

# *Corporate Governance and Dividend Policy in Poland*

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## **Abstract**

The goal of this paper is twofold. First, we explore the determinants of the dividend policy in Poland. Second, we test whether corporate governance practices determine the dividend policy in the non-financial companies listed on Warsaw Stock Exchange. We compose, for the first time, quantitative measures on the quality of the corporate governance for 110 non-financial listed companies. Our results suggest that large and more profitable companies have a higher dividend payout ratio. Furthermore, riskier and more indebted firms prefer to pay lower dividends. The findings finally, based on the period 1998-2004, demonstrate that an increase in the TDI or its subindices that represent corporate governance practices brings about a statistically significant increase in the dividend-to-cash-flow ratio. Moreover, the estimates prove to be significant after the inclusion of standard additional controls.

**Keywords:** Corporate governance, dividend policy

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## **1. Introduction**

The purpose of our paper is to study how corporate governance determines dividend policies in Poland. The country is offering an interesting setting as an economy in transition that has recently entered the EU. Dividend policy is quite important in the valuation process of companies, but the issue still remains scarcely investigated in transition countries. The existing studies often fail to find statistically significant effects of corporate governance on firm performance in developed countries. Even when significant results are reported, they are often economically small (Gompers, Ishii and Metrick, 2003). In contrast, transition economies may offer more fertile ground for study. Black (2001) argues that substantial effects are likely to be found in emerging economies, which often have weaker rules and wider variations among firms in corporate governance practices. For the above reasons, a study on the determinants of dividend policy and its association to corporate governance in a transition economy both offers an interesting subject and complements the existing corporate governance literature.

The agency theory points that dividends may mitigate agency costs by distributing free cash flows that otherwise would be spent on unprofitable projects by the management (Jensen, 1986). It is argued that dividends expose firms to more frequent scrutiny by the capital markets as dividend payout increase the likelihood that a firm has to issue new common stock more often (Easterbrook, 1984). On the other hand, scrutiny by the markets helps alleviate opportunistic management behavior, and, thus, agency costs. Agency costs, in turn, are related to the strength of shareholder rights and they are associated with corporate governance (Gompers, Ishii, and Metrick 2003). Furthermore, agency theory suggests that shareholders may prefer dividends, particularly when they fear expropriation by insiders. As a consequence, we hypothesize in this paper that dividend payouts are determined by the strength of corporate governance.

The literature suggests that minority shareholders may be at risk in companies controlled by strategic stakeholders (Shleifer and Vishny, 1986). Additionally, with the lack of board independence, many companies are open to potential expropriation. Such situation is typical to most European countries. In the paper, we intend to show that in a European economy that is undergoing

transformation good corporate governance practices may significantly increase the sum of dividend payouts.

Also, taking into account the existence of two alternative, i.e. outcome and substitute models that explain dividend payouts, we test which model is more appropriate for explaining dividend policies in Poland. Specifically, our research examines how dividends are related to corporate governance standards that represent the strength of minority shareholder rights. In order to measure corporate governance standards, we construct the Transparency Disclosure Index (TDI) for listed companies in Poland. The TDI most accurately reflects corporate governance policies in Polish companies that differ from the policies in the developed countries as well as from the practices in emerging economies in Asia or Latin America. The construction of the sub-indices allows us to study particular corporate practices in depth. Also, we include some control variables in the regressions in order to control for other characteristics, which may also influence the dividend payout of a company. It is a crucial element because the former estimates, found in the pertinent literature, tend to be fragile after the inclusion of some additional controls used in standard corporate models.

The data suggest a positive association between dividend payouts and corporate governance practice, indicating that firms pay higher dividends if shareholder rights are better protected. Our results support the hypothesis that in companies providing strong minority shareholder rights, the power is often used to extract dividends, especially when investment opportunities are poor. As a result, companies with weak shareholder rights pay dividends less generously than do firms with high corporate governance standards.

The rest of the paper is organized as follows. Section 2 presents the literature review. In Section 3, we examine the situation of corporate governance and dividend policies in Poland. Section 4 offers a discussion on the data, and section 5 an overview of the results. The conclusions are given in the final section.

## **2. Literature Review on Corporate governance and dividend policies**

In a pioneering effort, Black (1976) finds no convincing explanation of why companies pay cash dividends to their shareholders. Since that introduction of the “dividend puzzle,” a voluminous amount of research offers alternative and appealing approaches to solve it. Most of them are rooted in information asymmetries between firm insiders and outsiders, and suggest that firms may indicate their future profitability by paying dividends.<sup>1</sup>

Gómez (1996), Fluck (1998), Myers and Majluf (1984) recognize that dividend policies address agency problems between corporate insiders and shareholders. Grossman and Hart (1980) point out that the dividend payouts mitigate agency conflicts by reducing the amount of free cash flow available to managers, who do not necessarily act in the best interests of shareholders. In line with that, Jensen (1986) argues that a company with substantial free cash flows is inclined to adopt investment projects with negative net present values. If managers increase the amount of dividend, all else being equal, it reduces the amount of free cash flows, thereby mitigating the free cash flow problem. Thus, dividend payouts may help control agency problems by getting rid of the excess cash that otherwise could result in unprofitable projects. Furthermore, Easterbrook (1984) argues that dividends help alleviate agency conflicts by exposing firms to more frequent monitoring by the primary capital markets because paying dividends increases the probability that new common stock has to be issued more often. This, in turn, leads to an investigation of management by investment banks, security exchanges, and capital suppliers.

The importance of monitoring by investment banks has been recognized in literature<sup>2</sup>. Shleifer and Vishny (1986) and Allen, Bernardo, and Welch (2000) note that institutional investors prefer to own shares of firms making regular dividend payments, and argue that large institutional investors are more willing and able to monitor corporate management than are smaller and diffuse owners. As a result, corporate dividend policies can be tailored to attract institutional investors, who in turn may introduce corporate governance practices.

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<sup>1</sup> See Bhattacharya (1979), John and Williams (1982), Miller and Rock (1985).

<sup>2</sup> See Smith (1986), Jain and Kini (1999)

La Porta, Lopez-de-Silanes, Shleifer, and Vishny (2002), hereafter referred to as LLSV, outline and test two agency models of dividends. First, the outcome model suggests that dividends are paid because minority shareholders pressure corporate insiders to disgorge cash. Second, the substitution model predicts that firms with weak shareholder rights need to establish a reputation for not exploiting shareholders. Hence, these companies pay dividends more generously than do firms with strong shareholder rights. In other words, dividends substitute for minority shareholder rights. The results of LLSV (2000) on a cross section study of 4,000 companies from 33 countries with different levels of minority shareholder rights support the outcome agency model of dividends. Accordingly, it is reasonable that outside minority shareholders prefer dividends over retained earnings. In line with that, Bebchuk (2005) states that the testable prediction of this theoretical body is that dividend disbursements will be the higher the better are the corporate governance practices in the company. In this case corporate governments reflect the power of minority shareholders in the company.

Barclay and Holderness (1989) note that large ownership stakes reduce the probability of bidding by other agents, thereby reducing the value of the firm. The family role in selecting managers and chairmen may also create impediments for third parties in capturing control of the firm. According to Burkart and Fausto (2001), when the protection of minority shareholders is the weakest, the agency problems are too severe to allow for separation of ownership and management. The danger is that owner-managers have a strong preference for control and do not encourage dividend payments.

