

## European Data Watch

This section offers descriptions as well as discussions of data sources that are of interest to social scientists engaged in empirical research or teaching courses that include empirical investigations performed by students. The purpose is to describe the information in the data source, to give examples of questions tackled with the data and to tell how to access the data for research and teaching. We focus on data from German speaking countries that allow international comparative research. While most of the data are at the micro level (individuals, households, or firms), more aggregate data and meta data (for regions, industries, or nations) are included as well. Suggestions for data sources to be described in future columns (or comments on past columns) should be send to: Joachim Wagner, Leuphana University of Lueneburg, Institute of Economics, Campus 4.210, 21332 Lueneburg, Germany, or e-mailed to [wagner@leuphana.de](mailto:wagner@leuphana.de). Past “European Data Watch” articles can be downloaded free of charge from the homepage of the German Council for Social and Economic Data (RatSWD) at: <http://www.ratswd.de>.

## A Comprehensive Data Set on German Supervisory Boards

By Andreas Bermig\*

### 1. Introduction

Corporate governance is prevalent in public policy discussion in Germany. Major German newspapers currently publish numerous articles per week on corporate governance. With regards to the supervisory board, topics of discussion mainly consider transition of supervisory boards to a more professional

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body that is more capable to diligently cater supervisory and consulting needs, especially in the wake of the current economic crisis. Thus, topics as the size of the board and its composition are a focus of the public policy debate.

Board composition is one of the major concerns of the German corporate governance code commission; the most recent version of the German corporate governance code (German Governance Code, 2009) has several additions that demand diversity, sufficient knowledge and an age cap, which is to be set by the respective firm. Furthermore, it limits the number of additional board memberships to three and sets limitations to impede the change of managing board members to the supervisory board.

The discussion of board size has been a heated one in the political arena: since the introduction of the European stock corporation in Germany in 2004, which allows companies to adopt the above mentioned legal form to set the size of their board according to their statutes. This enabled, for example, the largest German insurer Allianz to reduce their board from 20 to 10 members. During the election campaign for the German parliament in 2009 the German Liberal Party (FPD) even postulated a reduced board size of all corporations to 12 members (FDP Parteiprogramm, 2009) along with the Federation of German Industries (as the BDI president Michael Rogowski expressed: *“Supervisory boards which are equally composed of employee and shareholder representatives with up to 20 members are fairly ineffective“*, Stern, 21. December 2004).

Given the high attention of corporate governance regarding to supervisory boards in the public policy discussion for the past couple of years, it is surprising that the academic research concentrating on board size and board composition has just recently picked up in the German market. To enhance current research in this area I compiled a comprehensive dataset, which provides detailed information on supervisory boards of the largest German listed companies.

## 2. Dataset

### 2.1 Description

Previously used data sets on German supervisory boards mainly were cross-sectional not allowing to control for any changes over time (e.g., Fauver/ Fuerst, 2006; Gorton/Schmid, 2004). To enhance this shortcoming, the data set collected is a time series and includes all publicly listed German companies that were listed for at least one year in one of the three main German indices – DAX, MDAX, or SDAX which are constituted of the German public companies with the largest market capitalization – during the period 1998–2007. Only those companies with at least two years of available data were included in the database. As I was not able to obtain annual reports for one or more years for seven companies, the initial sample consists of 2,476 observations from 306 companies.

The data set consists of all names, job title, PhD titles, an indication if the member is chairman, vice chairman, employee representative, union representative, works council representative, bank representative, former managing board member, female, auditor, lawyer. Furthermore, I collected information on the number of outside board memberships in the respective year<sup>1</sup> for each member and noted which union type and organization a union representative belonged to. All this data was consolidated on a firm and year level and then used as the basis for my research. In my various research efforts based on this data set I enhanced it by variables used as dependent and further explanatory variables such as firm performance (based on both stock market and accounting measures) and numerous accounting measures and further firm characteristics. Table 1 provides an overview and a description of the main variables used.

## 2.2 Sources

All data on supervisory board composition was hand-collected from annual reports of the respective firms. Reports not available from the company's website were obtained from the investor relations department, the annual report database of the *Schutzgemeinschaft der Kapitalanleger e. V.* as well as various archives in Germany (Archive of the Bavarian Chambers of Commerce, Archive of the University of Bremen, Archive of the University of Cologne). Finally, if no reports were available, data for supervisory board composition was assembled using the *Hoppenstedt Jahrbuch der Großunternehmen*. Measures of accounting performance as well as business and geographic segment data were obtained from Thomson Reuters Worldscope. Accounting data that was missing in Worldscope was taken from the companies' annual reports. The data on market capitalization comes from Datastream. Finally, I added information on specific company events (restructurings, mergers & acquisitions) following an extensive press search.

