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Impact of capital and ownership structure on corporate governance and performance: evidence from an insider system

Abstract

The purpose of this paper is to present evidence on the impact of capital and ownership structure on corporate governance and firm performance of 80 German listed firms in HDAX index of Deutsche Börse Group in 2007. Based on agency and institutional theory, content analysis and simultaneous equation analysis are conducted. The study finds that debt ratio positively affects market-to-book ratio of equity and the extent of free-float negatively affects market-to-book ratio of equity and total shareholder return. The author provides insights regarding the extent that policies concerning debt, investment, risk, growth and ownership affect key performance measures. The findings of the paper can be helpful to managers for selecting and implementing the appropriate business policies. Besides, analysts and investors might find the results of this study useful to identify the key corporate governance mechanisms and value/performance drivers in the developing stock exchange of the German insider system.

Keywords: capital structure, ownership structure, corporate governance, performance, capital markets, Germany.

JEL Classification: G1, G11, G15, G18, G3, G32, G34.

Introduction

For a long time “it was presumed that managers are led to act in companies’ best interest by signals received from the capital market or by forces operating in the managerial labor market” (McConnell and Servaes, 1990, p. 595). Not only the well-known cases of Enron and WorldCom but also those from Germany like the dubious deal of Mannesmann’s management with Vodafone Airtouch, Bremer Vulkan or the collapse of the internet bubble and the following downward spiral (“Neuer Markt”) have shown us drastically that the rules of the corporate governance game are often problematic and for sure not comprehensive when different points of interests collide. As a consequence, representatives of politics and economy started to (re-)regulate corporate governance worldwide and to fix principles for good corporate governance. Such principles have already been launched in Germany during the 1990s but only poorly reflected in company practice and public opinion. The problems, prescribed above, surely helped to catalyze those activities – thus, the German corporate governance code (GCGC) was established in 2002. The results of its implementation process have been fairly ambiguous: on the one hand, the implementation of the code among large corporations has advanced rather satisfactorily (Stiglbauer, 2010). Nevertheless, it was questioned whether and how far compliance towards the GCGC does really mirror “good” corporate governance practice (Shleifer and Vishny, 1997, p. 737). Nonetheless, several researchers indeed reported some slight indicators for a change of key corporate governance practices in Germany. They witnessed an increase in the legal protection of minority shareholders, the evolution of more offensive takeover regulation and a reconsidering among major blockholders of their monitoring approach (Cromme,

2005). However, the assumption that compliance towards the GCGC would positively impact on company valuation (Goncharov et al., 2006) has been rejected by several (recent) studies (Bassen et al., 2009). Accordingly, there seem to exist further corporate governance mechanisms in Germany which might influence firm performance or interact stronger with those of the GCGC than assumed, yet. This marks the starting point of our paper by picking up the reported key practices that have changed in German corporate governance, namely the mechanisms of capital and ownership structure and their impact on firm performance, which have been sparsely evaluated for Germany (Edwards et al., 2009; Lehmann and Weigand, 2000).

Since the pioneer work of Modigliani and Miller (1958) proposed the concept that the general characteristics of a firm’s capital and ownership structure can affect performance has received considerable attention, the existing empirical evidence on the impact of capital and ownership structure on firm performance refers almost exclusively to Anglo-Saxon firms and is rather mixed (Short, 1994; Himmelberg et al., 1999). We decided to focus on companies in the Prime Standard segment of the Frankfurt Stock Exchange. Drawing on data about 80 companies of HDAX index in 2007, we also explore interactions between capital, ownership structure and theoretically connected corporate governance mechanisms like risk, growth and capture endogeneity and reverse causation within our equation system.

1. Theoretical perspectives on corporate governance

Agency theory for sure is the most often used approach with respect to corporate governance research. It proposes that adequate monitoring or control mechanisms need to be established inside and outside companies to protect shareholders, other

investors and creditors (Shleifer and Vishny, 1997). Some effectively structured board, up-to-date accounting practices and transparent information policy exemplify internal mechanisms that encourage active monitoring of managerial decision-making processes. The market for corporate control and the managerial labor market exemplify external mechanisms. Thus, corporate governance is a complex model of monitoring, controlling and information mechanisms to balance various interests. Consequently, companies, that are able to balance those interests better than other companies, are usually considered to outperform (Blair and Stout, 1999).