In a related study Johnson, La Porta, Lopez-de-Silanes and Shleifer (2000) show that controlling shareholders in European business groups have strong incentives to siphon resources out of member firms to increase their individual wealth. Similarly, Bertrand, Mehta and Mullainathan (2000) report that the ultimate owners of the companies' pyramids in India have strong incentives to divert resources from firms low down in the pyramid towards ones high up in the pyramid. Thus, the empirical evidence presents that when the ownership concentration is high, the excess funds are

often redistributed on paying excessive compensations, using firm's assets as collateral for personal loans, and investing in high private benefits projects.

LLSV (2000) argue that differences among countries in the structure of laws and their enforcement may explain the prevailing differences in financial markets and also show that financial market development is promoted by better protection of investors. Analyzing European Union financial system we should take into account that the civil law is prevailing in most of the member countries (Allen, Bartiloro, and Kowalewski, 2006). The civil law promotes concentration of the ownership and the possibilities to expropriate the minority shareholders. LLSV (2002) show that it is mainly civil law countries, as compared with common law nations, that do not protect minority shareholders properly. In such states, divergence between control rights and cash flow rights constitute a rule rather than an exception. In Poland, for instance, a relatively low quality of investors' protection poorly protects minority shareholders. In addition, there is a little separation between managers and stockholder, making a backlash against minority protection very likely (Claessens, Djankov, and Klingebiel 2000.)

The severity of agency costs is likely to be inversely related to the strength of shareholder rights (Gompers, Ishii, and Metrick, 2003). Companies, exposed to agency conflicts, are more likely to experience a wider divergence of ownership and control, where shareholder rights are more suppressed. The shareholder rights are related to agency problems and thus also to dividend payouts. Therefore, in our paper we hypothesize that dividend policy is influenced by the strength of shareholder rights. In our opinion, the relationship should be especially strong in Poland, a country in transition, where the agency conflicts are strong and the shareholder rights are weak.

To capture the characteristics of the specific countries and their markets, it is of primary importance to construct separate transparency indices. For instance, Black, Jang, and Kim (2006a) use unique features of Korea's corporate governance rules to construct the governance index. The comprehensive corporate governance index is tested for a sample of 515 Korean companies. The paper proves that an overall corporate governance index is an important and likely causal factor in

explaining the market value of Korean public companies. Being the reflection of the real corporate practices in Korea, the overall index produces statistically significant results.

In order to estimate the influence of particular governance practices on the amount of dividends more accurately, it is necessary to construct a corporate governance measure consisting of several sub-indices. A good example to follow is demonstrated in the research by Bebczuk (2005), who splits the general index of TDI into several sub-indices. He constructs the TDI using public information on 65 non-financial public Argentinean companies, reflecting their norms of transparency. The results of his estimation point to a sizable and robust effect of the TDI and its subindices on the amount of dividends.

Correct assessment whether there is a correlation between corporate governance and dividend payments also includes control variables to test the industry and other effects on governance. For instance, having added industry dummies, Gillan, Hartzell, and Starks (2003) find that industry factors play a dominant role in explaining the index of total governance as well as the variation of sub-indices. Likewise, Black, Jang, and Kim, (2006b) find that both governance and Tobin's q reflect industry characteristics.

### **3. Corporate Governance and Dividends in Poland.**

In Poland Warsaw Stock Exchange (WSE) first opened in 1817 but it was closed for more than fifty years due to the Second World War and the introduction of the centrally planned economy thereafter. The WSE reopened in 1991 with the first listed companies being four former state-owned firms. Since that time, the market developed gradually through privatization and the initial public offerings (IPOs) of former state-owned companies. As a result, the number of public companies with large market capitalization has increased and the number of listings has exceeded 200 in 1999. Now the Polish stock market is dominated by large privatized companies. As the privatization was almost complete, the recent IPOs have been from small and medium sized companies with private origins, typically founded in the last two decades.

According to Bonin and Wachtel (2003) the stock markets in Central Europe leaped into existence before the institutional infrastructure was established. As a consequence, the equity listings often did not guarantee a transparent share registration, the ability to transfer ownership or the absence of manipulation of prices. To make things worse, the market regulations neither required any minimum standards of financial disclosure for firms nor promoted competitive activity. Hence, during the transition time corporate governance standards were very weak in Poland.

Following other stock exchanges in the region the WSE started the implementation of corporate governance principles in 2001. At first, a Best Practices Committee, consisting of government and industry representatives, was set up with the aim to create the Best Practice Code for listed companies. The first Code was presented in the autumn of 2002 and, since then, all listed companies could declare if they would follow all or just selected rules of the Code. The Code has been reviewed and amended by the Committee twice. The modifications of the Code have been made based on the practical experience and recommendations of the European Commission. As of August 2006, the declaration on best practiced rules of 2005 was filled by 263 of 268 listed companies on the WSE. However, many of those companies that filled the declaration are following only selected rules. To illustrate, the least followed rule in the Codex is the number and procedure of the appointment of independent directors in the board of directors. Thus, we assume that the Best Practice Code present only a weak implementation of corporate governance standards and minority shareholder protection in Poland.

On the other hand, the development of the stock exchange and the growing share of foreign investors enhanced the improvement of the corporate governance standards. Berglöf and Pajuste (2003) classify CEE countries into four groups in terms of their approach to enforcement of investor protection and securities markets' regulations. According to their study, Poland and Hungary have chosen the strictest regulatory mechanisms aimed at investor protection from management and large block holder fraud in comparison to the remaining countries in the region. Furthermore, these two

countries have also put considerable effort into enforcement, often the most deficient part of the legal framework in transition economies.

Allen, Bartiloro, and Kowalewski (2006) in a study on financial development in the EU-25 suggest that introduction of securities laws on the books is remarkable in Poland. Using an index they report that the level of investor protection and securities markets regulations is comparable to the “old” EU member countries. Thereby, in our study we assume that corporate governance standards have improved in Poland and it may have an impact on the protection of minority shareholders and the dividend payout of listed companies.

It is notable that the empirical studies on ownership structure in the CEE countries reveal a strong ownership concentration. Using the available information on voting power held by the largest owner in the listed companies, Pajuste (2002) observes a median voting power of 39.5% for Poland in 2000. This number is close to the respective figures observed in continental Europe (e.g. Austria – 54.1%, and Italy – 52.3%). The fact leads to the conclusion that Polish corporations operate under the strong influence of strategic or controlling investors. It follows that insiders would be reluctant to pay dividends to outsiders, and that weaker minority shareholder rights would be associated with lower dividend payouts that are offered by the large block-holders. Large blocks of shares enable investors to appoint managers and the majority of supervisory board members. In Poland, the main device enabling a block-holder to control a firm while retaining a relatively small fraction of the cash flow claims is chiefly stock pyramids and dual-class share structures. Undeniably, a recent wave of reported abuses of minority rights by controlling shareholders and by the state in Poland is a predicted outcome.

Special consideration of the protection of shareholder rights is advocated by various institutions such as World Bank and Polish Forum for Corporate Governance (PFCG) that has conducted research in the field. The PFCG highlights that Poland has still to implement some of the solutions that would safeguard sufficient protection of shareholders. Among the solutions are the legal devices that should protect minority interests, improve supervisory board and management functioning, and raise corporate transparency. Additionally, World Bank Report on the Observance

of Standards and Codes (2005) highlights that the relatively major weakness of corporate governance practices in Poland is the lack of rules on the approval of related party transactions. The report mentions the case of Stomil Olsztyn to indicate that minority shareholders may be at risk in companies controlled by foreign strategic shareholders.

