

Diskussionspapier des
Instituts für Organisationsökonomik

6/2011

**Director Interlocks and Executive Turnover
in German Public Corporations**

A Hazard Analysis for the Period from 1996 to 2008

Benjamin Balsmeier/Achim Buchwald/
Alexander Dilger/Jörg Lings

Discussion Paper of the
Institute for Organisational Economics

**Diskussionspapier des
Instituts für Organisationsökonomik
6/2011**

Juni 2011

ISSN 2191-2475

**Director Interlocks and Executive Turnover
in German Public Corporations**

A Hazard Analysis for the Period from 1996 to 2008

Benjamin Balsmeier/Achim Buchwald/Alexander Dilger/Jörg Lingers

Abstract

We investigate executive turnovers with focus on different kinds of outside board memberships of supervisory board members. The analysis is based on all management board members of the largest German corporations during the period from 1996 to 2008. Cox proportional hazard estimations suggest that companies send their executives to supervisory boards of other firms to actively monitor their capital stakes. External executives that do not represent capital stakes enhance only the monitoring intensity of the CEO. The total number of external supervisory board mandates of all shareholder representatives seems to enhance corporate governance pointing to a functioning market for scarce top-monitoring-directors.

JEL-Codes: C41, J24, J63, L25, M20, M50

Aufsichtsratsverflechtungen und Vorstandswechsel in deutschen Aktiengesellschaften

Eine Hazard-Analyse für die Jahre 1996 bis 2008

Zusammenfassung

Wir untersuchen das Ausscheiden von Vorstandsmitgliedern, insbesondere hinsichtlich verschiedener Arten von weiteren Vorstands- und Aufsichtsratsmandaten der Aufsichtsratsmitglieder. Es werden alle Vorstandsmitglieder der größten deutschen Aktiengesellschaften im Zeitraum 1996 bis 2008 analysiert. Schätzungen von proportionalen Hazard-Raten gemäß Cox legen nahe, dass Aktiengesellschaften ihre eigenen Vorstandsmitglieder in fremde Aufsichtsräte schicken, um ihre Kapitalanteile aktiv zu managen und zu überwachen. Externe Vorstandsmitglieder im Aufsichtsrat, die keine Kapitalanteile repräsentieren, erhöhen nur die Aufsicht über Vorstandsvorsitzende. Die Zahl weiterer externer Aufsichtsratsmandate aller Vertreter der Kapitaleseite scheint die Corporate Governance zu verbessern, was auf einen funktionierenden Markt für knappe Talente als Aufsichtsrat hindeutet.

Im Internet unter:

http://www.wiwi.uni-muenster.de/io/forschen/downloads/DP-IO_06_2011.pdf

Westfälische Wilhelms-Universität Münster
Institut für Organisationsökonomik
Scharnhorststraße 100
D-48151 Münster

Tel: +49-251/83-24303 (Sekretariat)
E-Mail: io@uni-muenster.de
Internet: www.wiwi.uni-muenster.de/io

Director Interlocks and Executive Turnover in German Public Corporations

A Hazard Analysis for the Period from 1996 to 2008

1. Introduction

Personal linkages between large corporations via both executive committee and supervisory board mandates as a feature of corporate governance have been subject to the academic, political and public debate since decades (for an overview see Adams et al. 2010, Bebchuk et al. 2009). The majority of this literature, which is regularly based on data from an Anglo-Saxon institutional environment, assesses outside directorships as a sign of weak corporate governance. As a consequence of the ongoing debate, the recently updated German Corporate Governance Codex recommends a maximum of three supervisory board mandates. In fact, among experts and from the view of different stakeholders, opinions differ concerning the quality of outside board memberships as a measure of effective monitoring by supervisory board members. Compared to the existing literature for the UK or the United States, the German two-tier governance system still faces a great lack of resilient empirical studies that deal with the relationship between multiple board mandates and their effect on corporate governance quality. The present investigation contributes to close the existing research gap by analyzing executive turnovers in the largest German corporations for the period from 1996 to 2008.

Beginning with the end of the old millennium, the majority of representatives from banks and insurance companies on supervisory boards of non-financial firms retired in Germany (see Dittmann et al. 2010). However, multiple board mandates of executives and supervisors from non-financial companies are still present to a large extend. Furthermore, union representatives actually increased their number of parallel board seats. The reasons for those linkages and their impact on the supervision of management are still undiscovered.

From a theoretical perspective two main approaches of the efficiency of corporate governance can be stated. On the one hand optimal contracting theory considers the existing corporate governance mechanisms as appropriate to minimize conflicts of interest between shareholders and managers due to opportunistic behavior of the latter (cf. Jensen and Meckling 1976). As a result, managers are presumed to maximize firm value. On the other hand one might argue that managers are able to defy control and use their discretion to maximize private benefits (cf. e.g. Bebchuk and Fried 2003, 2004). Observable features of corporate governance are

then not the outcome of agency cost minimizing contracts rather than managerial power. Accordingly, multiple directorships could either reflect that particular successful and skilled managers are able to allocate their superior expertise to outside boards (cf. Fama and Jensen 1983) or could be assessed as an indicator for insufficient monitoring that harms shareholders' benefits. To differentiate between both approaches, we test different hypotheses concerning the effect of director linkages on executive turnover.

Thereby we make two major contributions to the existing literature. By estimating hazard rates for all executive committee members we provide comprehensive evidence on executive turnover in a non-Anglo-Saxon institutional environment that goes far beyond the benchmark study of Kaplan (1994). Beside typical firm characteristics, supervisory board composition matters for corporate governance. In particular, the number of external executives on the board and multiple supervisory board memberships seem to play a crucial role for executive monitoring. Therefore it is important to control for parallel equity representation and to differentiate between employee and shareholder representatives on the board. These are new aspects beyond Balsmeier et al. 2010, our previous study in German, which also had a smaller database with less firms and years and was without special attention to CEOs (meaning the chairmen of the executive committee).

The paper proceeds as follows. Section 2 describes the institutional framework of the German corporate governance system and develops hypotheses based on a literature review. Section 3 describes the construction of the panel, introduces the variables used in the study and provides some descriptive statistics. Section 4 gives a brief overview on the methodological approach. In section 5 we present the results of the empirical investigation. Section 6 concludes.

2. Institutional Framework and Literature Review

A growing number of theoretical as well as empirical studies address the structural makeup and functioning of the board of directors in the context of corporate governance (for an overview on the corporate governance discussion in general see Adams et al. 2010, Bebchuk et al. 2009, Heidrick & Struggles 2009, Hermalin 2005, Denis 2001, Shleifer and Vishny 1997). As distinguished from the Anglo-Saxon one-tier board of directors the German stock corporation act (*Aktiengesetz*) prescribes a strict separation of the executive committee, responsible for the operative leadership of the company, and the supervisory board which appoints and monitors the members of the executive committee and decides on executive compensation. Under German law, reciprocal personal interlockings between two companies

via executive committees and supervisory boards are prohibited. Executives are allowed to sit on up to ten external supervisory boards, while positions as the chairman of a supervisory board count double. An executive is not allowed to be simultaneously a member of the supervisory board of the same firm.

Another distinctive feature of the German corporate law is the co-determination of employee representatives on the supervisory board in large companies. Dependent on the number of employees, the co-determination reaches up to 50 percent of all board members. Employee representatives are composed of annually elected employees of the company and up to three external union representatives (see Petry 2010, Fauver and Fuerst 2006 and Gorton and Schmid 2004 for a comprehensive summary of the co-determination regulations in Germany).

Due to the strict separation of the executive committee and supervisory board in German corporations the position of the chairman of the former one is relatively weaker than the position of a CEO in a monistic board of directors. Consequently, it is not possible in German companies that CEOs serve on the nominating committee and influence directly the appointing process of new directors (cf. Shivdasani and Yermack 1999 and Zajac and Westphal 1996). However, information asymmetries are higher in the two-tiered board system, enhancing the discretion of a German CEO. In spite of the differences between the one- and two-tiered board systems, the empirical findings for US-American corporations provide important insights for the evaluation of the efficiency of control in German corporations.