Hooghiemstra et al. (2008) were among the first to propose *institutional theory* as an adequate approach to examine corporate governance. Concerning the fact that companies are always embedded in an institutionalized environment, e.g. by national law, soft-law such as corporate governance codes or economic culture, this provides “a context in which individual efforts to deal rationally with uncertainty and constraints often lead, in aggregate, to homogeneity in structure, culture, and output” (DiMaggio and Powell, 1983, p. 147). From this point of view, companies are argued to be “isomorphic” as to their governance practices. By recommending a comprehensive set of norms, corporate governance (best) practices and codes have become part of this institutional environment in which listed companies operate. Especially for large(r) corporations, their environment must be considered as much institutionalized, compared to smaller companies. The public scrutiny and pressure as a result of investors’, analysts’ and creditors’ expectations is much more developed here (Achleitner et al., 2005).

2. Hypotheses

2.1. Impact of capital structure. A prime element of corporate governance is the alignment of shareholders’ interests with the interests of managers hired to run the firm. Moreover, shareholders gain from any other party’s control effort (e.g., creditors) without having to contribute to incurred costs (Lehmann and Weigand, 2000). Corporate debt policy has been viewed as an internal control mechanism, which can reduce agency conflicts between management and shareholders, particularly the agency costs of free cash flow as reported by Jensen (1986). He argues that managers with substantial amounts of free cash flow are likely to engage in non-optimal activities. Moreover, Grossman and Hart (1980) suggest that debt is a disciplinary device that may be used to reduce the agency costs of free cash flow. However, as Myers (1977) demonstrates, debt can also have undesirable effects such as inducing managers to forego positive net

present value projects. Furthermore, Jensen and Meckling (1976) argue that managerial shareholding may reduce managerial incentives to consume perquisites, expropriate shareholders’ wealth and to engage in other non-maximizing behavior and thereby helps to align the interests between management and shareholders.

Debt financing has played the role of both hero and villain in recent decades. As the hero, debt financing has been viewed as an engine for growth that enables firms to undertake profitable investments that otherwise might not be financed. As the villain, debt financing is considered as a vehicle for firms to take excessive risks that have led to instability in financial markets (Mitton, 2008). Thus, we calculate the debt ratio of every single company as a proxy for capital structure. Nevertheless, we cannot propose an optimum debt ratio and, hence, a conclusion on a firm’s financial stability. In fact, firms’ aspired rentability and connected risk are decisive points for firm’s debt policy. So, this is a tightrope walk for companies as rentability generally increases when debt ratios increase. At the same time, there’s also increasing risk that the rentability of an investment decreases above average or that interest rates increase above average. Consequently, under certain conditions return on equity (ROE) may be lower than return on assets (ROA). Thus, those losses may induce a decrease of equity (Coenenberg, 2001). As a consequence of mixed assumptions and findings we cannot predict the direction of impact.

H1: Corporate debt policy has an impact on firm performance.

2.2. Impact of ownership structure. Ownership structures are central distinguishing features of financial systems. Distribution of stock among shareholders has a significant impact on corporate actions that depend on shareholders’ voting. Majority control gives the larger shareholders considerable power and discretion over key decisions, like dividends’ decisions and payout ratios. Thus, Easterbrook (1984) argues that dividends play a role in controlling equity agency problems, by facilitating primary capital market monitoring of the firm’s activities and performance. Agency theory suggests that outside shareholders have a preference for dividends over retained earnings because insiders might misuse cash retained within the firm (Jensen, 1986). This preference for dividends may be even stronger in markets with weak investor protection like Germany. Considering ownership structure, particular attention has been paid in the corporate governance literature to (1) *blockholding* (ownership concentration); (2) the extent of *free-float* (atomistic ownership structure); and (3) *closely-held shares* (the pro-

portion of shares, held by members of the management and the supervisory board (German two-tier system) and persons connected strongly with them.

Generally, kind of individual or institutional *blockholding* is suspected to guarantee stronger monitoring of managerial action and a higher extent of power to influence managerial decision processes in order to change management strategies (Gorton and Kahl, 2008). Thus, highly concentrated companies are often supposed to perform better through the mechanisms of the market for corporate control because achieving high continuity of interests is supposed to have a stabilizing function, which hinders selling big share proportions quickly (Hill and Snell, 1989). Under normal conditions share prices, which induces substantial financial losses for blockholders are devaluated. However, blockholding represents a source of power which may either be used supporting or opposing towards management. Hence, blockholding could also lower firm performance in case of ongoing conflicts between large shareholders (especially with institutional investors) and management. Thus, the impact of blockholding on firm performance is indeed not definite but very interesting for the German insider system, since it is often considered as one with high ownership concentration (Van der Bauwhede and Willekens, 2008).