Michelin, a French tire manufacturer, acquired a majority stake in Stomil Olsztyn. The French company was suspected by minority shareholders to have transferred profits through excessive license fees, disadvantageous export agreements, and research and development support. All these transactions are estimated – by some analysts – to have caused about \$50 mln of additional costs for Stomil Olsztyn (Tamowicz and Dzierzanowski, 2002). Furthermore, Michelin was suspected of being interested in pushing down the price in order to take private the company cheaply. This accusation is especially powerful as in the last decade the majority of going private transaction have been executed by foreign investors (Jackowicz and Kowalewski, 2006). A large number of going private transaction may also indicate the existence of a potential conflict between foreign investors and minority shareholders in Poland.

Additionally, with the lack of board independence, many companies are open to potential expropriation which, in turn, may create the necessary conditions for the dividend policies well explained by the outcome model. Ability to disgorge cash is detrimental to outside shareholders' interest, otherwise the excess funds might be diverted or wasted. Taking into account both the literature on dividend policies and current situation with the dividends in Poland, we formulate the following hypothesis: firms' corporate governance practices have a significant impact on the amount of dividends paid out to shareholders in Poland.

#### **4. Data**

In this section we briefly discuss our data sources and the variables' definitions. The financial data comes from Euromoney ISI Emerging Market and Notoria data bases as well as from the annual reports of the companies listed on the WSE. The statistics for the corporate governance index comes from annual reports, filing with domestic regulatory agencies, and companies'

websites. The data collection for the corporate governance index was completed between August and November 2005. We are initially reporting information on corporate governance index on the total 155 listed companies as of November 2005. The sample is later substantially reduced because we exclude the companies with missing performance or control variables. The final data set for the panel regressions consists of 110 listed companies.

The period of analysis is 1998-2004. In addition, we have broken down our sample to run separate cross-section regressions for 1998- 2001 and 2002-2003 sub-periods. Analysing the subsamples we hope to control for the rapid decline of the stock markets around the world as well as the economic growth in Poland at the end of 2001, which might affect the behavior and performance of firms.

#### **4.1 Determinants of dividend policies**

Our research investigates whether companies' corporate governance practices influence dividend payout ratio in Poland. To test the empirical hypothesis we need appropriate indicators for dividend measure. Following the corporate finance literature, we apply the ratio of cash dividends to cash flows as the main dividend measure and our regressor (Faccio et al., 2001; Bebczuk, 2005). As cash flow is the relevant measure of company's disposable income the ratio captures the choice to distribute to shareholders or not the money generated each year.

In the regression, our main explanatory variables for dividend policy are the return on assets (ROA) and Tobin's q. We include the return on assets as an accounting measure that is beyond management manipulation and shows a balance-sheet effect. It is calculated at the firm level as the earnings before interest and taxes (EBIT) over total assets. The advantage of this measure is that it is not influenced by the liability structure of the corporation, as it excludes interest payments and financial income. The ratio reflects the availability of resources to distribute once investment funding is secured, which should increase dividend payments. Tobin's q reflects expectations about future earnings and market perceptions about the value of the company. Companies' demand of funds for further investments is represented by a high Tobin's q value, which should have a negative impact on dividends.

Table 3 shows the different nature of implications for the two indicators as it is underscored by a weak significance in their correlation. It is worth mentioning that for the given indicators we observe a high standard deviation that is evidently attributed to the dot com crisis and the slowdown of the Polish and global economy in the years 2001-2002. We hypothesize that the higher the net income, which is proxied by ROA, the more dividends will be paid out to the shareholders. On the contrary, a high value of the Tobin's q measure reflects growth opportunities for the company. As Kowalewski (2007) has recently reported, financial constraints to access to external sources of funds are still prevailing in Poland. As a consequence, we assume that the increase in new investments is mainly financed from companies' free cash flows, and in turn the firms are less likely to pay dividends out.

In order to assess the robustness of our results, we include more potential determinants of firms' performance in our empirical analysis. Following the tradition of the regression equations used in the corporate finance and dividend policy literature, we use some control variables, which may determine the dividend payout. These variables are size, leverage and either lagged dividend to cash flows or lagged dividend payment dummy.

We anticipate that firm size has a positive effect on the dividend payout of a firm. As a rule, large firms are well diversified, and their further growth opportunities are often exhausted. Thus, we assume that large companies are more likely to use free cash flows to pay out dividends than to invest in growth opportunities.

The ratio of long term debt- to assets is employed as a measure of firm's leverage and closeness to debt covenant restrictions. High leverage and the implied financial risk should be associated with lower dividend payout as it discourages both paying out dividends and taking further loans. Furthermore, highly levered companies may prefer to pay less dividends in order to contain default risk.

Alternatively, we include the lagged dividend to cash flow ratio or the lagged dividend payment dummy with the aim to test empirically some of the modern dividend theories in a transition country. We use lagged values from the one year previous to the sample period of the

dividend ratio as regressors. According to Lintner (1956) and the more recent signaling models, we should presume that companies attempt to maintain stable dividends, creating a persistent pattern over time. Thus, we should expect a positive correlation between the present dividend payout ratio and its lagged value.

Next, following Black et al. (2006b) and Bebczuk (2005) we employ the TDI to gauge the strength of corporate governance practices in listed companies in Poland. The TDI is based on public information and reflects the norms of transparency and disclosure in a company. The TDI comprises 32 binary items presented in Table 1, which cover a broad range of governance topics. The binary item equals one if a company follows one of the corporate governance standards and zero otherwise. The TDI consists of three subindices: *Board*, *Disclosure*, and *Shareholders*. The subindex of Board measures the structure, procedures and compensation of board and top management members. The subindex Disclosure measures the degree to which the company informs relevant corporate facts to outside stakeholders. The last subindex Shareholders measures the quality of information regarding the compensation to minority shareholders. Table 1 shows the percentage of positive entries for the TDI and its three subindices.

**[Insert Table 1 about here]**

Finally, we include industry and time dummies. Taking into account the importance of industry effects on companies' performance, firms are classified into three broad sectors: industry, services, and primary products. They all vary in productive technology and international tradability.

## **5. Methodology and results**

Our empirical strategy is based on identifying fundamental determinants that explain cash dividends to cash flow ratios' relationship with our corporate governance measures. In order to analyze the determinants, we estimate pooled Tobit regression model similar to the study of Bebczuk (2005). This empirical methodology is applied as the dependent variable is truncated at zero and it has numerous individual observations displaying such value in our sample.

A recurring concern in econometric studies on determinants of a dividend policy and corporate governance is the potential presence of endogeneity. Specifically, if there exists a causal positive link from performance to governance, the coefficient on governance would be upward biased, making previous results unreliable. In order to address the issue of endogeneity, we employ instrumental variable and run a simultaneous equation model. Our sample consists of 110 non-financial publicly traded firms with 760 observations over a seven-year period. It is divided into three sub-samples: 1998-2004, 1998-2001, and 2002-2004. Below we present the descriptive statistics of the samples that is followed by the regression results and the explanation of the sensitivity analysis.

### **5.1 Descriptive Statistics**

In Table 2, we present the descriptive statistics for our sample of 110 listed firms. The variation in the corporate governance measure across listed companies is noticeable. The average TDI equal to 0.41 illustrates that the corporate governance standards are on average relatively low in the listed companies. The minimum value of the TDI is 0.09 and the maximum is 78. Two of the three subindices of the TDI are surprisingly low. As expected, the subindex Shareholders is quite low at 0.35, and the subindex Board is even lower with a value of 0.32. The subindex Disclosure, with a value of 0.51, is the highest among the subindices. All the three subindices of the TDI report a minimum value of 0, while the maximum values are 0.73, 0.77 and 0.83, respectively. Thus, the subindices present large variation in corporate governance standards across listed companies in our sample. The high value of the TDI subindex Disclosure reflects good corporate governance

practices in informing the shareholder, and the low value of the two other subindices indicate relatively low standards regarding management, board and minority shareholders.