Independent of the precise form of the national corporate governance system, the key issue is in how far supervising directors may control the actions of potentially opportunistic managers adequately in the course of shareholder value maximization (cf. Jensen and Meckling 1976). It is argued that managers have an individual agenda of benefit maximization like high compensation and prestige, long tenure or the reduction of control that could conflict with the aims of shareholders. Hermalin and Weisbach (2003) analyze formally the influence of incumbent CEOs on the board selection process. Bebchuk and Fried (2003) argue that the higher a manager's influence, the greater is his ability to extract rents from the firm. Indicators for highly entrenched boards could be for example limits to shareholder bylaw amendments or lower sensitivities between performance and director compensation or dismissals (cf. Bebchuk et al. 2009 and Bebchuk and Cohen 2005). For empirical evidence for the entrenchment hypothesis in UK companies see Gregory-Smith et al. (2009).

Multiple directorships could be interpreted as an indication of entrenchment, helping managers to raise their influence and subsequently weakening corporate governance. As managers use outside board mandates to build and tighten relationships with other friendly board members at their home firm, they increase their bargaining power against the principal and reduce the risk of dismissal at the same time. Conversely, according to Fama and Jensen (1983), multiple board memberships could signal the outstanding competence and skills of a manager who is appointed to a larger number of boards. Above-average profits act as an indicator of the ability of the executive. Rosen (1981) and Biehler and Ortmann (1985) point to a limited and concentrated number of highly skilled and talented individuals who officiate a large number of board seats. Consequently, this approach suggests that multiple board memberships are an important instrument of corporate governance. Supporting this approach, Fich (2005), Ferris et al. (2003) and Brickley et al. (1999) find that CEOs of well performing companies are more likely to be appointed to outside boards, while CEOs of financially distressed US-companies receive fewer outside board mandates (cf. Gilson 1990). Kaplan and Reishus (1990) provide evidence that it is less likely for top-managers to be appointed to outside boards if their home company reduces its dividend. The authors find no significant relationship between the retirement from outside mandates and the performance of the home firm. Fich (2005) indicates that the performance of a manager's own firm proxies for his or her abilities. If outside directorships signal managerial talent, one might expect a positive influence on corporate performance of both sending and appointing firms.

Canyon and Read (2006) show in a theoretical model that outside board mandates of managers are beneficial for the sending companies as shareholders benefit from the broadened knowledge and expertise of their agents. At the same time linked managers benefit personally from the supplementary business contacts through monetary and non-pecuniary gains like experience, extra salaries from the appointing firm or improved retirement options and higher prestige and therefore have incentives to accept further external supervisory mandates. In addition, multiple directorships could open new career options for a CEO if the appointing companies perform well and have larger growth opportunities that could be attributed to the incumbent director (cf. Yermack 2004 and Booth and Deli 1996). Fahlenbrach et al. (2010b) find empirical evidence that outside directors are more likely to leave a board and protect their reputation if they expect that performance will decline or shareholder lawsuits are to be announced.

A various number of empirical investigations deal with the effect of multiple directorships on corporate governance both for the sending and the appointing companies. Research interest focuses mainly on the structure of the board of directors and the impact on different corporate outcomes like performance or director compensation. Masulis and Mobbs (2009) find that the number of outside directorships of inside board members is associated with increasing operating performance and higher market-to-book ratios. Perry and Peyer (2005) disclose that outside directorships increase firm value if agency costs are low. Companies with serious agency problems exhibit negative announcement returns if they send executives to external boards or appoint outside directors (see also Jiraporn et al. 2008). Consistent with the findings of Ferris et al. (2003), Fahlenbrach et al. (2010a) find no impact of CEOs on the appointing firm's performance as long as no board interlocks are identified.

A negative effect of multiple board seats could result if supervisors are prevented from appropriate monitoring because of time constraints. According to the study of Fich and Shivdasani (2006), boards with a majority of outside board members who simultaneously serve on three or more boards are associated with weaker profitability and lower sensitivity of CEO turnover to firm performance. They interpret this as an indication of inefficient monitoring. Barnea and Guedj (2007) show that with better connected directors, CEO compensation rises, their compensation and turnover are less sensitive to performance, and CEO dismissals are more unlikely. Moreover, already connected directors are more likely to be appointed to other directorships. Similarly, Core et al. (1999) find for a sample of US-companies a positive relation between CEO compensation and the number of board members who hold at least three outside board memberships. Balsmeier and Peters (2009) and Entorf et al. (2009) document a positive relation between average executive committee compensation and the number of external supervisory mandates of the executives on outside boards in German companies. Dittmann et al. (2010) disclose a negative effect of the presence of bank representatives on the supervisory boards of German non-financial companies and performance. However, banks benefit from increased debt sales to firms in industries where they sent agents to the supervisory boards. It seems that banks gain extensive information and industry expertise through their outside board memberships. Evidence for the hypothesis that outside supervising board mandates can provide valuable information is also derived from Schonlau and Singh (2009). According to their analysis, firms that are linked via multiple board memberships undertake significantly more profitable company acquisitions than firms without personal linkages to the acquired companies.

In summary, empirical investigations assessing the effects of multiple directorships are not conclusive. Some of the studies tend to conclude that director linkages are shareholder-friendly, while other investigations report findings that support the entrenchment hypothesis. Studies addressing corporate performance and director remuneration suggest negative effects of multiple directorships.

Kaplan (1994) analyzed empirically the turnover of executives and supervisory board members of German corporations based on data of 42 corporations for the period from 1981 to 1989. As a main finding he reports a positive relationship between turnover of executives and poor stock as well as earnings performance. The present study is also based on German data but uses a richer set of variables and firms for a more recent period of time. For the first time, detailed information on external board memberships of supervisory board members is analyzed in a non-Anglo-Saxon institutional environment. Thereby we add new insights to the literature on executive turnover as well as multiple directorships.

3. Data Compilation and Summary Statistics

Our panel dataset is supplied by the German Monopolies Commission, a government consultancy in the field of competition economics. The Monopolies Commission releases for every even year a list of the 100 largest companies in Germany measured by domestic value added. The identified 100 companies count for about 18 percent of total domestic value added of all German companies (more than 3 trillion euros). Besides, the companies are substantial for the German network of company linkages via multiple directorships and reciprocal shareholdings (cf. Monopolkommission 2010). The Monopolies Commission's data were manually filled up with firm data of the uneven years based on the sample of the previous year.

Shareholder information is compiled from the Hoppenstedt "Konzernstrukturdatenbank" and the Hoppenstedt "Companies & Sectors" database. We used the Bureau van Dijk database "AMADEUS" to match accounting data where possible. Information on the members of the executive committees and supervisory boards were derived from annual company reports, the Hoppenstedt publication "Leitende Männer und Frauen der Wirtschaft" and additional press releases. Table 1 gives an overview of the used variables and the data sources.

Table 1 *Definitions and Sources of Variables Used in the Study*

The table reports the variables used in the paper. Sources: Monopolies Commission, annual company reports, press releases, "AMADEUS" database of Bureau van Dijk, Hoppenstedt "Companies & Sectors", Hoppenstedt "Leitende Männer und Frauen der Wirtschaft" and Hoppenstedt "Konzernstrukturdatenbank".