Atomistic shareholders definitely have incentives to monitor and control managerial action and decisions. Nevertheless, the problem of collective action of those atomistic shareholders and maybe free-rider problems (single shareholders do not monitor and control but also do participate from such action and lower agency costs above average) are limiting to monitoring and controlling management (Grossman and Hart, 1988). Consequently, management may use this gap self-serving and opportunistically. Thus, a high proportion of *free-float* is connected with lower firm performance (McGuinness and Ferguson, 2005). Accordingly, countries like the U.S. with traditionally low ownership concentration and relying heavily on stock markets to channel the flow of capital, are linked with a higher extent of investor protection (Ruiz-Mallorquí and Santana-Martín, 2009). Hence, a higher extent of (minority) shareholder protection generally increases costs to hold bigger share proportions in those countries, as they require higher effort to achieve their goals (Becht et al., 2003). Despite negative effects of free-float due to losses in monitoring efficiency, high free-float ratios are a positive indicator for high liquidity of shares, too (Rojahn and Elschen, 2009). Illiquid shares cause higher cost of equity and, thus, induce cautious investment and dividend policy due to refinancing risks. On the contrary, increasing opportu-

nity costs of a single shareholder lead to a higher risk-adjusted required rate of return (Chan and Faff, 2005). Thus, companies demand an optimum shareholder structure (Rojahn and Elschen, 2009).

Increasing the proportion of *closely-held shares* from a low basic value is reported to raise firm value, since managerial incentives to misuse resources through property rights decrease (Himmelberg et al., 1999). Thus, following convergence of interests hypothesis (Jensen and Meckling, 1976), interests of managers and other shareholders and creditors may converge. Contrariwise, increasing the proportion of closely-held shares from a high basic value is assumed to connect management and company to a higher extent, whereby traditional control mechanisms like the market for corporate control trend to result in a loss of power. As a consequence, Jensen and Ruback (1983) assume a conservative, risk-averse firm policy which decreases firm value at the expense of minority shareholders. Summarizing the different types of ownership structure in one hypothesis and without being able to predict clearly the direction of impact, therefore:

H2: Ownership structure has an impact on firm performance.

3. Data and modeling

3.1. Data. Our sample covers 80 companies listed in the HDAX index of Deutsche Börse Group in 2007. HDAX covers the biggest German listed companies in the Prime Standard segment and underlie the highest standards of transparency and disclosure at the Frankfurt Stock Exchange. Thus, corporate governance of these companies might have a signalling effect on the German capital market since these companies are covered most intensely by investors (Achleitner et al., 2005). Hence, our analysis tends to be valuable from a researcher's and practitioner's perspective. Data on the corporate governance mechanisms, performance measures and dummies were collected from Thomson Financial Datastream, Worldscope, companies' annual reports, balance sheets and income statements, Deutsche Börse Group and the German Federal Financial Supervisory Authority (BaFin). We conducted content analysis at companies' compliance statements towards the GCGC (94 best practices on corporate governance in its version of 2006) as a proxy for "good" corporate governance (Cromme, 2005).

3.2. Equation system. As one unitary model integrating corporate governance mechanisms and performance variables doesn't exist, models have to be specified separately out of theoretical and empirical findings and have to meet statistical requirements. Though, generally, specifying single equations is

difficult and faces uncertainty. In order to test the impact of capital and ownership structure on corporate governance and firm performance, and in order to control for endogeneity and reverse causation, we specify a simultaneous equation system consisting of four single equations. We, firstly, consider compliance with the GCGC (C) as endogenous variable. Furthermore, we calculate three endogenous variables on firm performance: an accounting-based

(ROE), a hybrid (MTB) and a market-based measure (TSR). We additionally calculate control variables (including capital and ownership structure) within the equations as a set of governance mechanisms. Those mechanisms are considered regularly in comparable German corporate governance performance studies and have been identified as influencing factors on good corporate governance and performance (Bress, 2008) (Table 1).