Panel B of Table 2 shows that the average firm in our sample has corporate assets of 626 million PLN (\$210 million). The largest company in our sample has assets above 3 billion PLN (\$1 billion), while the smallest has assets amounting to only 873 thousands PLN (\$290 thousands). The mean dividend payout ratio to cash flow is 0.05. The minimum and maximum values of the payout ratio are -4.24 and 2.87, respectively. Also, the dividends to earnings and dividends to sales present a large variation across companies. The mean value for this payout ratios are 0.1 and 0.01, respectively. Most listed companies in our sample are from the industry sector, followed by service sector, while firms from the primary industry are the least present.

**[Insert Table 2 about here]**

In Figure 1 we reveal summary measures of dividend payout ratios of cash dividends to cash flow, earnings, and sales. It can be concluded that the most stable ratio was dividends to earnings in the period from 2000 to 2004. The highest mean of 21.3 % and the lowest mean of 5.7 % are observed in 1998 and 2003 respectively as a possible result of a growing and bursting dot-com bubble. The downward change from 2001 is allegedly attributable to the worldwide aftermath of the crisis initiated in 2001 that has induced firms to pay high dividends as a means of allowing shareholders to cover the expected loss in the future with a consequent lowering of dividend rates. However, during 2003-2004, in the context of stabilized markets, companies seem to have returned to the previous level of dividend payouts.

**[Insert Figure 1 about here]**

Figure 2 shows that the return on assets decreased steadily from 0.07 in 1998 to -0.03 in 2001 but then rose to the level of 0.02 in 2004. In the former period, Tobin's q decreased in the expectation of the stock market decline and the economic slow down. Yet, the ratio increased afterwards, to 2.38 in 2004, which may be associated with the economy's recovery and the bullish stock market since mid 2002. Figure 2 also presents the evident increasing degree of riskiness inherent in the liability structures of listed corporations. The leverage ratio increased gradually from 0.38 in 1998

to 0.63 in 2004. This increase in external financing, mostly from the banking systems, can be partially attributed to the decrease of interest rates in Poland.

**[Insert Figure 2 about here]**

Table 3 presents a matrix of the Pearson correlation between explanatory variables as well as the corporate governance measures. As expected, the TDI is positively and statistically correlated with each of its subindices. The TDI and its three subindices are positive and significantly correlated with the return on assets variable. While, the Tobin's q variable is positively correlated with the TDI and its subindices, the relation is only statistically significant for the TDI and the subindex Shareholders. Dividend payouts measures are positively associated with the return on assets.

**[Insert Table 3 about here]**

It is noteworthy that firm size, as measured by the total assets, is positively and significantly correlated with the TDI and all of its subindices. We assume that this correlation reflects the state origin of the largest listed companies in Poland. Those companies need to enforce corporate governance standards in order to be privatized through the public listing. In most of these companies foreign strategic investors have been attracted prior to the listing. As a result, restructuring process and corporate standards have been thoroughly enforced. Furthermore, we assume that in those companies foreign investor guaranteed that the once introduced corporate governance standards are kept with the aim to protect their own interest as well as the interest of other minority shareholders.

## **5.2 Comparison of Summary Data for Dividend Payers and Non-dividend Payers**

We split our sample of listed companies into dividend payers and non-dividend payers to test whether means are different. Table 4 reports the mean value of the main variable of interests for dividend payers and non-dividend payers firms. The comparison supports our hypothesis on association of dividend policy and corporate governance. Dividend-paying companies are on average larger, more profitable, and less levered than non-dividend-paying. The average difference

between dividend payers and non-dividend payers companies are significantly different at 1% confidence level.

Table 5 presents that dividend-paying companies have better corporate governance as estimated by the TDI and its subindices. The results are significant at 1% confidence level and present the expected differences across listed companies in our sample. The considerable differences in the variables support our assumption that financial determinants as well as corporate governance standards may have an impact on the dividend policy of a company. Differences in means are statistically significant for all the variables, except Tobin's q, yet this variable should be negatively associated with dividend payout.

**[Insert Tables 4 and 5 about here]**

### **5.3 Pooled Tobit Regression**

We test the determinants of the dividend policy in a multiple regression framework to control for firm specific characteristics other than governance. The empirical results for 1998-2004 are shown in Table 6. As the dependent variable of the ratio of dividend payout to cash flow is censored at zero, a pooled Tobit procedure is used in the estimation. The first column presents the results for size. In subsequent columns we progressively add return on assets, Tobin's q and leverage. We add our set of control variables in turn and the results with a partial set of control variables are shown in regressions (1)-(4). The results with a full set of control variables are presented in regression (5).

All the variables enter the regressions with expected signs. Size and return on assets are positively associated with the variable cash dividends to cash flow at 1 % significance confidence level. Leverage is negatively associated with the variable cash dividends to cash flow at 1 % significance confidence level but Tobin's q variable is not statistically significant in both the individual regression and joint regression. The dummy variables are included only to control for potential industry and year effects. Industry sector dummy variables are statistically significant in four regression models. Nonetheless, primary industry dummy never enters the specification

significantly. The fact that time dummies are not significantly related except for several negative correlations refutes the arguments of the substitute model.

**[Insert Table 6 about here]**

Obviously, in case of leverage and Tobin's  $q$ , endogeneity could challenge the reliability of the econometric model. As for leverage, this could be the case if firms set in advance some dividend targets and adjusted the debt ratio to meet them correspondingly. In case of Tobin's  $q$ , endogeneity might be present as long as investors prefer high dividends and properly anticipate the disbursement to be declared after every fiscal year.

Standard econometric techniques for addressing possible endogeneity require identifying a good instrument. The instrument should ideally be exogenous and not influenced by the dependent variable dividend payout to cash flow ratio. The instrument should be correlated, preferably strongly, with the independent variable of the TDI, but otherwise uncorrelated with the dependent variable of interest. That is, the instrument should predict the dependent variable only indirectly, through its effect on the independent variable.

To address endogeneity, we use  $\ln(\text{assets})$ , the standard deviation of return on assets in the previous three years and sector dummies variables as the exogenous instrumental variables. In line with most capital structure theories, we also instrument leverage variable with tangibility, assets and return on assets, as well as sector dummies. In Table 7 the regression (1) presents the regression results with instrumental variables and shows that neither leverage nor Tobin's  $q$  loses explanatory power after being instrumented. We report a negative sign of the leverage ratio and Tobin's  $q$  and thus rule out the possibility of endogeneity.

In Table 7 the regression (2) presents the results for testing the signaling theory in a transition country. We test whether companies prefer to keep stable dividends over time by including the lagged dividend payment dummy that takes the value 1 if the company paid any cash dividends in the previous year, and 0 otherwise. Our regression shows that the coefficient of the lagged dividend payment dummy is negative and statistically significant. Such results seem to stay in contrast to the theory that, in industrial countries, listed companies' dividends are positively

correlated with the previous payments. Accordingly, we assume that most listed companies on the stock exchange in Poland are rather growth stock than value stocks. Thus, investors are more interested in companies that present new investments opportunities rather in the current and past level of dividends. As a consequence, companies prefer to accumulate free cash flow for new projects with the aim of pleasing shareholders instead of paying out dividends. Thus, we assume that signaling theory does not hold in transition and emerging countries.