## 2.3 Descriptive Statistics

The supervisory boards of the largest German listed companies are subject to quite significant changes during the time period of my observation from 1998 to 2007. Especially with the introduction of the German corporate governance code in 2002 and with changes in taxation in 2002, which allowed banks to divest their equity holdings without paying taxes on capital gains, the structure and composition of German supervisory boards changed. Another big change was the introduction of the European stock corporation (*Societas Europaea*) in 2004.

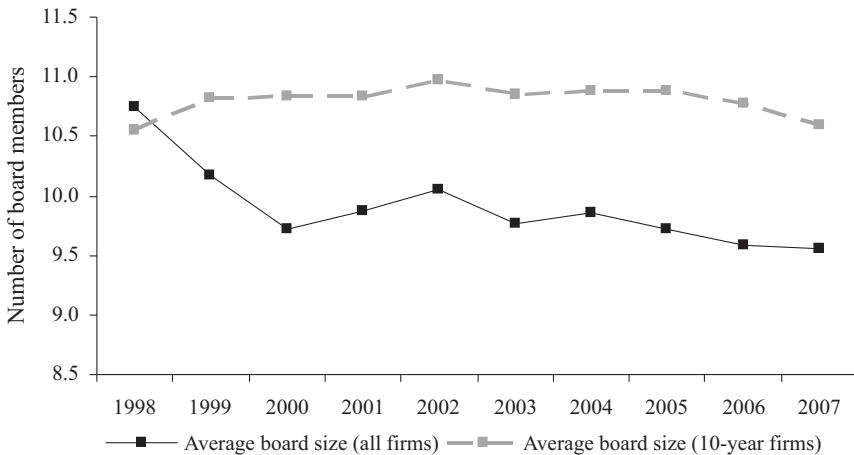
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<sup>1</sup> Both measured within the database, i.e., for all DAX, MDAX, SDAX companies, as well as further memberships as provided in the annual reports

Table 1  
Description of main variables

Variable	Name	Definition	n	Source
Tobin's Q	tobin_q	(Market capitalization + total assets – shareholder's equity) / total assets	2382	Worldscope / own calculation
Supervisory board size	size	Size of supervisory board	2382	Annual reports
Share of union representatives	union_rep	Share of union representatives of total board members	2382	Annual reports
Share of works council representatives	woco_rep	Share of works council representatives of total board members	2382	Annual reports
Share of independent employee representatives	ind_rep	Share of independent employee representatives of total board members	2382	Annual reports
Share of bank representatives	bank_rep	Share of bank representatives of total board members	2382	Annual reports
Share of former board members	former_bm	Share of former managing board members of total board members	2382	Annual reports
Supervisory experience	experience	Cumulated number of further supervisory board memberships of all members in listed German companies (DAX, MDAX, SDAX) in respective year	2382	Annual reports
Total assets	log_asset	Logarithm of total assets	2382	Worldscope
Sales	sales	Net sales	2382	Worldscope
Industrial diversification	ind_diversified	Dummy variable, equals 1 if max. 90% of total sales are from one SIC-segment	2382	Worldscope / own calculation
Geographical diversification	geo_diversified	Dummy variable, equals 1 if max. 90% of total sales are from one geographic segment (as defined by Worldscope)	2382	Worldscope / own calculation
Competitive intensity	herfindahl	Sales-based Herfindahl-index based on 2-digit SIC industry-codes	2382	Worldscope / own calculation
Blockholders with >25 % holdings	block_25	Dummy variable, equals 1 if the cumulated share of blockholders (shareholders with >5% holdings) is larger than 25%	2382	Worldscope
Blockholders with >50% holdings	block_50	Dummy variable, equals 1 if the cumulated share of blockholders (shareholders with >5% holdings) is larger than 50%	2382	Worldscope
Blockholders with >75% holdings	block_75	Dummy variable, equals 1 if the cumulated share of blockholders (shareholders with 5% holdings) is larger than 75%	2382	Worldscope
Financial leverage	leverage	(Short term debt + long term debt) / total assets	2382	Worldscope / own calculation
Investments / capital expenditures	capex_sales	Capital expenditures divided by net sales	2382	Worldscope
Operating margin	operating_margin	Operating net income divided by net sales	2382	Worldscope
Restructuring	restruct	Dummy variable, equals 1 if the company is in a restructuring phase	2382	Press search
Mergers and acquisitions	m_and_a	Dummy variable, equals 1 if the company is being taken over	2382	Press search

These changes in the institutional landscape also had an effect on the size and composition of the supervisory boards: as figure 1 shows, the average board size has declined from 10.7 members in 1998 to 9.5 members in 2007. This does not hold for the 156 firms, which are represented for ten years in my data set; the average board size first increases from 10.5 in 1998 to 11.0 in 2002 and then decreases again to 10.6 in 2007 – much likely due to the institutional changes in Germany.