Table 1. Variable definitions and descriptive statistics

Abbr.	Definition	Mean	SD	Range
ROE	Return on equity	0.148	0.239	2.284
MTB	Market-to-book ratio of equity	2.956	2.206	10.230
TSR	Total shareholder return	0.195	0.494	2.631
C	Declared compliance with GCGC	0.833	0.094	0.415
SIZE	Firm size measured by market capitalization (mio. €)	8.285 (ln)	1.563 (ln)	6.420 (ln)
VOLA	Historical volatility (252 trading days)	0.312	0.098	0.468
BETA	Systematic risk beta (252 trading days)	1.131	0.402	1.913
BLOCK	Largest voting rights block	0.248	0.231	0.948
FREEFLOAT	Free-float	0.748	0.233	0.863
CLOSEHELD	Closely-held shares	0.258	0.225	0.850
GROWTH	Growth in sales (2007 / 2006)	0.145	0.150	0.826
LEV	Debt ratio	0.777 (ln)	1.175 (ln)	5.610 (ln)
BDSIZE	Board size (German management board)	4.730	1.929	9
INDUSTRY	17 dummies out of 18 industry sectors of Prime, all share-index from Deutsche Börse Group			
DAX	Dummy company in selection index DAX: 1; 0 otherwise			

Note: ln = log transformation since the range of variation is rather wide.

Quality criteria of social science demand every equation to be based on theoretically causal relations, which we present in the following section. We focus on our endogenous variables, on capital and ownership structure and additionally on risk and growth (both factors are important for the discussion in the last section). Compliance towards the GCGC is endogenous in equation (1) and all performance measures are exogenous. To control for reverse causation we specify the further equations the other way round: performance measures as endogenous and C as exogenous. This is a highly topical international discussion (Lehn et al., 2007), which corporate governance research did not often focus empirically, yet (Demsetz and Villalonga, 2001), despite the fact that its consideration would significantly improve econometrics (Börsch-Supan and Köke, 2002). Increasing risk of a specific stock by trend causes higher costs to hold undiversified portfolios of companies with bad corporate governance (Adrian and Rosenberg, 2008). Thus, we integrate volatility and beta exogenously in equation (1). We also integrate the three types of ownership structure exogenously. A major shareholder is expected to have enough power to force management to improve corporate governance structures. On the other hand, free-float in connection with the problem of collective action of atomistic share-

holders is supposed to be much weaker in improving those structures by putting pressure on managers or control their actions (McConnell and Servaes, 1990). Again, closely-held shares could stimulate managers to implement good corporate governance to benefit from improvements in governance structures personally. Higher debt ratios are assumed with better corporate governance, since those companies are more often evaluated and monitored by capital markets (Shleifer and Vishny, 1997).

Considering equations (2) to (4), ownership structure has an undefined impact both on fundamental and capital market performance. Additionally, we integrate debt ratio following the assumption that it (and its shift) may influence stock evaluation (Hull, 1999). On the other hand, debt may put pressure on managers to increase performance, since serving creditors primarily reduces free cash flow, which management cannot invest into future projects (control hypothesis) (Jensen, 1986). Additionally, higher debt ratios might induce higher agency costs, since the interests of shareholders and creditors might drift away from each other (Myers, 1977). One can explain this as a consequence that serving creditors primarily lowers the proportion of profit that can be used for dividend payout. Furthermore, lower pre-

sent cash flows lower opportunities for future projects that might induce higher future cash flows (Weill, 2008). Capital markets demand a compensation for risk factors, too (Bae et al., 2006). The higher the variation of a stock, the more risky it is. Following volatility-feedback hypothesis (Pindyck, 1984) both good and bad news signal increasing volatility which makes investors expect a higher risk premium.

4. Empirical results

The hypotheses and the simultaneous equation system proposed were tested using Intercooled Stata 9.2. We estimate our model using Three Stage Least Squares (3SLS) regression. 3SLS is very valuable to find causal relations between corporate governance and firm performance in complex equation systems (especially when data derive from cross-sectional analysis) and the most common iteration to estimate equation systems (Wooldridge, 2009). The rank and the order condition of the system are fulfilled, so we are able to proceed 3SLS. The 3SLS estimation yield a system that fit the data well (Table 2). Again, we focus our analysis on performance, compliance towards the GCGC, capital and ownership structure, risk and growth. Considering equation (1), neither the performance measures have a significantly impact on compliance, nor capital and ownership structure. Thus, there is no evidence in our sample on reverse causation between performance and compliance towards the GCGC.