**[Insert Table 7 about here]**

We test the association of corporate governance with dividend policy in a multiple regression framework to control for firm specific characteristics other than governance. The results of a regression analysis for pooled Tobit are shown in Table 8. We regress dividend payout to cash flow ratio against the TDI. We add the governance index in the regressions to ascertain the impact of the strength of shareholder rights on dividend policy. We then progressively add our set of control variables that determine the dividend policy, showing the results with a partial set of control variables in regressions (2)-(7).

The TDI is highly significant in each of these regressions. Adding control variables does not change significantly the coefficient on the TDI. Regression (1) implies that an increase in corporate governance index by one point results in an increase of dividend-to-cash flow by 0.91 points. The regressions (2)-(7) present a worst-to-best change in the TDI from 0.69 to 1.04. As before, the coefficient of Tobin's q is not statistically significant. On the other hand, the lagged dividend payment dummy is negative and statistically significant.

**[Insert Table 8 about here]**

Finally, we regress dividend-to-cash flow on the TDI and the three subindices that comprise Transparency Disclosure Index: Board, Disclosure and Shareholders. The results of pooled Tobit regression for the whole period 1998-2004 and the two subperiods 1998-2001 and 2002-2004 are shown in Table 9. All the regressions include time and sector dummies.

In all the regressions the TDI and each individual TDI subindex is statistically significant at the 1%, 5%, or 10% level. The strongest results are for the TDI subindices Board, Disclosure and

Shareholder, in that order. The coefficient of 0.86 on subindex TDI Disclosure, for example, implies that the improvement in corporate governance practice concerning disclosure in the years 1998-2004 by 1 point predicts a 0.86 points increase of dividends-to-cash flow ratio. Our results show significant differences in results between two subperiods. We observe that the relationship has sizeable effects for both subperiods: for the first from 1998 to 2001 and for the second from 2002 to 2004. We assume that the TDI of corporate governance measure is a valid measure of minority shareholder protection and thus also dividend payouts in throughout our sample period. Its prediction power is not getting weaker because of the slow implementation of corporate standards across listed companies in Poland. The TDI remain statistically significant at 1% or 5% level and thus the results present a strong correlation between dividends payout and companies' corporate governance. This implies that the elements of the corporate governance index have more predictive power when aggregated into an index than individually.

**[Insert Table 9 about here]**

#### **5.4 Sensitivity Analysis**

We next conduct a number of robustness tests. We test the sensitivity of the results to a number of alternative specifications of our regression<sup>3</sup>. First, we check the consistency of the results after removing outliers. These outliers are eliminated after considering the scatter plot of the dividend payout regressions involving corporate governance measure. We eliminate those companies that fall particularly far from the regression line and then repeat the estimation on the new sample. After dropping out the extreme observations we still get a significant and positive relationship between corporate governance practice and the dividend payout.

Second, there are not many ways of measuring the variables that enter the regression. Nevertheless, as we want to ensure that the results are not due to our choice of indicators, we perform a number of robustness tests using alternative measures for dividend payout and corporate governance practices. We repeat the regressions reported in this paper using an alternative measure for the dividend payout ratio. The new ratio was defined as dividends to earnings or dividends to

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<sup>3</sup> The results of robustness analysis are not reported but are available upon request.

sales. In both cases, the pooled Tobit results were qualitatively the same as those previously reported. The TDI and its subindices were significantly and positively associated with the alternative dividend payout measures.

We also run a regression using an alternative index for corporate governance practices of the Polish Corporate Governance Rating for 50 listed companies instead of the TDI. The coefficient is still positive, yet the results are very weak. As an alternative index for corporate governance practices we have also employed a variable, which reflects the number of rules followed by the listed companies from the WSE Best Practice Code. In this case the coefficient is relatively small and not statistically significant. Therefore, in our opinion, the Best Practice Code may not be used as a proxy for corporate governance practices. We compute also the regressions changing ratios for both the dependent variable and the main regressor, using the Polish Corporate Governance Rating, and in either case the signs of the estimated coefficients do not change.

Finally, changing the conditioning information set has not affected our results. Further increasing the set of explanatory variables included in the regressions with the sales' growth, company's age and dummy variables for foreign ownership and for ADRs, does not change either the significance level or the sign of the estimated coefficients. Concluding, the results of the sensitivity test using a different set of data remain unaffected by an array of robustness checks and confirm our previous finding on the link between corporate governance practice and dividend payout.

## **6. Conclusions**

Our empirical results demonstrate that corporate governance is an important determinant in explaining the dividend policy of Polish public companies. To measure the quality of corporate governance, we construct the Transparency Disclosure Index (TDI) for 110 companies listed on the WSE. In line with our predictions, and controlling for other factors, we find strong positive correlation between the overall TDI and dividend payout, which is robust across different regression specification and time subsamples. Our measure for corporate governance, the TDI, and its subindices enter positively and significantly the regressions. For the whole period 1998-2004, one

point increase of the TDI, the subindex of Board, the subindex Disclosure, the subindex Shareholders brings about an increase of 45.32, 26.93, 36.93, and 21.41 points respectively in the dividend-to-cash flow ratio.

Our results for the remaining potential dividend determinants are in line with the corporate finance literature and expectations. We find that larger companies by asset size and more profitable firms without good investment opportunities pay more dividends. Furthermore, riskier and more indebted firms prefer to pay lower dividends. On the other hand we do not find any strong evidence for the signaling theory. Our results present no correlation between the lagged dividend-to-cash flow indicator or a negative and significant association between the past and present dividend dummy. Thus, companies do not seem to care about maintaining stable payout ratios over time and provide a signal effect in Poland.

Concluding, our results provide evidence that in Poland listed companies where corporate governance practices are high and as a consequence shareholder rights are strong payout higher dividends. Those results are in line with the outcome model assuming that when shareholders have greater rights, they can use their power to influence dividend policy.

This study contributes to the literature both in dividend policy and in agency theory. In dividend policy, we show that corporate governance is a significant determinant of dividend policy in transition countries. In agency theory, this study presents that in companies with strong corporate governance standards the agency conflict may be mitigated as the free cash flow may be utilized rather as dividend than an investment with a negative net present value.

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**Table 1****Structure of the Transparency and Disclosure Index (TDI)**

The Transparency and Disclosure Index (TDI) measures a broad set of corporate governance features for 154 listed firms in Poland using public information in August 2005 to November 2005. Public sources include Annual Reports, fillings with national regulators, Internet sources, and business publications. For each feature, the company is given a value 1 if there is partial or total public information, and 0 otherwise. The subindex Board measure the structure, procedures and compensation of Board and Top Management members. The subindex Disclosure measures the degree to which the company informs relevant corporate facts to outside stakeholders. Finally, the subindex Shareholders measures the quality of information regarding the compensation to minority shareholders

Item	% of firms with public information on each item
<b>A. Board structure and procedures (TDI-Board)</b>	
Independency criteria for directors	22.08
Years in office of present Directors	23.38
Code of Conduct for Directors	74.68
Manager and director fees	70.78
Form of manager and director fee payment (cash, stock, stock options)	51.30
Rationale of manager and director fees	34.42
Information on whether manager and director fees are performance-based	38.96
Shareholdings of managers and directors	74.03
Number and percentage of independent directors	24.68
Details on the nomination process of new directors	1.30
Report on issues by dissident directors	0.00
Composition of the different Board committees	6.49
Details on activities of the different Board committees	1.30
<b>B. Disclosure (TDI-Disclosure)</b>	
Bio of main company officers	34.42
Bio of Directors	27.92
Calendar of future events	41.56
English-translated corporate website	85.71
Financial indicators for the last 5 years	81.82
Strategic plan and projections for the following years	29.87
Publication of Board meeting resolutions	94.16
Publication of shareholders meeting resolutions	94.81
Details on the appointment process of new directors	0.65
Details on attendance of minority and controlling shareholders in shareholders' meetings	1.30
Reports on issues raised by dissident shareholders	0.00
Year of hiring of the external auditor	97.40
Report of the external auditor	97.40
<b>C. Shareholders (TDI-Shareholders)</b>	
Details of corporate ownership (principal shareholders)	94.81
Type and amount of outstanding shares	89.61
Document on internal corporate governance standards	1.30
Dividend policy in the past 5 years	18.83
Projected dividend policy for the following years	7.14
Rationale of the past and/or future dividend policy	11.04