<i>Variable</i>	<i>Description</i>	<i>Source</i>
Return on Investment	Return on investment (ROI)= (net income after taxes/total assets) · 100	Bureau van Dijk
Employees	Number of employees / 1,000	Bureau van Dijk
PublicQuoted	Dummy variable which equals 1 if the firm is listed on a German stock exchange	Bureau van Dijk
Free Float	Fraction of widely held shares	Hoppenstedt
CEO	Dummy variable which equals 1 if the respective executive is the incumbent chairman of the executive committee	Annual Reports, Press Releases
EC Members	Number of executives on the executive committee	Annual Reports
SB Members	Number of supervisors on the supervisory board	Annual Reports
Age	Executive's age in years	Annual Reports, Press Releases
Tenure	Executive's tenure in office in years	Annual Reports, Hoppenstedt, Press Releases
CEO Turnover	Dummy variable which equals 1 if the incumbent chairman leaves the executive committee	Annual Reports, Press Releases
Executive Turnover	Dummy variable which equals 1 if an executive leaves the management board	Annual Reports, Press Releases
External Executives in the SB	Cumulative outside executive committee positions of the supervisory board members	Annual Reports, Monopolies Commission
...with Equity	Cumulative outside executive committee positions of the supervisory board members in companies that hold voting rights	Annual Reports, Monopolies Commission
...without Equity	Cumulative outside executive committee positions of the supervisory board members in companies that hold no voting rights	Annual Reports, Monopolies Commission
External SB Mandates of SB Members	Cumulative outside supervisory board positions of the supervisory board members	Annual Reports, Monopolies Commission
External SB Mandates of Shareholder Representatives	Cumulative outside supervisory board positions of the shareholder representatives on the supervisory board	Annual Reports, Monopolies Commission
External SB Mandates of Employee Representatives	Cumulative outside supervisory board positions of the employee representatives on the supervisory board	Annual Reports, Monopolies Commission

We dropped all companies from the financial sector as well as companies that do not trade under the legal form of a stock corporation. Further, we excluded all companies that are subsidiaries of a foreign company as for these firms accounting data can be largely influenced by the parent company. The final panel dataset contains 86 companies with 596 firm-year observations. On the individual level we observe 781 executives yielding 3,280 person-year observations. Among these executives, we observe 489 executive committee exits during the sample period.

Table 2 provides pooled descriptive statistics of the variables at the firm-level. As we will apply duration models, the empirical investigation is actually based on individual spells of the executives on the executive committee. Hence, table 3 shows summary statistics for the individual spells. The longer an individual spell lasts, the larger is the weight of the spell in the sample. The same effect applies for companies with larger executive committees or companies with longer spells of their executives. However, the differences in the descriptive tables are relatively small. The tables show that in consequence of the correlation between firm and executive committee size, the weight of larger companies is higher on the individual level.

Variables

Before we focus on the main variables used in this study we briefly introduce the covariates to describe the sample. *Return on Investment (ROI)* is used as a measure of firm performance. It amounts on average to 3.5 percent in the 13-year-period covered. As only 67 percent of the companies in the sample are listed at a stock exchange, we are not able to use stock based performance measures like market to book value or Tobin's Q without a considerable further loss of observations. It is important to note that the stock market in the continental European countries is small compared to an Anglo-Saxon environment. The number of *Employees* is used as a proxy for firm size. The average firm size amounts to 115,273 employees with a fairly wide range from 3,339 to 520,334. To reduce the skewness of the distribution we use the logarithm of *Employees* in the regression framework. With the fraction of widely held shares (*Free Float*) we control for possible weaker monitoring when the ownership structure is less concentrated. The amount of 42 percent free floating shares on average reflects the small stock market in Germany.

Table 2 *Summary Statistics on Company Level*

Source: Own calculations using data from the Monopolies Commission, annual company reports, press releases, "AMADEUS" database of Bureau van Dijk, Hoppenstedt "Companies & Sectors", Hoppenstedt "Leitende Männer und Frauen der Wirtschaft" and Hoppenstedt "Konzernstrukturdatenbank".

	<i>No. Observations</i>	<i>No. Companies</i>	<i>Min</i>	<i>Mean</i>	<i>Max</i>	<i>Std. Dev.</i>
Return on Investment	596	86	-19.32	3.51	29.09	4.25
Employees	596	86	3,339	91,131	520,334	106,566
PublicQuoted	596	86	0	0.65	1	-
Free Float	596	86	0	39.46	100	32.00
CEO	596	86	0	0.21	1	-
EC Members	596	86	1	6.39	26	3.39
SB Members	596	86	3	17.66	22	3.58
External Executives in the SB	596	86	0	1.89	9	1.68
...with Equity	596	86	0	0.64	8	1.16
...without Equity	596	86	0	1.26	6	1.19
External SB Mandates of SB Members	596	86	0	10.40	47	8.99
External SB Mandates of Shareholder Representatives	596	86	0	9.66	43	8.49
External SB Mandates of Employee Representatives	596	86	0	0.74	6	1.06

Out of all executives covered, 18 percent hold the position of the chairman of the executive committee (*CEO*). Including the chairman, the mean size of the executive committee (*EC Members*) is 8 executives, which is small compared to the average supervisory board size (*SB Members*) of 18 directors. This is not surprising as the German stock corporation act requires large companies in Germany to have supervisory boards with at least 12, 16 or 20 members, respectively, depending on the exact number of employees (> 500, > 2,000, > 10,000). The number of executive committee members is not mandatory.

Executive age is on average 53.9 years and ranges from 30 to 75 years. The average age declined slightly from 54.5 to 53.2 years during the sample period. We do not observe a trend in the number of annual executive exits, which amount to 40.8 on average. As could be expected, the annual turnovers were lowest after the bust of the dotcom bubble in times of

economic recovery. Executives in the sample leave their firms on average after 4.0 years at an average age of 56.0 years.

Table 3 *Summary Statistics on the Individual Level*

Source: Own calculations using data from the Monopolies Commission, annual company reports, press releases, "AMADEUS" database of Bureau van Dijk, Hoppenstedt "Companies & Sectors", Hoppenstedt "Leitende Männer und Frauen der Wirtschaft" and Hoppenstedt "Konzernstrukturdatenbank".

	<i>No. Observations</i>	<i>No. Executives</i>	<i>Min</i>	<i>Mean</i>	<i>Max</i>	<i>Std. Dev.</i>
Return on Investment	3,280	781	-19.32	3.41	29.09	4.04
Employees	3,280	781	3,339	115,273	520,334	126,517
PublicQuoted	3,280	781	0	0.67	1	-
Free Float	3,280	781	0	41.66	100	33.37
CEO	3,280	781	0	0.18	1	-
EC Members	3,280	781	1	7.69	26	4.24
SB Members	3,280	781	3	17.78	22	3.48
Age	3,280	781	30	53.49	75	6.30
External Executives in the SB	3,280	781	0	1.85	9	1.61
...with Equity	3,280	781	0	0.57	8	1.05
...without Equity	3,280	781	0	1.28	6	1.19
External SB Mandates of SB Members	3,280	781	0	11.22	47	9.11
External SB Mandates of Shareholder Representatives	3,280	781	0	10.50	43	8.61
External SB Mandates of Employee Representatives	3,280	781	0	0.72	6	1.06

Our main explanatory variables concern external board memberships of the supervisory board members. First of all we focus on supervisory board members that are simultaneously executives of another company out of the 100 largest (*External Executives in the SB*). Within this group of supervisory board members we evaluate separately the number of external executives on the board that represent voting blocks (*External Executives in the SB with Equity*) and those external executives that are not sent to control equity interests (*External Executives in the SB without Equity*). Figure 1 illustrates the evolution of all kinds of outside board memberships in the period from 1996 to 2008. The average number of executive positions of supervisory board members almost halved from 2.8 mandates in 1996 to 1.5 mandates in 2008. Figure 1 shows that the average number of external executives on the supervisory board who represent voting blocks fell from 1.0 director on the board in 1996 to 0.3 directors in 2008. The number of outside executives on the board without parallel equity holdings amounts to 1.3 positions on average with a reduction from 1.8 to 1.1 during the sample period. In general we observe a downward trend from 1996 to 2002. Afterwards the level of external executives varied slightly around 0.35 (with equity) and 1 (without equity).

A declining trend is also observed for the average number of outside supervisory board positions of all supervisory board members (*External SB Mandates of SB Members*) that fell from 16.8 in 1996 to 7.2 in 2008. Figure 1 groups the trend of the number of outside directorships held by shareholder representatives (*External SB Mandates of Shareholder Representatives*) and employee representatives (*External SB Mandates of Employee Representatives*) on the supervisory boards. When we differentiate between outside board memberships of shareholder and employee representatives on the supervisory board we see that the shareholder representatives account for most of the outside control mandates and determine the trend. The average number of outside supervisory board mandates of all shareholder representatives declined monotonously from 16 seats in 1996 to 6.3 seats in 2008. Although on a much lower level, employee representatives increased the number of their outside board positions in aggregate to 0.9 on average in 2008 after a temporarily decline to 0.4 seats in 2002. Figure 2 shows histograms of the separate kinds of external directorships to have a closer view on the board membership distributions. Almost 90 percent of the supervisory boards in the sample employ at least one outside director. The cumulated number of outside mandates of shareholder representatives reaches up to 43 positions. Employee representatives are with 0.7 cumulated outside positions on average significantly less connected to other boards.

