms	287	0.87 (4.87)***	0.01 (0.98)	0.75 (4.97)***	0.20 (0.80)
"Checked" firms	294	0.91 (4.79)***		0.62 (3.59)***	
"Unchecked" firms	264	0.81 (3.82)***	0.09 (0.32)	0.68 (3.61)***	0.06 (0.24)
Majority-controlled AND "Checked" firms	108	1.00 (4.09)***		0.65 (3.51)***	
Majority-controlled AND "Unchecked" firms	179	0.89 (2.10)**	-0.11 (0.62)	0.44 (1.29)	-0.21 (0.54)
Dividend decreases					
Minority-controlled firms	94	0.16 (0.32)		-0.27 (-0.81)	
Majority-controlled firms	163	-1.00 (-2.34)**	-1.16 (-1.70)*	-1.10 (-2.60)**	-0.93 (-1.44)
"Checked" firms	118	0.33 (0.74)		-0.03 (-0.08)	
"Unchecked" firms	139	-1.29 (-3.00)***	-1.63 (-2.60)***	-1.35 (-3.19)***	-1.32 (-2.35)**
Majority-controlled AND "Checked" firms	58	0.35 (0.60)		0.19 (0.35)	
Majority-controlled AND "Unchecked" firms	105	-1.67 (-3.14)***	-2.02 (2.41)**	-1.68 (-3.04)***	-1.87 (-2.09)**

*, **, *** significant at the 10%, 5%, 1% level, respectively (two-tailed test).

Table 3
Ownership Stucture and Dividend Pay-out Ratio

(Total number of observations: 1275; Total number of firms: 266; Time period: 1992 to 1998)

Panel A: Single-equation Model of Dividend Pay-out Ratio

Panel A of Table 3 presents estimates of a single-equation model of dividend pay-out ratio (the sum of common and preferred dividends to income before extraordinary items) as a function of the percentage holdings of the largest shareholder (*SH1*) and the interaction of *SH1* with *DSH2* where *DSH2* is a dummy indicating the presence of another large owner with at least 5% of voting power. We control for size by including the natural logarithm of total assets (*Ln TA*) and for the firms' debt ratio (*DEBT/TA*), where *DEBT* is the sum of short-term and long-term debt and *TA* represents total assets. We include (but do not report) 116 3-digit industry dummies and 7 time dummies to capture the impact of business cycle fluctuations. Heteroscedasticity consistent t-values are reported under the coefficients (White, 1980).

Eq.	*Constant*	*SH1*	*SH1* DSH2*	*Ln TA*	*DEBT / TA*	$\overline{R}^2$
(1)	0.41670*** (15.29)	- 0.00089** (-2.25)	0.00106** (2.29)			0.32
(2)	0.56787*** (9.90)	- 0.00163*** (-4.07)	0.00115** (2.52)	- 0.00596 (-0.92)	- 0.44819*** (-6.08)	0.34

Panel B: Three-Stage Least Squares (3SLS) Estimates of System (2)

Table 3 presents Three Stage Least Squares (3SLS) estimates for system (2) explaining the dividend pay-out ratio and the percentage holdings of the largest (*SH1*) and second largest (*SH2*) shareholders, respectively. All equations include 3-digit industry dummies. Dividend pay-out ratio, *DEBT /TA*, and *Ln TA* are defined as above. *ROA* is the ratio of income before extraordinary items plus (accounting) depreciation to total assets. Z-statistics are in parentheses.

	SH1	*SH2*
Structural equation (1): *Dividend Payout Ratio = fi (SHi, DEBT/TA, ln TA)*		
Constant	-0.012 (-1.06)	-0.020 (-1.06)
SHi (i=1,2)	-0.017*** (-3.58)	0.066*** (2.68)
DEBT/TA	-1.010*** (-4.78)	-0.479*** (-2.84)
Ln TA	-0.061*** (-3.02)	-0.043* (-1.91)
Structural equation (2): *SHi = fi (SHi, Dividend Payout, ROA, ln TA)*		
Constant	-1.671 (-1.10)	0.435 (1.61)
Dividend Payout Ratio	149.635*** (3.52)	-12.021 (-1.28)
ROA	-128.876*** (-3.78)	16.833** (2.31)
STDR	63.910 (1.39)	-16.67* (-1.88)
Ln TA	-4.171*** (-4.15)	0.724*** (3.28)

*, **, *** significant at the 10%, 5%, 1% level, respectively (two-tailed test).