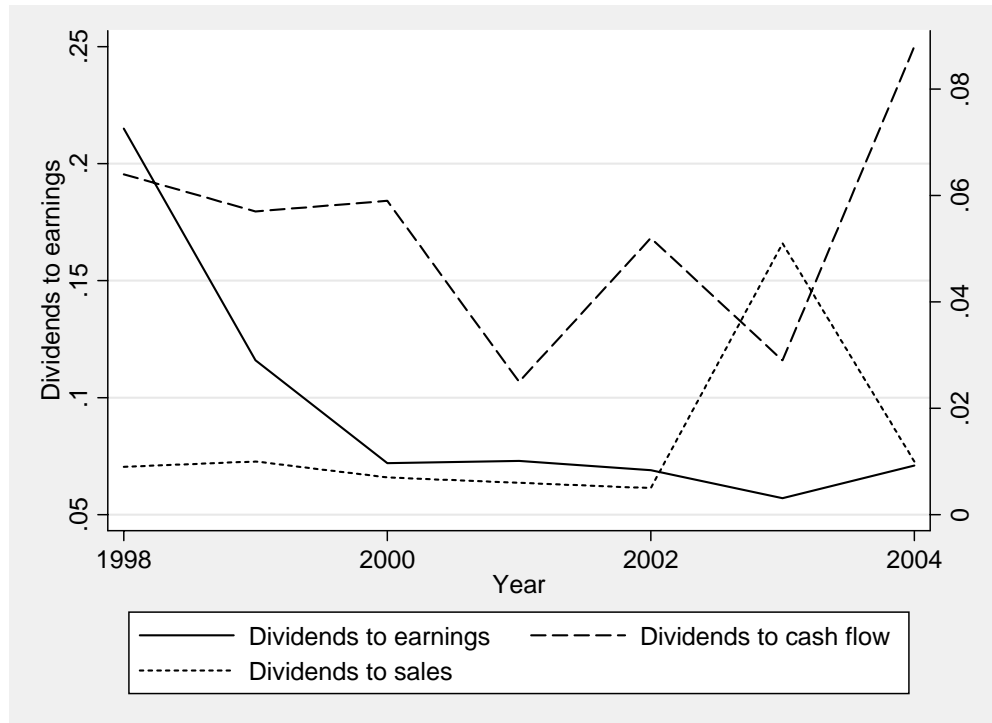
Source: Own elaboration from public sources.

**Table 2**  
**Descriptive Statistics**

Table shows the mean, standard deviation, minimum and maximum values of the corporate governance index, performance and control variables, whose definitions are provided in Appendix.

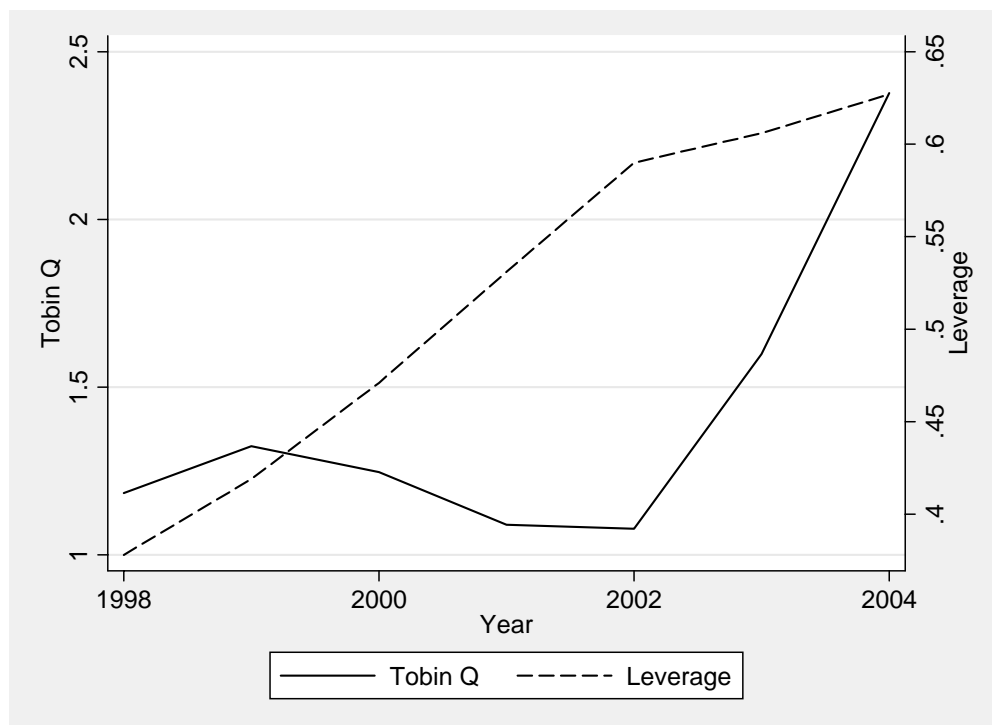
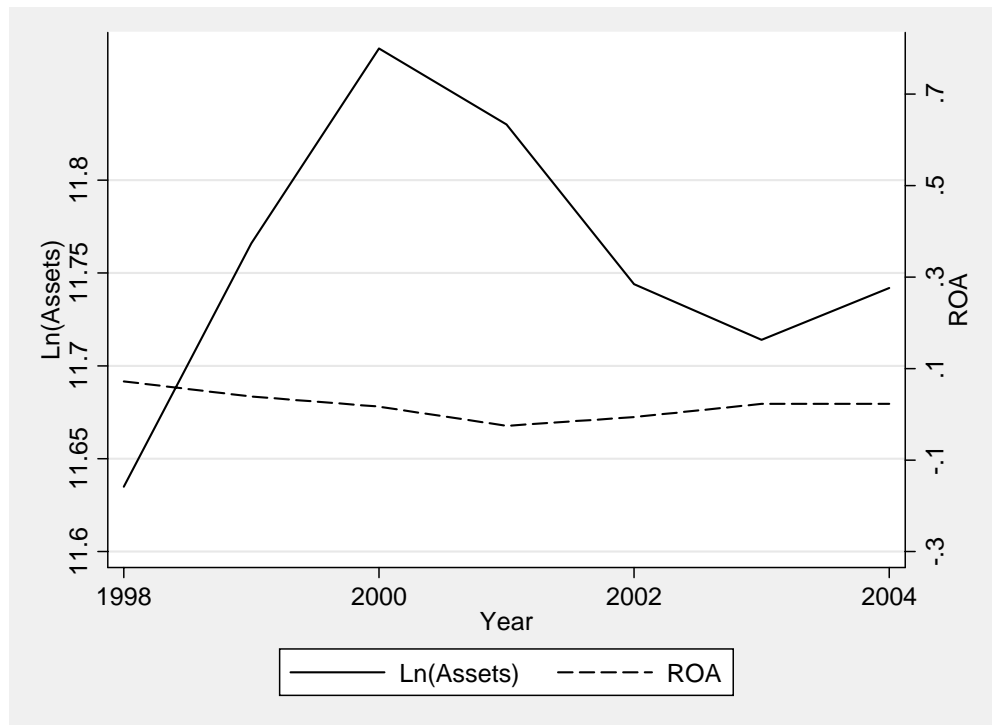
Variable	Observ.	Mean	Std. Dev.	Min	Max
	(1)	(2)	(3)	(4)	(5)
<b>Panel A : Corporate Governance Index</b>					
TDI	110	0.406	0.134	0.094	0.781
TDI- Board	110	0.322	0.189	0.000	0.769
TDI- Disclosure	110	0.513	0.152	0.000	0.846
TDI- Shareholder	110	0.355	0.159	0.000	0.833
<b>Panel B : Performance and Control Variables</b>					
ROA	760	0.020	0.132	-1.162	0.329
Tobin's q	760	1.417	2.420	0.233	36.252
Dividends to cash flow	760	0.053	0.409	-4.244	2.873
Dividends to earnings	760	0.096	0.673	-4.340	12.675
Dividends to sales	760	0.014	0.166	0.000	4.585
Assets	760	625 620	3 038 420	873	3.38e+07
Debt to Assets	760	0.517	0.389	0.005	5.566
Primary Dummy	760	0.164	0.370	0.000	1.000
Industry Dummy	760	0.627	0.484	0.000	1.000
Services Dummy	760	0.200	0.400	0.000	1.000