Figure 1 *Average Number of Outside Board Mandates from 1996 to 2008*

Source: Own calculations using data from the Monopolies Commission, annual company reports, press releases, Hoppenstedt "Leitende Männer und Frauen der Wirtschaft".

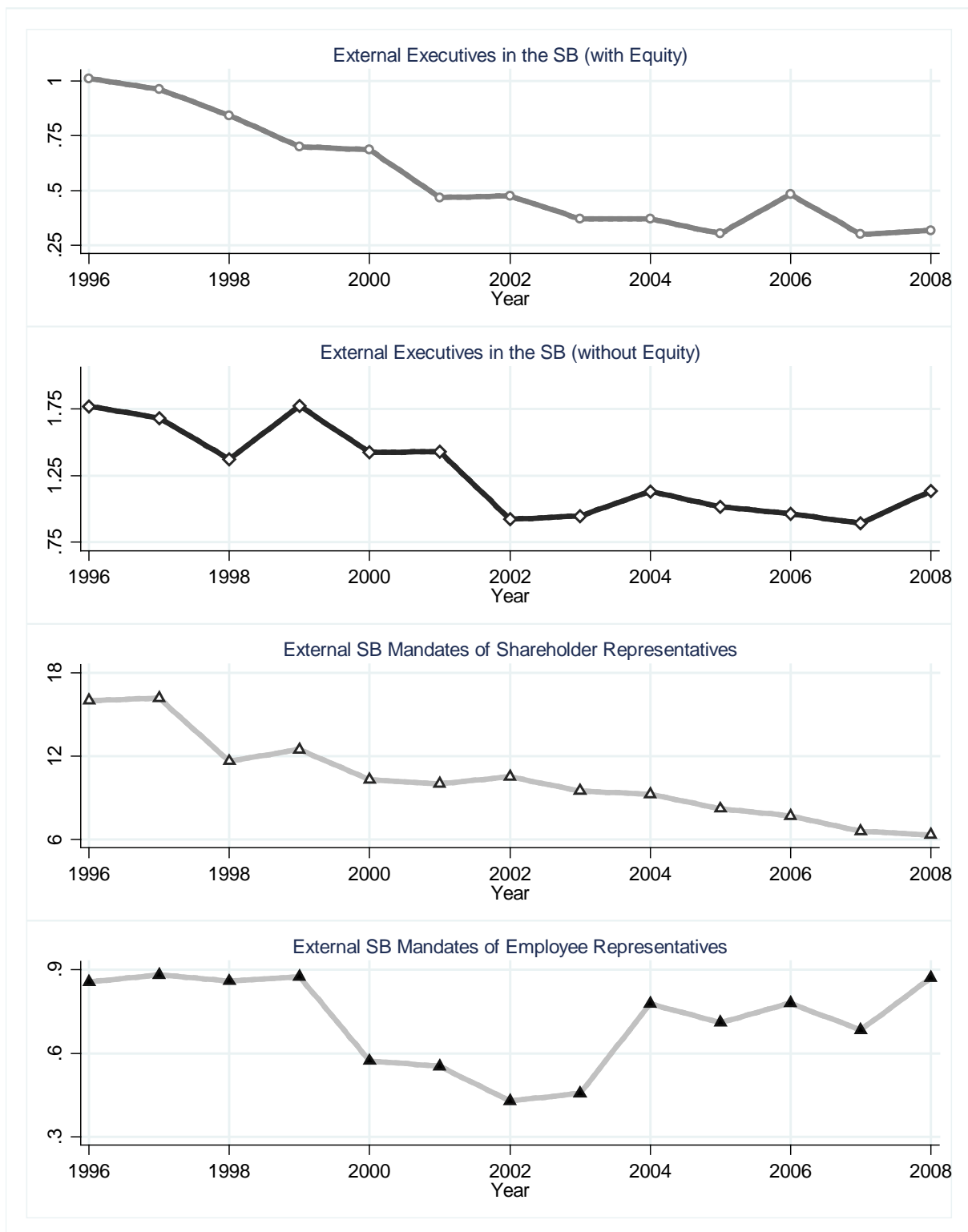
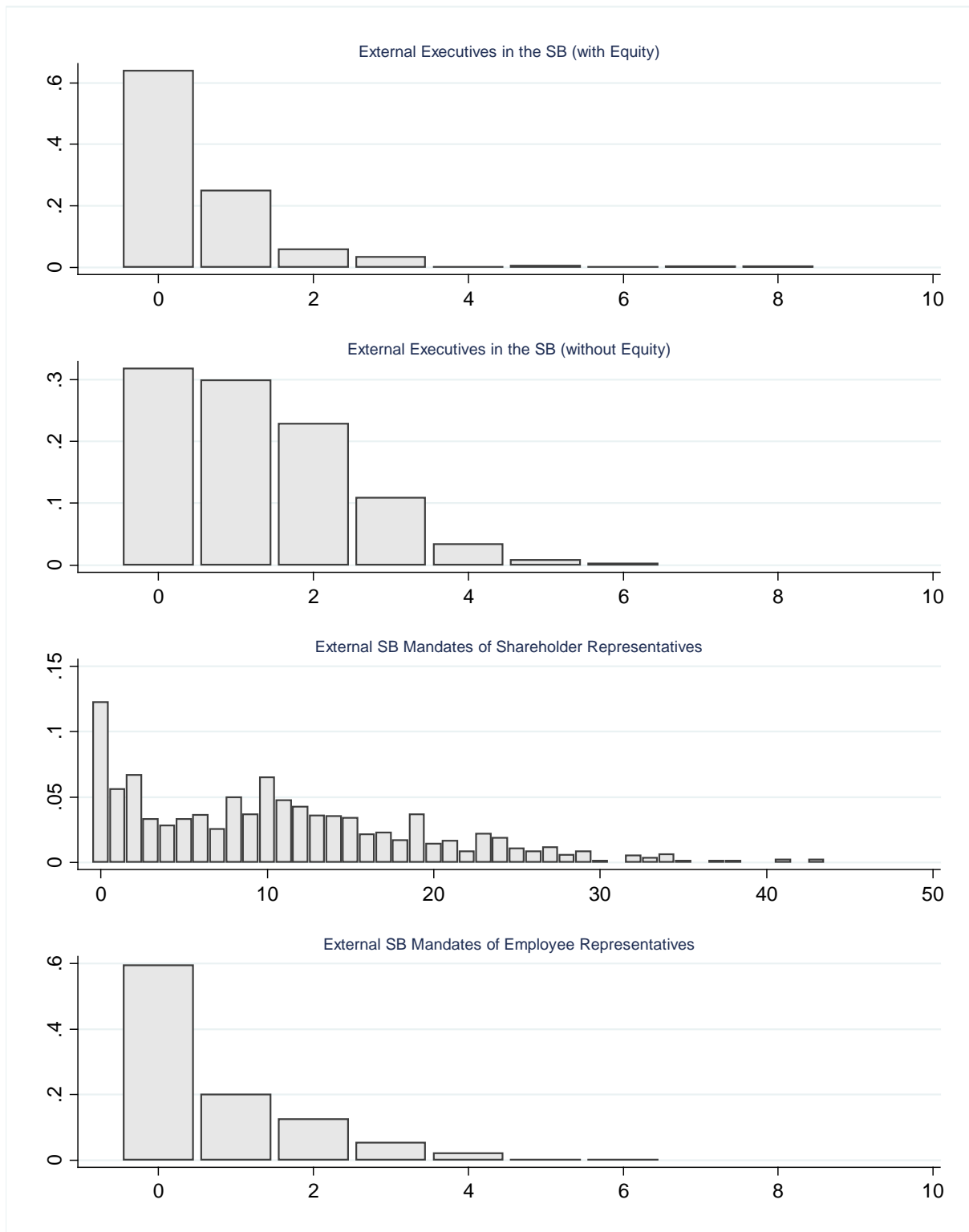


Figure 2 *Pooled Distribution of Outside Board Mandates*

Source: Own calculations using data from the Monopolies Commission, annual company reports, press releases, Hoppenstedt "Leitende Männer und Frauen der Wirtschaft".