Table 2. 3SLS regression results

	Endogenous			
	C (1)	ROE (2)	MTB (3)	TSR (4)
C		-0.347 (0.588)	0.734 (0.653)	-0.889 (0.182)
ROE	0.216 (0.663)		-4.235* (0.075)	0.217 (0.724)
MTB	0.019 (0.544)			
TSR	-0.038 (0.448)			
lnSIZE		0.460* (0.058)	0.185** (0.042)	0.332** (0.044)
VOLA	0.145 (0.502)		8.481*** (0.006)	-0.987* (0.089)
BETA	0.053 (0.832)		-0.566 (0.251)	0.378** (0.024)
BLOCK	0.162 (0.201)	0.286 (0.311)	0.220 (0.864)	-0.164 (0.723)
FREEFLOAT	0.211 (0.364)	0.142 (0.280)	-2.103** (0.035)	-0.012** (0.048)
CLOSEHELD	-0.071 (0.689)	0.561 (0.487)	-1.442 (0.401)	0.564 (0.164)
GROWTH		-0.206 (0.453)	-0.326 (0.552)	-0.630 (0.852)
lnLEV	0.006 (0.641)	-0.189 (0.244)	0.713** (0.037)	-0.025 (0.230)

BSIZE		-0.028** (0.034)		
INDUSTRY	±	±	+	±
DAX	0.174*** (0.004)			
Adj. R-Sq	0.287	0.357	0.362	0.375
RMSEA	0.282	0.270	2.098	1.153
χ ² /df	0.031	1.185	2.198	2.830
P(F-Value)	0.114	0.073	0.032	0.001

Notes: *, **, *** denote significance at the 10%, 5% and 1% levels, respectively.

Considering equation (1) compliance towards the GCGC doesn't demonstrate a significant impact on firm performance and we also do not find reverse causation between "good" corporate governance and performance. Neither debt ratio nor ownership structure do have a significant impact on ROE in equation (2). Equation (3) demonstrates a significantly negative impact of ROE on the market-to-book ratio of equity and we find a significantly, negative impact of free-float on the market-to-book ratio of equity. Results also show a highly significant, positive impact of volatility and a significantly negative impact of debt-ratio on the market-to-book ratio of equity. Analysing equation (4), free-float has a significantly negative impact and beta (5% level) and volatility (10% level) have a significantly positive impact on total shareholder return. Summarizing, we accept H1 for market-to-book ratio of equity and regret H1 for the other performance measures. Considering free-float, we accept H2 for market-to-book ratio of equity and total shareholder return and regret H2 for return on equity. Considering blockholding and closeheld, we regret H2 for all performance measures.

Discussion and concluding remarks

We start our discussion by continuing at the point of the theoretical interrelation between debt ratio and risk in Section 3.1 and also take growth as an inter-related factor to discuss and explain our previous findings. Jensen (1986) assumes a disciplining function of debt to carefully use free cash flow, what he calls "*control hypothesis for debt creation*": leverage could make managerial promise binding, to payout future cash flows instead of investing into projects of poor present value (Maksimovic and Zechner, 1991). Thus, leverage may effectively substitute dividend payout. Interest on debt may reduce agency costs by weakening managerial decision-making authority towards future cash flow (Modigliani, 1982) and management could signal its willingness to let their decision (partly) be controlled by creditors (Beiner et al., 2006).

Considering debt ratio, we negate the proposition of Hellwig (2000) that debt doesn't longer have a considerably disciplining function for many corporations (with high market cap) which he tries to explain with bigger proportions of self-financing. Hence, our study confirms findings of McConnell and Servaes (1995) and recently of Morey et al. (2009): both studies find a positive impact of higher debt ratios on firm value, especially when investment opportunities are sparse. Otherwise, Myers (1977) demonstrates that leverage ratios above optimum can force managers to excessively work on the interests of creditors and let pass projects with a positive present value. On the one hand, this phenomenon is consistent with our findings, as pretty high debt ratios in our sample cause a negative impact on ROE (Coenenberg, 2001). On the other hand, this could also explain the negative impact of debt ratio on total shareholder return, when companies with high debt ratios use cash flow above average to reduce debt instead of dividend payout which lowers total shareholder return (Myers, 1977). Furthermore, increasing debt ratios induce higher risk to face insolvency, too. Consequently, a company's stock shows higher volatility (Drees and Eckwert, 2000). Nevertheless, companies with higher volatility also perform better on stock markets, since investors have higher future expectations of return. Thus, investors might demand higher dividends for higher risk, which we also confirm for our sample by taking a look at the sign of the predicted impact of debt ratio and risk on total shareholder return.

By concentrating on the inverse relation between growth and leverage (Beiner et al., 2006) its impact on the market-to-book ratio of equity might be explained by pecking order theory which indicates that companies generally prefer self-financing instead of debt-financing (Myers, 1984). Accordingly, higher cash flows are used for sourcing at first. Only when cash flows are exhausted companies access debt-financing. Hellwig (2000) simply explains this policy: management teams reinvest profits more effective when they are able to decide autonomously and depend less on creditors. Chung and Pruitt (1996) reinforce this argument when they connect higher expected growth with higher proportions of closely-held shares, especially held by management teams, which is supposed to increase the linkage between management and the company. As a consequence, managers have higher incentives to operate accordingly to a company's goals, when they take higher private risk. This means, that companies, which generate lower cash flow and aim to grow, are supposed to access debt financing above average (McConnell and Servaes, 1995).