**Figure 1**  
**Dividend measures by year, 1998-2004**



**Figure 2**  
**Balance sheet variables by year, 1998-2004**

The graph shows, with yearly figures for 1998-2004, the mean of the balance sheet regressors.



**Table 3**  
**Performance and Explanatory Variables: Pairwise Correlation**

		TDI			ROA	Tobin's q	Dividends to			Assets	Debt to Assets	Primary	Industry	Services
		B.	D.	S.			cash flow	earnings	sales			Dummy		
TDI	<b>1.00</b>													
TDI- Board	<b>0.86</b>	<b>1.00</b>												
TDI- Disclosure	0.77	<b>0.40</b>	<b>1.00</b>											
TDI- Share-holder	<b>0.67</b>	<b>0.48</b>	<b>0.36</b>	<b>1.00</b>										
ROA	<b>0.11</b>	<b>0.10</b>	<b>0.07</b>	<b>0.09</b>	<b>1.00</b>									
Tobin's q	<b>0.08</b>	0.04	0.03	<b>0.20</b>	0.06	<b>1.00</b>								
D. to cash flow	0.06	0.06	0.05	0.01	<b>0.10</b>	0.01	<b>1.00</b>							
D. to earnings	0.05	0.04	0.06	0.01	0.05	-0.02	0.05	<b>1.00</b>						
D. to sales	0.01	0.00	0.03	-0.00	0.01	0.03	<b>0.23</b>	<b>-0.21</b>	<b>1.00</b>					
Assets	<b>0.30</b>	<b>0.19</b>	<b>0.26</b>	<b>0.30</b>	0.06	0.00	-0.00	-0.01	0.01	<b>1.00</b>				
Debt to Assets	-0.01	-0.01	0.00	-0.03	<b>-0.38</b>	0.06	<b>-0.10</b>	-0.06	-0.06	0.01	<b>1.00</b>			
Primary	0.00	<b>-0.09</b>	<b>0.13</b>	-0.03	0.02	-0.06	0.01	-0.00	-0.02	-0.04	0.01	<b>1.00</b>		
Industry	-0.05	0.04	<b>-0.16</b>	-0.01	-0.03	0.02	<b>0.09</b>	0.01	0.03	<b>-0.14</b>	<b>-0.13</b>	<b>-0.57</b>	<b>1.00</b>	
Services	0.03	.00	0.05	0.02	0.01	0.03	<b>-0.12</b>	-0.02	-0.02	<b>0.21</b>	<b>0.15</b>	<b>-0.22</b>	<b>-0.64</b>	<b>1.00</b>

\* statistically significant at 10% or less in bold face

**Table 4**  
**Mean difference tests for balance sheet variables**

Table shows the means of the balance sheet variables used in the estimation and whose definitions appear in Table 1, broken down into dividend payers and nondividend payers. The sample covers 110 companies over 1998- 2004..

	Mean Non-Dividend Payers	Mean Dividend Payers	Difference	P-value
Ln(Assets)	11.600	12.061	-0.462	0.000
ROA	-0.004	0.073	-0.076	0.000
Tobin's q	1.407	1.438	-0.031	0.872
Debt to assets	0.584	0.365	0.220	0.000

**Table 5**  
**Mean difference tests for corporate governance**

Table shows the means of the corporate governance and ownership variables used in the estimation and whose definitions appear in Table 1, broken down into dividend payers and non-dividend payers.

	Mean Non-Dividend Payers	Mean Dividend Payers	Difference	P-value
TDI	0.392	0.433	-0.041	0.000
TDI-Board	0.309	0.351	-0.042	0.005
TDI-Disclosure	0.498	0.540	-0.041	0.001
TDI-Shareholders	0.343	0.381	-0.038	0.003

**Table 6**  
**Cash Dividends to Cash Flow: Balance Sheet Determinants**

Pooled Tobit results for yearly data 1998-2004 and a maximum of 110 non-financial listed firms. The yearly cash dividends are those announced once the company's fiscal year has ended, and the accounting variables (including the cash flow used to scale dividends) are calculated from such fiscal year's statements. Observations with percentage ROA smaller than - 20 and higher than 20 are dropped.

	(1)	(2)	(3)	(4)	(5)
Constant	-1.443*** (0.322)	-0.790*** (0.122)	-0.485*** (0.115)	0.150 (0.120)	-1.001*** (0.308)
Ln(Assets)	0.078*** (0.024)				0.073*** (0.024)
ROA		3.576*** (0.466)			2.798*** (0.463)
Tobin's q			0.006 (0.013)		-0.013 (0.013)
Debt to Assets				-1.477*** (0.179)	-1.341*** (0.186)
Dummy 1999	-0.061 (0.115)	0.031 (0.111)	-0.058 (0.115)	-0.002 (0.108)	0.046 (0.107)
Dummy 2000	-0.146 (0.120)	0.042 (0.115)	-0.132 (0.119)	0.008 (0.112)	0.087 (0.112)
Dummy 2001	-0.276** (0.123)	0.008 (0.121)	-0.266** (0.123)	-0.093 (0.117)	0.054 (0.118)
Dummy 2002	-0.337*** (0.127)	-0.122 (0.123)	-0.334*** (0.126)	-0.151 (0.122)	-0.061 (0.121)
Dummy 2003	-0.237* (0.122)	-0.093 (0.117)	-0.240** (0.121)	-0.024 (0.117)	0.010 (0.116)
Dummy 2004	-0.162 (0.120)	-0.041 (0.115)	-0.163 (0.120)	0.053 (0.114)	0.057 (0.114)
Industry dummy	0.293*** (0.090)	0.266*** (0.085)	0.248*** (0.087)	0.123 (0.084)	0.186** (0.085)
Primary product dummy	0.020 (0.119)	0.072 (0.113)	0.003 (0.117)	-0.022 (0.113)	0.041 (0.112)
Observations	765	765	757	765	757
Chi2	33.542	108.260	23.762	118.095	179.271
Obs. left-censored at zero	570	570	562	570	562

\*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1% levels.