4. Methodological Remarks

To analyze the determinants for the duration of executive tenure and for their turnover we apply hazard rates analyses. In addition to firm-specific covariates we include the above introduced network measures in the estimations to control for their effect on the individual duration of executive committee members or, more precisely, to analyze their influence on the probability of leaving the committee. Hazard analysis is a favorably method since our panel data exhibits a specific structure. In this section we present a brief discussion of the semi-parametric Cox proportional hazard model (see Cox 1972, for a comprehensive discussion of the method we refer to Balsmeier et al. 2010 and Hüppelshäuser et al. 2006).

Let T denote a random variable describing the duration of executives on the executive committee and t denote the realization of the random variable T . The distribution of the random variable follows a unknown function $F(t)$. The survival function $S(t):=1-F(t)$ denotes the probability of the duration in the executive committee exceeding t . The hazard rate $\lambda(t)$ is defined as

$$(1) \quad \lambda(t)=F'(t)/S(t).$$

The hazard rate measures the probability that an executive exits the committee within the next marginal period of time dt conditional of being on the board until period t . Running regressions we can explain the observed hazard rate as a function of the covariates. Indeed, the structure of the data is characterized by a number of specific problems which prevent us from applying OLS-regressions. First, we do not know the distribution of the function $F(t)$. Second, the data are in part both left and right censored since we do not observe entire spells for each individual executive in the panel. Therefore we apply the Cox proportional hazard framework, which allows us to consider censored data and to avoid dropping the respective censored observations.

The semi-parametric Cox proportional hazard model splits the hazard rate in an underlying baseline hazard $\lambda_0(t)$ which describes the general and a priori unknown process of the duration of executives and a vector of explanatory variables X of individual j . The hazard rate is multiplicatively proportional to the general baseline hazard and the specific covariates of an executive that may increase or reduce the baseline hazard. We obtain the parameter vector β using Maximum Likelihood. Based on this vector, we can analyze the effects of marginal changes in the covariates:

$$(2) \quad \lambda(t, X) = \lambda_0(t) e^{\beta X}.$$

A central assumption in the Cox modeling approach is that the effects of the explanatory variables remain constant over time. To address this limitation, we have to test whether changes in the covariates proportionally change the hazard rate (cf. Kalbfleisch and Prentice 2002). Further, the usual framework of the Cox model is restricted by assuming that the baseline hazard rate is constant for the duration of executive committee members in all firms. Given that companies could face different hazard rates, the Cox model is flexible to adopt different baseline hazard rates at the company level. This extension allows us to model firm-specific effects that affect the observed hazard rate. As described above, the Cox approach is favorable to handle right-censored data (the end of a spell is unknown) and left-censored ones (the year of appointment to the executive committee is unknown). We suppose that the estimator for the parameter vector β should be unbiased since first, the panel has basically a random starting date and second, the length of the time period, which starts from the correct but unknown date of entry into the executive committee until observation, is random.

5. Empirical Findings

In this section we summarize estimations of different Cox proportional hazard models estimating the effects of several covariates on the duration of executive tenure. In addition to the explanatory variables measuring the linkages of supervisors on the boards we include all controlling variables described in section 3. Since regressions with Return on Equity (ROE) yielded similar results, we restricted the reported findings to ROI. Including the number of executive committee and supervisory board members of the corporate group we control for potential board size effects (cf. Yermack 1996). We stratified the estimation by each company in the sample to control for time constant unobserved heterogeneity between firms. Therefore we allow for differing baseline hazard rates per firm. A likelihood-ratio test for the model specifications yielded significant results.

Table 4 reports the results of the Cox proportional hazard estimations. The table shows the coefficients of the different covariates rather than hazard rates to avoid misinterpretation of the nonlinear effects. A coefficient larger zero indicates an increased probability of exit compared to the baseline hazard rate while a coefficient less than zero indicates a decrease of the hazard rate.

Table 4 *Estimations of the Effect of Multiple Directorships on Executive Turnover*

Source: Own calculations using data from the Monopolies Commission, annual company reports, press releases, "AMADEUS" database of Bureau van Dijk, Hoppenstedt "Companies & Sectors", Hoppenstedt "Leitende Männer und Frauen der Wirtschaft" and Hoppenstedt "Konzernstrukturdatenbank". All regressions use robust standard errors. Coefficients: *** Significant at 1%, ** significant at 5%, * significant at 10% level. Z-statistics reported in parentheses.

	<i>Coefficient</i>		
	<i>(a)</i>	<i>(b)</i>	<i>(c)</i>
Return on Investment	-0.049*** (-2.74)	-0.049*** (-2.70)	-0.047** (-2.52)
Log Employees	-1.562*** (-5.31)	-1.524*** (-5.18)	-1.512*** (-4.95)
PublicQuoted	-1.174* (-1.79)	-0.781 (-1.45)	-0.716 (-1.33)
Free Float	-0.003 (-0.62)	-0.009** (-1.97)	-0.008* (-1.73)
CEO	-0.368*** (-3.53)	-0.383*** (-3.60)	-0.377*** (-3.60)
EC Members	0.425*** (8.75)	0.388*** (8.52)	0.378*** (8.25)
SB Members	0.019 (0.34)	-0.087* (-1.76)	-0.076 (-1.54)
Log Age	-0.862** (-2.17)	-1.134*** (-2.89)	-1.181*** (-3.01)
External Executives in the SB		0.172*** (3.04)	
...with Equity			0.296*** (2.95)
...without Equity			0.111 (1.54)
External SB Mandates of SB Members		0.089*** (6.12)	
External SB Mandates of Shareholder Representatives			0.091*** (6.19)
External SB Mandates of Employee Representatives			-0.096 (-0.88)
No. Spells	815	815	815
No. Failures	489	489	489
No. Observations	3,254	3,254	3,254
Stratified (Company)	✓	✓	✓
Pseudo-R ²	0.074	0.102	0.104
AIC (Akaike Information Criterion)	1,813.410	1,763.435	1,763.209

In specification (a) we estimate the effect of the firm-specific characteristics and executive age as an individual controlling variable, neglecting measures of director linkages. We find that executives in well performing companies have unsurprisingly a significantly lower probability of leaving the executive committee. An increase in ROI of one percent decreases the hazard rate by 4.8 percent. A higher number of employees also lowers the risk of executive turnover. If the number of employees rises by 1,000 the hazard rate is reduced by 0.7 percent in the average company. Alternatively, we tested an inverse U-shaped function and found a turning point close to the maximum number of observed employees (~400,000), which basically confirms the concave function approximated by the logarithm of employees. All other explanatory variables do not vary to meaningful extent in terms of statistical significance and economic magnitude. To enhance comparability with the international literature and allow a direct interpretation of the estimated coefficient we present only those models with the logarithm of employees as a proxy for firm size. Further, we find no effect for the degree of widely held shares and a statistically weak effect of the dummy indicating whether the company is listed on the stock exchange. CEOs are less likely to leave the executive committee. The hazard for a CEO is about 31 percent lower on average than that of regular executives. We find a significantly positive effect of the number of executive committee members on the individual risk of exit. With every additional executive on the committee, the fluctuation increases by 53 percent. We also find that older executives have a lower risk of leaving the committee. However, the effect is relatively weak with a decreased risk of 0.4 percent per annum. We tested alternative variables to measure the influence of age that yielded the same effect. A square term to model a U-shaped function of age led to a minimum value close to the maximum of observed age levels.