We find a negative impact of free-float on the market-to-book ratio of equity and on total shareholder

return. Thus, our study confirms the assumption of Shleifer and Vishny (1986), who report that weakly concentrated ownership by trend increases monitoring and controlling costs which lower firm value. As a consequence, big shareholders might be more averse to invest in such companies. Nevertheless, our findings confirm the assumption of Goncharov et al. (2006). They presume that the German corporate governance system more and more moves towards a market-based system as in the U.S., away from the traditional bank-based system. Since the impact of free-float on ROE is positive in our sample, too, we negate the assumption of Hackethal et al. (2005), who do not presume a disciplining role of the German capital market for its corporations.

On the contrary, we find a positive impact of blockholding on operating performance (ROE), obviously the impact is not significant. This non-significance might be explained by the dissolution of the so-called „Deutschland AG“, since banks and insurance companies retreated heavily out from supervisory boards, especially from the big 100 companies, which by trend is supposed to have created a controlling vacuum, that hasn't been displaced by market control, yet (Goncharov et al., 2006). Nevertheless, our results confirm empirical findings (mostly from the U.S.), which demonstrate concentrated shareholders' adequate willingness to accept higher costs in order to constrain managerial freedom of decision-making – independent from managerial shareholding (McConnell and Servaes, 1990) – and to decrease agency costs (Shleifer and Vishny, 1986). We explain this result by a longer investment horizon which major shareholders are supposed to have, opposing managerial short-term policy. Supporting this argument, recently Dahya et al. (2009) demonstrate evidence that major shareholders actively support the appointment of independent outside directors (without self-serving interests), which aim to increase firm value on the long-term.

We do not identify a significant impact of closely-held shares on firm performance. Nevertheless, its positive impact on ROE shows a disciplining function on managerial action and, thus, decreasing agency costs. The higher is managerial shareholding, the more incentives managers have to work efficiently according to companies' goals, since managerial decisions on investments directly influence managers' own financial situation. Despite agency costs due to partitioning-off and, thus, weaker outside control mechanisms caused by closely-held shares, our sample shows a positive impact of internal shareholders on total shareholder return and, thus, their importance to balance the interests of inside and outside shareholders of a company. These results are consistent with those

recently presented by Fahlenbrach and Stulz (2009), who indicate that owners of closely-held shares are normally interested in a positive development of share prices and, thus, by tendency accept higher dividend payouts to avoid agency conflicts and to gain personally (Peasnell et al., 2003). Accordingly, the negative impact of closely-held shares on the market-to-book ratio of equity confirms findings for the U.S. and France that analysts by trend evaluate companies more negative which seem to hold back private information (Boubacer and Labégorre, 2008; Piotroski and Roulstone, 2004). This confirms the assumption of a weaker informational environment for outsiders to monitor and control and, thus, a depreciation of firm value for our German sample.

This paper attempts to investigate the effect of capital and ownership structure within key corporate governance mechanisms that drive value and perform-

ance of listed companies in the German insider system. The results indicate that both, capital and ownership structure, are important for firm performance and in aggregate are key corporate governance factors, especially in the interaction with risk and growth. Thus, our findings can be helpful to managers for selecting and implementing the appropriate business policies. Besides, analysts and investors might find the results of this study useful to identify the key corporate governance mechanisms in a developing stock exchange. Contrary to previous, but in line with the most recent studies, we don't consider compliance towards the GCGC to really represent "good" corporate governance in Germany, maybe as a consequence that it has lost its effect of newness since 2002 and high compliance ratios do not cover enough potential to differentiate from competitors on the German stock exchange any longer.