Source: Annual reports

Figure 1: Development of average board members

A similar effect is visible when considering the share of employee representatives as the average share of total board members declines from 34% in 1998 to 28% in 2007. Once again, the same does not hold for the 10-year firms as the share of employee representatives is about stable at 34% (with a peak of 36% in 2002).

The development of smaller boards with less employee representatives is also apparent, when considering the share of union representatives, which is also declining from an average of 7.8% in 1998 to 6.4% in 2007.

One central postulation of the German corporate governance code (German Corporate Governance Code, 2009) was to limit the influence of former managing board members which usually moved up to the supervisory board after their term in the management board had ended. To provide a more independent view and to weaken “old boys“ networks, the code suggests that “*Management Board members may not become members of the Supervisory Board of the*

*company within two years after the end of their appointment unless they are appointed upon a motion presented by shareholders holding more than 25% of the voting rights in the company*“ (German Corporate Governance Code, 2009, 10). The reality shows a different picture though: the share of former managing board members has risen for both all firms as well as the 10-year firms. While it increased from 3.5% to 3.9% for all firms, it rose even more for the 10-year firms from 3.6% to 4.6%.

One area where the institutional changes are very obvious, is the share of bank representatives; the share declined for both all firms in the sample as well as for all 10-year firms. The share for all firms decreased from 7.8% in 1998 to 5.6% in 2007.

While share of female board members in German supervisory boards has increased as well (from 7.2% to 8.0% for all firms), it still lags behind the international average, and is about average in Europe. It remains to be seen if the recent change to the German corporate governance code (in the latest version of June 2009 the code now includes that “*attention shall also be paid to [...] diversity*“”) will cause more significant changes to the share of female directors.

Another area where the German corporate governance code has been effective is the number of outside supervisory board mandates. The code suggests that “*Members of the Management Board of a listed company shall not accept more than a total of three Supervisory Board mandates in non-group listed companies*“ (German Corporate Governance Code, 2009, 10). The actual number of outside supervisory board memberships has decreased from 5.6 to 3.0 for all firms in the dataset (the average has decreased from 5.5 to 3.6 for all 10-year firms).

All of the above mentioned characteristics of German supervisory boards are again summarized in Table 2.

One further advantage of this dataset is that I observe firms over an extended period of time (up to ten years). During this time period many of the firms have experienced changes in the characteristics relevant to employee representation and board size, i.e., either increased or decreased the number of employees around the different legal threshold levels (see Tables 3 and 4). This considerable number of companies changing their “codetermination status” allows to use fixed-effects regressions to control for unobserved heterogeneity when using this data set.

Table 2  
Composition of German supervisory boards

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Average board size										
All firms	10.7	10.2	9.7	9.9	10.1	9.8	9.9	9.7	9.6	9.5
10-year firms	10.5	10.8	10.8	10.8	11.0	10.8	10.9	10.9	10.8	10.6
Share of employee representatives										
All firms	34%	32%	30%	30%	30%	29%	30%	29%	28%	28%
10-year firms	34%	35%	35%	35%	36%	35%	35%	35%	34%	34%
Share of union representatives										
All firms	8%	7%	7%	7%	7%	7%	7%	7%	7%	6%
10-year firms	8%	8%	8%	8%	9%	8%	8%	8%	8%	8%
Share of former managing board members										
All firms	3.5%	3.6%	3.6%	3.7%	4.2%	4.4%	3.9%	3.8%	3.5%	3.9%
10-year firms	3.6%	4.0%	3.8%	3.6%	4.3%	4.6%	4.5%	4.6%	4.3%	4.6%
Share of bank representatives										
All firms	7.2%	7.0%	6.7%	7.1%	7.3%	7.9%	8.2%	8.4%	8.0%	8.0%
10-year firms	8%	8%	8%	8%	9%	9%	9%	10%	9%	9%
Share of female board directors										
All firms	33.6%	31.0%	31.3%	31.3%	31.1%	31.3%	31.8%	32.2%	32.8%	31.9%
10-year firms	35%	34%	35%	35%	33%	33%	32%	32%	32%	31%
Number of outside board memberships										
All firms	5.6	5.5	4.2	4.1	4.0	3.8	4.1	3.8	3.4	3.0
10-year firms	5.5	6.3	5.6	5.4	5.2	4.9	5.1	4.8	4.2	3.6
Share of board members with PhDs										
All firms	7.8%	8.4%	7.8%	7.4%	7.1%	6.6%	5.5%	5.4%	5.7%	5.6%
10-year firms	8%	8%	7%	7%	6%	6%	5%	5%	5%	5%
Observations	208	249	273	272	260	249	239	241	246	239