In specification (b) we include variables indicating multiple directorships of supervisory board members. In addition to the significant effect of performance, company and executive committee size and the CEO dummy, the share of free float becomes significant at the five percent level and reduces the risk of executive exits. A one percent increase of widely held shares reduces the fluctuation by 0.9 percent. The estimations show that both the number of outside executive committee and supervisory board mandates of the supervisory board members in the home company increase the hazard rate of an executive. The hazard ratio rises by 18.8 percent with a further outside executive and by 9.3 percent with an additional external supervisory mandate on the board. The results suggest that multiple directorships of supervisory board members have a positive effect on the control intensity of management.

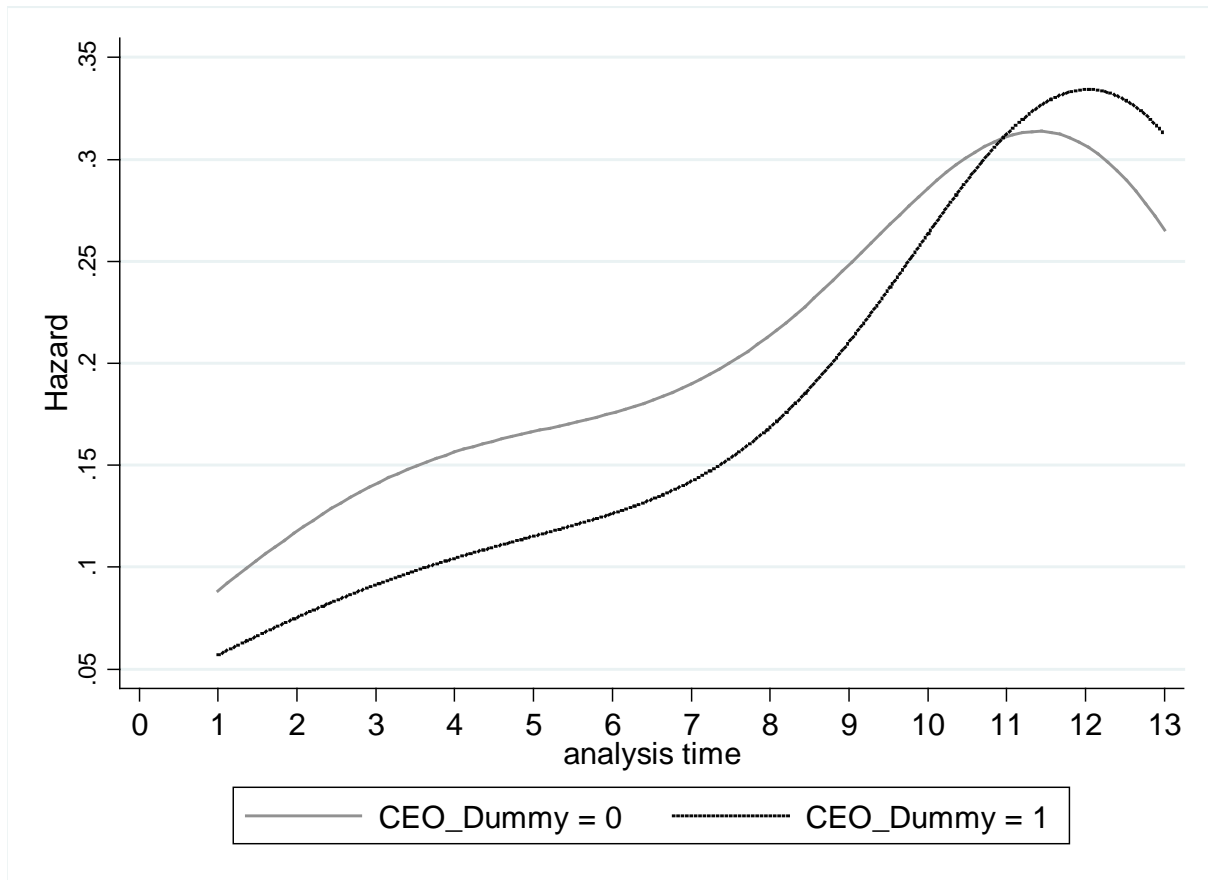
In model (c) we extend the estimation by including specific variables that control for possible effects of different stakeholder groups on the supervisory boards. In accordance with specifications (a) and (b), the effects of the firm-specific covariates and executive age on the risk for executives to lose their position remain qualitatively unchanged. First, we differentiate between block-based voting and mandates that do not represent equity. The effect of outside executive positions of the members of the supervisory board on the hazard ratio remains significantly positive only if the respective executive's home firm owns voting rights of the monitored company. The finding strongly supports the equity monitoring hypothesis. An additional executive on the board who exercises voting rights of his home company increases the risk of management turnover by 34.4 percent. Controlling for the effect of outside supervisory board mandates held by different stakeholder groups the estimation yields again differentiated results. We find that one further outside control mandate of shareholder representatives significantly increase the fluctuation of executives by 9.5 percent. In accordance with the findings of Balsmeier et al. (2010), we find that personnel interdependencies of employee representatives on the supervisory board do not significantly influence the risk of executive turnover.

In accordance with international studies for US corporations we applied alternative measures of multiple directorships of supervisory board members. We calculated the fraction of outside executive and non-executive directors on the shareholder representatives and the fraction of outside directors on the employee representatives of a board to indicate the degree of board independence (cf. e.g. Fich and Shivdasani 2006). All model specifications for alternative network measures led to comparable results, such that we do not report them here. When comparing the specification based on the Akaike Information Criterion (AIC), which is a measure of the likelihood of the model when taking the number of parameters/covariates into account, it turns out that specification (c) has the best explanatory power.

Since the chairmen of the executive committee exhibit in all model specifications a significantly lower risk of turnover, one might argue that CEOs face a different baseline hazard. Further, it could be possible that due to the unique and outstanding position of the CEO in the executive committee his monitoring is different from that of the other executives. Figure 3 illustrates the estimated hazard curves for both groups in the sample. It appears that chairmen face a lower risk of turnover up to tenure of 11 years. After this period, the hazard curve exceeds the respective curve of a regular executive.

Figure 3 *Smoothed Hazard Curves by CEO Dummy*

Source: Own calculations using data from the Monopolies Commission, annual company reports, press releases, Hoppenstedt "Leitende Männer und Frauen der Wirtschaft".



To test this assumption, we split the sample in the group of regular executives and the chairmen of the executive committee and replicate the estimations reported in table 4 for both subsamples. Again, we included differing baseline hazard rates for each company in the estimations for the subsample of regular executives to control for time constant unobserved heterogeneity between firms. For the subsample of chairmen of the executive committee we stratified on the industry level due to an inadequate number of observations. The results for regular executives remain predominantly the same (not reported here, we can send the results at request). For CEO turnover we find some interesting discrepancies. First, the influence of company size becomes insignificant. Surprisingly, chairmen of larger companies do not have a lower risk of losing their position. Second, the effect of age becomes insignificant, perhaps because CEOs are older on average. Third, we find that the number of executive committee positions held by supervisors has a significant positive effect on the hazard rate of chairmen only in the case of non-equity representing external executives on the board in specification (f). See table 5.

Table 5 *Cox Estimations for the Group of CEOs*

Source: Own calculations using data from the Monopolies Commission, annual company reports, press releases, "AMADEUS" database of Bureau van Dijk, Hoppenstedt "Companies & Sectors", Hoppenstedt "Leitende Männer und Frauen der Wirtschaft" and Hoppenstedt "Konzernstrukturdatenbank". All regressions use robust standard errors. Coefficients: *** Significant at 1%, ** significant at 5%, * significant at 10% level. Z-statistics reported in parentheses.