References

1. Achleitner, A.K., T. Groth, L. Pietzsch (2005). Bestimmungsfaktoren der Analystenabdeckung, *Finanz Betrieb*, 7 (4), pp. 261-272.
2. Adrian, T., J. Rosenberg (2008). Stock returns and volatility, *Journal of Finance*, 63 (6), pp. 2997-3030.
3. Bae, K.-H., C. Lim, K.C.J. Wei (2006). Corporate governance and conditional skewness in the world's stock markets, *Journal of Business*, 79 (6), pp. 2999-3028.
4. Bassen, A., S. Prigge, C. Zöllner (2009). Behind broad corporate governance aggregates, *Corporate Ownership & Control*, 6 (3), pp. 388-406.
5. Becht, M., P. Bolton, A. Röell (2003). Corporate governance and control, Constantinides, G.M., M. Harris, R.M. Stulz (Ed.), *Handbook of the economics of finance*, Amsterdam, Elsevier, pp. 1-109.
6. Beiner, S., W. Drobetz, M.M. Schmid, H. Zimmermann (2006). An integrated framework of corporate governance and firm valuation, *European Financial Management*, 12 (2), pp. 249-283.
7. Blair, M.M., L.A. Stout (1999). A team production theory of corporate law, *Virginia Law Review*, 85 (2), pp. 247-328.
8. Börsch-Supan, A., J. Köke (2002). An applied econometricians' view of empirical corporate governance studies, *German Economic Review*, 3 (3), pp. 295-326.
9. Boubaker, S., F. Labégorre (2008). Ownership structure, corporate governance and analyst following, *Journal of Banking & Finance*, 32 (6), pp. 961-976.
10. Bress, S. (2008). *Corporate Governance in Deutschland*, Köln, Eul-Verlag.
11. Chan, H.W., R.W. Faff (2005). Asset pricing and the illiquidity premium, *Financial Review*, 40 (4), pp. 429-458.
12. Chung, K.H., S.W. Pruitt (1996). Executive ownership, corporate value, and executive compensation, *Journal of Banking & Finance*, 20 (7), pp. 1135-1159.
13. Coenenberg, A.G. (2001). *Jahresabschluß und Jahresabschlußanalyse*, Landsberg/Lech, Verlag Moderne Industrie.
14. Cromme, G. (2005). Corporate governance in Germany and the German Corporate Governance Code, *Corporate Governance: An International Review*, 13 (3), pp. 362-367.
15. Dahya, J., O. Dimitrov, J.J. McConnell (2009). Does board independence matter in companies with a controlling shareholder? *Journal of Applied Corporate Finance*, 21 (1), pp. 67-78.
16. Demsetz, H., B. Villalonga (2001). Ownership structure and corporate performance, *Journal of Corporate Finance*, 7 (3), pp. 209-233.
17. DiMaggio, P.J., W.W. Powell (1983). The iron cage revisited: institutional isomorphism and collective rationality in organizational fields, *American Sociological Review*, 48 (2), pp. 146-160.
18. Drees, B., B. Eckwert (2000). Leverage and the price volatility of equity shares in equilibrium, *Quarterly Review of Economics and Finance*, 40 (2), pp. 155-167.
19. Easterbrook, F. (1984). Two agency cost explanations of dividends, *American Economic Review*, 74 (4), pp. 650-659.
20. Edwards, J.S.S., W. Eggert, A.J. Weichenrieder (2009). Corporate governance and pay for performance, *Economics of Governance*, 10 (1), pp. 1-26.
21. Fahlenbrach, R., R.M. Stulz (2009). Managerial ownership dynamics and firm value, *Journal of Financial Economics*, 92 (3), pp. 342-361.
22. Goncharov, I., J.R. Werner, J. Zimmermann (2006). Does compliance with the German Corporate Governance Code have an impact on stock valuation? *Corporate Governance: An International Review*, 14 (5), pp. 432-445.
23. Gorton, G., M. Kahl (2008). Blockholder scarcity, takeovers, and ownership structures, *Journal of Financial and Quantitative Economics*, 43 (4), pp. 937-974.