Table 3

**Descriptive statistics on changes in the number of employees,  
size of supervisory board, and employee representation**

Type of change	# companies
<b>Change in number of employees from ...</b>	
less than 500 to more than 500	24
less than 500 to more than 2,000	1
less than 2,000 to more than 2,000	34
more than 2,000 to less than 2,000	23
more than 2,000 to less than 500	2
more than 500 to less than 500	11
<b>Total</b>	<b>95</b>
<b>Change in size of supervisory board</b>	
Increase in size	56
Decrease in size	47
<b>Total</b>	<b>103</b>
<b>Change in employee representation from ...</b>	
no representation to one-third representation	3
one-third representation to no representation	3
no representation to one-half representation	7
one-half representation to no representation	3
one-third representation to one-half representation	9
one-half representation to one-third representation	12
<b>Total</b>	<b>37</b>

Note: Table 3 provides descriptive statistics on changes in the number of employees, size of supervisory board, and employee representation for a sample consisting of all German firms listed in the DAX, MDAX, or SDAX for the years 1998 to 2007. Foreign companies, companies from financial industries and KGaAs were excluded from this analysis. The board size and composition data is obtained from annual reports, data on the number of employees is obtained from Datastream. Number of employees is total number of employees, thus including both domestic and international employees. Domestic employees though is the only relevant number for laws requiring a certain size and composition of the board; therefore, we expect more companies with changes to employee representation. Thresholds for size and employee representation are below 500, between 500 and 2,000, and above 2,000 employees.



Table 4

**Companies with changes in the form of codetermination  
during the years 1998–2007**

Type of change / company	Total	Number of years (duration of cluster affiliation)			Other form of codetermination
		No codetermination	1/3 codetermination	1/2 codetermination	
No codetermination to 1/3 codetermination	3				
DAB BANK AG		1	3	5	
GERRY WEBER AG		1	9		
HACH AG		1	2		
1/3 codetermination to no codetermination	3				
ADCAPITAL AG		5	5		
AGIV REAL ESTATE AG		2	1	3	
LOEWE AG		7	2		
No codetermination to 1/2 codetermination	7				
CINEMAXX AG		1		9	
DÜRR AG		3		7	
KAMPS AG		1		4	
MATERNUS KLINIKEN AG		4		6	
MEDICLEAN AG		2		6	
SCHLOTT AG		2		8	
WCM BETEIL.U.GRUNDBESITZ AG		3		7	
1/2 codetermination to no codetermination	3				
CURANUM AG		1	1	4	4
VARTA AG		5		5	
W.E.T. AUTOMOTIVE SYSTEMS AG		5		5	
1/3 codetermination to 1/2 codetermination	9				
D+S EUROPE AG			6	2	
EDSCHA AG			4	1	
GRAMMER AG			2	8	
HUGO BOSS AG			7	3	
MÜNCHENER RÜCKVERSICHERUNGS-GES. AG			1	9	
SARTORIUS AG			4	6	
STO AG			4	6	
VOGT ELECTRONIC AG			5	5	
VOSSLOH AG			4	5	
1/2 codetermination to 1/3 codetermination	12				
AGIV REAL ESTATE AG		2	1	3	
CURANUM AG		1	1	4	4

DEUTSCHE STEINZEUG AG	2	8
DYCKERHOFF AG	2	8
ELEXIS AG	6	3
HERLITZ AG	1	8
HOLSTEN BRAUEREI AG	1	7
IVG AG	2	8
MOEBEL WALTHER AG	1	9
TA TRIUMPH-ADLER AG	3	7
VOGT ELECTRONIC AG	5	5
VOSSLOH AG	6	4

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### 3. Conclusion

This unique data set on the composition of German supervisory board allows to further research on corporate governance in many fields. Research based on this data set (e.g., Frick/Bermig, 2011a, b) has shown interesting results. Further additions to the data set create even more potential to detail the current research on German corporate governance. Enhancing the data by managing board member data or even further detailing the information on supervisory board members (e.g., age, education) would provide an even larger ground for research.<sup>2</sup>

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<sup>2</sup> The data set is available upon request from the author who can be contacted via E-Mail at [bermig@gmail.com](mailto:bermig@gmail.com).

*Regierungskommission Deutscher Corporate Governance Kodex (2009): German Corporate Governance Code*, in *Regierungskommission Deutscher Corporate Governance Kodex*, ed.: (Regierungskommission Deutscher Corporate Governance Kodex, Berlin).