	<i>Coefficient</i>		
	<i>(d)</i>	<i>(e)</i>	<i>(f)</i>
Return on Investment	-0.053** (-2.17)	-0.050** (-2.04)	-0.050* (-1.84)
Log Employees	-0.049 (-0.43)	-0.138 (-1.12)	-0.131 (-1.09)
PublicQuoted	-0.356 (-1.23)	-0.167 (-0.54)	-0.204 (-0.62)
Free Float	0.001 (0.15)	-0.003 (-0.59)	-0.003 (-0.57)
EC Members	-0.008 (-0.24)	0.001 (0.03)	0.002 (0.06)
SB Members	0.009 (0.26)	-0.004 (-0.12)	0.008 (0.21)
Log Age	-0.176 (-0.17)	-0.236 (-0.22)	-0.338 (-0.32)
External Executives in the SB		0.131** (2.03)	
...with Equity			0.101 (1.23)
...without Equity			0.211** (2.36)
External SB Mandates of SB Members		0.018 (0.93)	
External SB Mandates of Shareholder Representatives			0.033* (1.67)
External SB Mandates of Employee Representatives			-0.295** (-2.33)
No. Spells	153	153	153
No. Failures	87	87	87
No. Observations	742	742	742
Stratified	Industry Level		
Pseudo-R ²	0.012	0.020	0.031
AIC (Akaike Information Criterion)	596.000	595.228	592.906

Further, we find that multiple directorships of the supervisory board members as such do not have a statistically significant impact on CEO exit. However, when we distinguish between different shareholder groups in the supervisory board, we find that outside directorships of shareholder representatives in specification (f) significantly increase the hazard ratio of CEOs, while worker representatives significantly decrease this fluctuation. Multiple directors of the latter group are exclusively sent from sector wide unions and are therefore likely to act in the interest of them which may conflict with the interest of shareholders or even the particular firm. The inverse effect of both stakeholder groups points to this assumption. Powerful unionists on the supervisory board seem to mitigate the control intensity of the CEO and consequently protect his position in the executive committee for some other reward.

As an additional robustness check we repeated the estimations for the subsample of chairmen without specifying a strata variable (not shown here, see supplementary tables). The estimations provided qualitatively the same results as the models using an industry stratum, whereas stratification at the company level is not expedient because of the low number of different CEOs in one and the same firm.

Although we find if any only very weak evidence for different hazard rates of executives from publicly quoted and non-listed companies in our models it might still be the case that publicly quoted companies act different in terms of executive turnover behavior due specific disclosure requirements or enhanced monitoring by the capital market that are not fully captured by a dummy. As a final robustness check we rerun all presented regressions separately for the subsample of listed and non-listed companies therefore. Concerning the multiple board membership variables again all results stayed qualitatively the same (not shown here, see supplementary tables). Interestingly, higher firm performance as measured by return on investment has a significant negative effect on executive turnovers only in those companies that are publicly quoted.

6. Conclusions and Outlook

In summary, the empirical results presented in the last section suggest that multiple directorships are an important characteristic of the German corporate governance system. While linkages of shareholder representatives seem to be an effective instrument for monitoring executives in Germany, outside directorships of employee representatives have a negative influence on the control intensity in the case of chairmen (or at least on their hazard rates).

We argue that the empirical findings reflect the equity monitoring hypothesis as external executives on the board representing voting rights of their home company have a significant effect on the control intensity of the management. The motives and possible benefits of external executives on the board that were not sent as a consequence of ownership control for the receiving companies cannot be answered in this framework. However, we find a positive influence of outside executives who do not represent voting-blocks on the hazard rate of chairmen. Conversely, multiple directorships of employee representatives significantly decrease their fluctuation. Further, company size and age do not seem to be the dominant factors for CEO tenure and withdrawal.

The results of the empirical investigation have to be interpreted carefully because we assumed identical baseline hazards for all turnover events. We controlled for the specific role of chairmen and found that multiple directorships as an instrument for effective monitoring in the framework of the German Corporate Governance Codex seem to have only a limited effect in the case of CEOs.

Finally it has to be mentioned that it is likely that hazards and possibly the effect of the covariates vary depending on the reason of the exit event (cf. Gregory-Smith et al. 2009). Due to data restrictions, we are not able to test competing risk events in our framework.

Literature

- Adams, Renée B./Hermalin Benjamin E./Weisbach, Michael S. (2010): The Role of Boards of Directors in Corporate Governance: A Conceptual Framework & Survey. In: Journal of Economic Literature, Vol. 48 (1), pp. 58–107.*
- Balsmeier, Benjamin/Peters, Heiko (2009): Personelle Unternehmensverflechtung und Vorstandsgehälter. In: Zeitschrift für Betriebswirtschaft, Vol. 79 (9), pp. 967–984.*
- Balsmeier, Benjamin/Dilger, Alexander/Lingens, Jörg (2010): Fluktuation von Vorständen und personelle Verflechtungen in DAX-Unternehmen. In: Zeitschrift für Betriebswirtschaft, Vol. 80 (10), pp. 1007–1026.*
- Barnea, Amir/Guedj, Ilan (2007): Sympathetic Boards: Director Networks and Firm Governance, EFA 2007 Ljubljana Meetings Paper, Austin, online available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=966555 (last retrieved on June 29, 2011).*
- Bebchuk, Lucian A./Cohen, Alma (2005): The Costs of Entrenched Boards. In: Journal of Financial Economics, Vol. 78 (2), pp. 409–433.*
- Bebchuk, Lucian A./Fried, Jesse M. (2004): Pay Without Performance: The Unfulfilled Promise of Executive Compensation, Cambridge, Massachusetts, London, Harvard University Press.*

- Bebchuk, Lucian A./Cohen, Alma/Ferrell, Allen* (2009): What Matters in Corporate Governance. In: *Review of Financial Studies*, Vol. 22 (2), pp. 783–827.
- Bebchuk, Lucian A./Fried, Jesse M.* (2003): Executive Compensation as an Agency Problem. In: *Journal of Economic Perspectives*, Vol. 17 (3), pp. 71–92.
- Biehler, Hermann/Ortmann, Rolf* (1985): Personelle Verflechtungen zwischen Unternehmen. Ergebnisse einer Interviewserie bei Vorstands- und Aufsichtsratsmitgliedern großer deutscher Unternehmen. In: *Die Betriebswirtschaft*, Vol. 45 (1), pp. 4–18.
- Booth, James R./Deli, Daniel N.* (1996): Factors Affecting the Number of Outside Directorships Held by CEOs. In: *Journal of Financial Economics*, Vol. 40 (1), pp. 81–104.
- Brickley, James A./Linck, James S./Coles, Jeffrey L.* (1999): What Happens to CEOs After They Retire? New Evidence on Career Concerns, Horizon Problems, and CEO Incentives. In: *Journal of Financial Economics*, Vol. 52 (3), pp. 341–377.
- Canyon, Martin J./Read, Laura E.* (2006): A Model of the Supply of Executives for Outside Directorships. In: *Journal of Corporate Finance*, Vol. 12 (3), pp. 645–659.
- Core, John E./Holthausen, Robert W./Larcker, David F.* (1999): Corporate Governance, Chief Executive Officer Compensation, and Firm Performance. In: *Journal of Financial Economics*, Vol. 51 (3), pp. 371–406.
- Cox, David R.* (1972): Regression Models and Life-Tables (with Discussion). In: *Journal of the Royal Statistical Society* 34, Series B, pp. 187–220.
- Denis, Diane K.* (2001): Twenty-five Years of Corporate Governance Research ... and Counting. In: *Review of Financial Economics*, Vol. 10 (3), pp. 191–212.
- Dittmann, Ingolf/Maug, Ernst/Schneider, Christoph* (2010): Bankers on the Boards of German Firms: What They Do, What They are Worth, and Why They are (Still) There. In: *Review of Finance*, Vol. 14 (1), pp. 35–71.
- Entorf, Horst/Gattung, Florian/Möbert, Jochen/Pahlke, Immanuel* (2009): Aufsichtsratsverflechtungen und ihr Einfluss auf die Vorstandsbezüge von DAX-Unternehmen. In: *Zeitschrift für Betriebswirtschaft*, Vol. 79 (11), pp. 1113–1141.
- Fahlenbrach, Rüdiger/Low, Angie/Stulz, René M.* (2010a): Why Do Firms Appoint CEOs as Outside Directors. In: *Journal of Financial Economics*, Vol. 97 (1), pp. 12–32.
- Fahlenbrach, Rüdiger/Low, Angie/Stulz, René M.* (2010b): The Dark Side of Outside Directors: Do They Quit When They are Most Needed? NBER Working Paper, No. 15917, online available at: <http://www.nber.org/papers/w15917> (last retrieved on June 29, 2011).
- Fama, Eugene F./Jensen, Michael C.* (1983): Separation of Ownership and Control. In: *Journal of Law and Economics*, Vol. 26 (2), pp. 301–325.
- Fauver, Larry/Fuerst, Michael E.* (2006): Does Good Corporate Governance Include Employee Representation? Evidence from German Corporate Boards. In: *Journal of Financial Economics*, Vol. 82 (3), pp. 673–710.
- Ferris, Stephen P./Jagannathan, Murali/Pritchard, Adam C.* (2003): Too Busy to Mind the Business? Monitoring by Directors with Multiple Board Appointments. In: *Journal of Finance*, Vol. 58 (3), pp. 1087–1112.
- Fich, Eliezer M.* (2005): Are Some Outside Directors Better than Others? Evidence from Director Appointments by Fortune 1000 Firms. In: *Journal of Business*, Vol. 78 (5), pp. 1943–1971.