24. Grossman, S.J., O.D. Hart (1980). Takeover bids, the free-rider problem and the theory of the corporation, *Bell Journal of Economics*, 11 (1), pp. 42-64.
25. Grossman, S.J., O.D. Hart (1988). One share-one vote and the market for corporate control, *Journal of Financial Economics*, 20 (1-2), pp. 175-202.
26. Hackethal, A., R.H. Schmidt, M. Tyrell (2005). Banks and German corporate governance? *Corporate Governance: An International Review*, 13 (3), pp. 397-407.
27. Hellwig, M. (2000). On the economics and politics of corporate finance and corporate control, Vives, X. (Ed.), *Corporate Governance*, Cambridge, Cambridge University Press, pp. 95-134.
28. Hill, C.W.L., S.A. (1989). Snell. Effects of ownership structure and control on corporate productivity, *Academy of Management Journal*, 32 (1), pp. 25-46.
29. Himmelberg, C.P., R.G. Hubbard, D. Palia (1999). Understanding the determinants of managerial ownership and the link between ownership and performance, *Journal of Financial Economics*, 53 (3), pp. 353-384.
30. Hooghiemstra, R., H. Van Ees, G. Van der Laan (2008). Non-compliance with corporate governance codes, Paper presented at the Boards and Governance 2008, 14-16 May, Ljubljana/Slovenia.
31. Hull, R.M. (1999). Leverage ratios, industry norms, and stock price reaction, *Financial Management*, 28 (2), pp. 32-45.
32. Jensen, M.C. (1986). Agency costs of free cash flow, corporate finance, and takeovers, *American Economic Review*, 76 (2), pp. 323-329.
33. Jensen, M.C., W.H. Meckling (1976). Theory of the firm, *Journal of Financial Economics*, 3 (4), pp. 305-360.
34. Jensen, M.C., R.S. Ruback (1983). The market for corporate control, *Journal of Financial Economics*, 11 (1), pp. 5-50.
35. Lehmann, E., J. Weigand (2000). Does the governed corporation perform better? *European Finance Review*, 4 (2), pp. 157-195.
36. Lehn, K., S. Patro, M. Zhao (2007). Governance indexes and valuation, *Journal of Corporate Finance*, 13 (5), pp. 907-928.
37. Maksimovic, V., J. Zechner (1991). Debt, agency costs, and industry equilibrium, *Journal of Finance*, 46 (5), pp. 1619-1643.
38. McConnell, J.J., H. Servaes (1999). Additional evidence on equity ownership and corporate value, *Journal of Financial Economics*, 27 (2), pp. 595-612.
39. McConnell, J.J., H. Servaes (1995). Equity ownership and the two faces of debt, *Journal of Financial Economics*, 39 (1), pp. 131-157.
40. McGuinness, P.B., M.J. Ferguson (2005). The ownership structure of listed Chinese state-owned enterprises and its relation to corporate performance, *Applied Financial Economics*, 15 (4), pp. 231-246.
41. Mitton, T. (2008). Why have debt ratios increased for firms in emerging markets? *European Financial Management*, 14 (1), pp. 127-151.
42. Modigliani, F. (1982). Debt, dividend policy, taxes, inflation and market valuation, *Journal of Finance*, 37 (2), pp. 255-273.
43. Modigliani, F., M. Miller (1958). The cost of capital, corporation finance and the theory of investment, *American Economic Review*, 48 (3), pp. 261-297.
44. Morey, M., A. Gottesman, E. Baker, B. Godridge (2009). Does better corporate governance result in higher valuations in emerging markets? *Journal of Banking & Finance*, 33 (2), pp. 254-262.
45. Myers, S.C. (1977). Determinants of corporate borrowing, *Journal of Financial Economics*, 5 (2), pp. 147-175.
46. Peasnell, K.V., P.F. Pope, S. Young (2003). Managerial equity ownership and the demand for outside directors, *European Financial Management*, 9 (2), pp. 231-250.
47. Pindyck, R.S. (1984). Risk, inflation and the stock market, *American Economic Review*, 74 (3), pp. 335-351.
48. Piotroski, J.D., D.T. Roulstone (2004). The influence of analysts, institutional investors, and insiders on the incorporation of market, industry, and firm-specific information into stock prices, *Accounting Review*, 79 (4), pp. 1119-1151.
49. Rojahn, J., R. Elschen (2009). Liquidität und Anteilsbesitzkonzentration, *Finanz Betrieb*, 11 (2), pp. 88-93.
50. Ruiz-Mallorquí, M.V., D.J. Santana-Martín (2009). Ultimate institutional owner and takeover defenses in the controlling versus minority shareholders context, *Corporate Governance: An International Review*, 17 (2), pp. 238-254.
51. Shleifer, A., R.W. Vishny (1997). A survey of corporate governance, *Journal of Finance*, 52 (2), pp. 737-783.
52. Shleifer, A., R.W. Vishny (1986). Large shareholders and corporate control, *Journal of Political Economy*, 94 (3), pp. 461-488.
53. Short, H. (1994). Ownership control, financial structure and the performance of firms, *Journal of Economic Surveys*, 8 (3), pp. 203-249.
54. Van der Bauwhede, H., M. Willekens (2008). Disclosure on corporate governance in the European Union, *Corporate Governance: An International Review*, 16 (2), pp. 101-115.
55. Weill, L. (2008). Leverage and corporate performance, *Small Business Economics*, 30 (3), pp. 251-265.