T statistics based on robust standard errors in parenthesis

**Table 7**  
**Cash Dividends to Cash Flow: (1) Instrumented q and debt and (2) Balance Sheet Determinants and Lagged Dividends**

Pooled Tobit results for yearly data 1998-2004 and a maximum of 110 non-financial listed firms. In regression (1) Q is instrumented with  $\ln(\text{Assets})$ , the standard deviation of ROA in the previous three years and sector dummies. Debt to assets is instrumented with  $\ln(\text{Assets})$ , tangibility (fixed to total assets), ROA and sector dummies. In regression (2) the lagged dividend payment dummy takes the value 1 if the company paid any cash dividends in the previous year, and 0 otherwise.

The yearly cash dividends are those announced once the company's fiscal year has ended, and the accounting variables are calculated from fiscal year's statements. Observations with percentage ROA smaller than -20 and higher than 20 are dropped.

	(1)	(2)
Constant	0.296 (0.468)	-0.448 (0.333)
$\ln(\text{Assets})$	0.258*** (0.059)	0.051** (0.025)
Lagged dividend payment dummy		-0.489*** (0.073)
ROA		2.244*** (0.464)
Tobin's q	-1.689*** (0.368)	-0.016 (0.014)
Debt to Assets	-3.242*** (0.483)	-0.965*** (0.192)
Dummy 1999	-0.096 (0.114)	
Dummy 2000	-0.006 (0.120)	-0.015 (0.111)
Dummy 2001	-0.144 (0.123)	-0.054 (0.117)
Dummy 2002	-0.120 (0.119)	-0.102 (0.120)
Dummy 2003	-0.057 (0.117)	0.000 (0.114)
Dummy 2004	-0.096 (0.114)	
Industry dummy	0.295** (0.131)	0.141 (0.090)
Primary product dummy	0.086 (0.123)	0.056 (0.118)
Observations	656	652
Chi2	127.978	209.335
Obs. left-censored at zero	498	493

\*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1% levels.  
T statistics based on robust standard errors in parenthesis

**Table 8**  
**Cash Dividends to Cash Flow: TDI and Balance Sheet Determinants**

Pooled Tobit results for yearly data 1998-2004 and a maximum of 110 non-financial listed firms. The yearly cash dividends are those announced once the company's fiscal year has ended, and the accounting variables are calculated from such fiscal year's statements. Observations with percentage ROA smaller than -20 and higher than 20 are dropped. The lagged dividend-to-cash flow is the level of such variable in the previous fiscal year (negative values are dropped). The Dividend Payment dummy takes the value 1 if the company paid any cash dividends in the previous year, and 0 otherwise. The Transparency and Disclosure Index, TDI, (on a 0-100 scale) is the same for all periods, and is based on public corporate information for 2005. For each (pooled Tobit) regression, the controls are time and sector dummies.

	1	2	3	4	5	6	7
Constant	-0.890*** (0.161)	-1.333*** (0.321)	-1.081*** (0.163)	-0.878*** (0.161)	-0.277* (0.157)	-0.984*** (0.167)	-0.453*** (0.169)
TDI	0.907*** (0.243)	0.685** (0.277)	0.689*** (0.233)	0.928*** (0.245)	1.015*** (0.237)	1.040*** (0.253)	0.765*** (0.246)
Ln(Assets)		0.045 (0.027)					
ROA			3.472*** (0.464)				
Tobin's q				0.001 (0.014)			
Debt to Assets					-1.515*** (0.180)		
Lagged dividend-to-CF						0.430*** (0.087)	
Lagged dividend payment dummy							-0.701*** (0.077)
Dummy 1999	-0.051 (0.114)	-0.057 (0.115)	0.024 (0.111)	-0.057 (0.115)	-0.002 (0.107)		-0.044 (0.113)
Dummy 2000	-0.129 (0.118)	-0.141 (0.119)	0.030 (0.115)	-0.139 (0.119)	0.003 (0.111)	-0.061 (0.113)	-0.056 (0.116)
Dummy 2001	-0.259** (0.122)	-0.270** (0.123)	-0.009 (0.121)	-0.270** (0.122)	-0.092 (0.116)	-0.197* (0.117)	-0.179 (0.120)
Dummy 2002	-0.322** (0.125)	-0.329*** (0.126)	-0.125 (0.122)	-0.332*** (0.125)	-0.147 (0.121)	-0.241** (0.120)	-0.15 (0.120)
Dummy 2003	-0.229* (0.121)	-0.236* (0.121)	-0.105 (0.118)	-0.246** (0.121)	-0.031 (0.116)	-0.169 (0.116)	
Dummy 2004	-0.147 (0.118)	-0.157 (0.119)	-0.055 (0.115)	-0.163 (0.119)	0.046 (0.113)	-0.081 (0.113)	-0.003 (0.115)
Industry dummy	0.281*** (0.088)	0.298*** (0.090)	0.293*** (0.086)	0.278*** (0.088)	0.159* (0.084)	0.241*** (0.093)	0.216** (0.091)
Primary product dummy	0.026 (0.117)	0.029 (0.118)	0.085 (0.113)	0.017 (0.117)	0.004 (0.113)	0.012 (0.123)	0.118 (0.121)
Observations	765	765	765	757	765	652	657
Chi2	37.011	39.724	117.189	38.622	137.238	60.976	140.002
Obs. left-censored at zero	570	570	570	562	570	494	498

\*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1% levels.

T statistics based on robust standard errors in parenthesis

**Table 9**  
**Cash Dividends to Cash Flow and TDI**

Each line of Table displays, for the whole period (1998-2004) and two subperiods (1998-2001 and 2002-2004), the estimated coefficient (and robust t statistic) on alternative TDI measures, namely, the three subindices defined in the text (Board, Disclosure, Shareholders) - each measured, as the TDI, on a 0-100 scale, the principal component of these three subindices, and the median overall TDI. For each (pooled Tobit) regression, the controls are time and sector dummies.

	Tobit 1 (1998-2004)	Tobit 2 (1998-2001)	Tobit 3 (2001-2004)
TDI	0.907*** (0.243)	0.781** (0.304)	1.077*** (0.406)
TDI-Board	0.458*** (0.171)	0.276 (0.211)	0.741** (0.293)
TDI-Disclosure	0.855*** (0.228)	0.996*** (0.297)	0.639* (0.366)
TDI-Shareholders	0.471** (0.199)	0.340 (0.245)	0.672** (0.341)
TDI-Principal component	0.087*** (0.024)	0.074** (0.030)	0.106*** (0.040)
TDI-Median	0.270*** (0.074)	0.228** (0.092)	0.328*** (0.125)

\*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1% levels.  
T statistics based on robust standard errors in parenthesis

**Appendix**  
**Definition of Variables**

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***Dependent and Control Variables***

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Return on assets	Earnings before interest and taxes to total assets
Tobin's q	It is the market value of equity plus the book value of liabilities to book value of assets
Dividends to cash flow	Cash dividends to (total earnings plus depreciation)
Dividends to earnings	Cash dividends to total earnings
Dividends to sales	Cash dividends to sales
Assets	The company's total assets
Debt to assets	Total debt to assets
Industry dummy	This variable takes the value 1 if the company belongs to the industrial sector, and 0 otherwise. The activity classification is taken from the NACE.
Primary dummy	This variable takes the value 1 if the company produces agricultural products, livestock, minerals, or other commodities, and 0 otherwise. The activity classification is taken from the NACE.
Services dummy	This variable takes the value 1 if the company provides services or supplies utilities, and 0 otherwise. The activity classification is taken from the NACE.

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