- Fich, Eliezer M./Shivdasani, Anil* (2006): Are Busy Boards Effective Monitors. In: *Journal of Finance*, Vol. 61 (2), pp. 689–724.
- Gilson, Stuart C.* (1990): Bankruptcy, Boards, Banks and Blockholders: Evidence on Changes in Corporate Ownership and Control when Firms Default. In: *Journal of Financial Economics*, Vol. 27 (2), pp. 355–387.
- Gorton, Gary/Schmid, Frank A.* (2004): Capital, Labor, and the Firm: A Study of German Codetermination. In: *Journal of the European Economic Association*, Vol. 2 (5), pp. 863–905.
- Gregory-Smith, Ian/Thompson, Steve/Wright, Peter W.* (2009): Fired or Retired? A Competing Risks Analysis of Chief Executive Turnover. In: *Economic Journal*, Vol. 119 (3), pp. 463–481.
- Heidrick & Struggles* (2009): Corporate Governance Report 2009: Boards in Turbulent Times, online available at: <http://www.heidrick.com/PublicationsReports/PublicationsReports/CorpGovEurope2009.pdf> (last retrieved on June 29, 2011).
- Hermalin, Benjamin E.* (2005): Trends in Corporate Governance. In: *Journal of Finance*, Vol. 60 (5), pp. 2351–2384.
- Hermalin, Benjamin E./Weisbach, Michael S.* (2003): Boards of Directors as an Endogenously Determined Institution: A Survey of the Economic Literature. In: *Economic Policy Review*, Vol. 9 (1), pp. 7–26.
- Hüppelshäuser, Marco/Krafft, Manfred/Rüger, Edith* (2006): Hazard-Raten-Modelle im Marketing. In: *Marketing – Zeitschrift für Forschung und Praxis*, Vol. 28 (3), pp. 197–209.
- Jensen, Michael C./Meckling, William H.* (1976): Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. In: *Journal of Financial Economics*, Vol. 3 (4), pp. 305–360.
- Jiraporn, Pornsit/Kim, Young Sang/Davidson, Wallace N. III* (2008): Multiple Directorships and Corporate Diversification. In: *Journal of Empirical Finance*, Vol. 15 (3), pp. 418–435.
- Kalbfleisch, John D./Prentice, Ross L.* (2002): *The Statistical Analysis of Failure Time Data*. 2nd Edition, Hoboken, New Jersey, Wiley.
- Kaplan, Steven N.* (1994) (1994): Top Executives Turnover and Firm Performance in Germany. In: *Journal of Law, Economics, & Organization*, Vol. 10 (1), pp. 142–159.
- Kaplan, Steven N./Reishus, David* (1990): Outside directorships and Corporate Performance. In: *Journal of Financial Economics*, Vol. 27 (2), pp. 389–410.
- Masulis, Ronald W./Mobbs, Shawn* (2009): Are All Inside Directors the Same? Do They Entrench CEOs or Facilitate More Informed Board Decisions? SSRN Working Paper, online available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1108036 (last retrieved on June 29, 2011).
- Monopolkommission* (2010): Mehr Wettbewerb, wenig Ausnahmen: Hauptgutachten 2008/2009, Baden-Baden, Nomos (Hauptgutachten der Monopolkommission, 18).
- Perry, Tod/Peyer, Urs C.* (2005): Board Seat Accumulation by Executives: A Shareholder's Perspective. In: *Journal of Finance*, Vol. 60 (4), pp. 2083–2123.
- Petry, Stefan* (2010): Workers on the Board and Shareholder Wealth: Evidence from a Natural Experiment, online available at: http://www.fma.org/NY/Papers/Petry_Codetermination.pdf (last retrieved on June 29, 2011).

- Rosen, Sherwin* (1981): The Economics of Superstars. In: *American Economic Review*, Vol. 71 (5), pp. 845–858.
- Schonlau, Robert/Singh, Param Vir* (2009): Board Networks and Merger Performance, SSRN Working Paper, online available at: <http://ssrn.com/abstract=1322223> (last retrieved on June 29, 2011).
- Shivdasani, Anil/Yermack, David* (1999): CEO Involvement in the Selection of New Board Members: An Empirical Analysis. In: *Journal of Finance*, Vol. 54 (5), pp. 1829–1853.
- Shleifer, Andrei/Vishny, Robert W.* (1997): A Survey of Corporate Governance. In: *Journal of Finance*, Vol. 52 (2), pp. 737–783.
- Yermack, David* (1996): Higher Market Valuation of Companies with a Small Board of Directors. In: *Journal of Financial Economics*, Vol. 40 (2), pp. 185–211.
- Yermack, David* (2004): Remuneration, Retention, and Reputation Incentives for Outside Directors. In: *Journal of Finance*, Vol. 59 (5), pp. 2281–2308.
- Zajac, Edward J./Westphal, James D.* (1996): Director Reputation, CEO-Board Power, and the Dynamics of Board Interlocks. In: *Administrative Science Quarterly*, Vol. 41 (3), pp. 507–529.

Bisher erschienen:

Diskussionspapiere des Instituts für Organisationsökonomik

- DP-IO 6/2011** Director Interlocks and Executive Turnover in German Public Corporations
A Hazard Analysis for the Period from 1996 to 2008
Benjamin Balsmeier/Achim Buchwald/Alexander Dilger/Jörg Lings
Juni 2011
- DP-IO 5/2011** Personalökonomik
Stärken, Schwächen und ihr Platz in der Personalwirtschaftslehre
Alexander Dilger
Mai 2011
- DP-IO 4/2011** Familienbewusste Personalpolitik und Unternehmenserfolg
Eine empirische Untersuchung
Christian Lehmann
April 2011
- DP-IO 3/2011** Welche Unternehmen berufen Vorstandsvorsitzende und andere Vorstände als externe
Kontrolleure?
Eine empirische Analyse der Präsenz von externen Vorständen in den Aufsichtsräten
deutscher Großunternehmen
Achim Buchwald
März 2011
- DP-IO 2/2011** Hat Julia aufgrund ihres Vornamens Wettbewerbsvorteile gegenüber Ayse und
Chantal? Ein Experiment auf dem Beziehungs-, Nachhilfe- und Wohnungsmarkt
Laura Lütkenhöner
Februar 2011
- DP-IO 1/2011** Die dunkle Seite der Gerechtigkeit
Alexander Dilger
Januar 2011
- DP-IO 3/2010** On the Overconfidence-Effect in Teams
Hanke Wickhorst
Dezember 2010
- DP-IO 2/2010:** Leistung, Identifikation oder die Unsicherheit über den Spielausgang – was zählt
wirklich? Relevante Einflussfaktoren auf die Zuschauerzahlen in der Basketball-
Bundesliga
Hannah Geyer
November 2010
- DP-IO 1/2010:** A Citation Based Ranking of German-speaking Researchers in Business
Administration with Data of Google Scholar
Alexander Dilger/Harry Müller
Oktober 2010



Herausgeber:
Prof. Dr. Alexander Dilger
Westfälische Wilhelms-Universität Münster
Institut für Organisationsökonomik
Scharnhorststr. 100
D-48151 Münster

Tel: +49-251/83-24303

Fax: +49-251/83-28429

www.wiwi.uni-muenster.de/io

