



Online-Appendix zu

„The more, the better? Diversification Trends
in Executive and Supervisory Boards in
Germany and their Potential Effects”

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Appendix A. Number of observations for each study of board diversity

Diversity Trend Study of Interest	Corporate Entity of Interest	Number of Observations
Board Diversity Index	Combined Boards	22,670
	Supervisory Boards	15,129
	Executive Boards	6,100
Demographic Diversity	Combined Boards	38,489
	Supervisory Boards	26,907
	Executive Boards	10,359
Cognitive Diversity	Combined Boards	30,327
	Supervisory Boards	19,437
	Executive Boards	9,040
Percentage of Female Directors	Combined Boards	64,453
	Supervisory Boards	46,121
	Executive Boards	17,957
Standard Deviation of Age	Combined Boards	52,355
	Supervisory Boards	35,382
	Executive Boards	16,161
Blau's Index for Nationality	Combined Boards	44,598
	Supervisory Boards	32,612
	Executive Boards	10,829
Blau's Index for University	Combined Boards	30,331
	Supervisory Boards	19,439
	Executive Boards	9,042
Blau's Index for Financial Expertise	Combined Boards	67,133
	Supervisory Boards	47,846
	Executive Boards	18,985
Average Number of Additional Boards	Combined Boards	67,119
	Supervisory Boards	47,840
	Executive Boards	18,977

Notes. The number of observations for the study of each diversity component, as well as demographic, cognitive, and general board diversity indices. In many cases, the sum of the observations of the supervisory and executive boards does not equal the number of observations of the combined boards due to the following data preparation step. In the separate analyses of the executive and supervisory boards, boardrooms consisting of only one person were excluded due to their de-facto homogeneity. For example, a firm with only one executive and one supervisory member would be disregarded in the separate analyses. However, once observing the combined boards, such boards would be considered because overall, they would consist of more than one person.

Appendix B. Definitions of measurements

<i>Percentage of Female Board Members</i>	The number of female (executive or/and supervisory) board members divided by the respective board size.
<i>Standard deviation of age</i>	Standard deviation of ages of the (executive or/and supervisory) board members. To identify each board member's age, the difference between this person's birth year and the respective fiscal year for each tenure is built. For example, if a board members' birth year is 1965 and the firm's fiscal year is 2021, the age of this person would be calculated as $2021 - 1965$.
<i>HHI University</i>	Herfindahl-Hirschman index of the number of (executive or/and supervisory) board members in each firm-year that are classified in categories by their latest academic degree-granting institution. For example, three executive board members that are Ludwig Maximilian University of Munich alumni and four executive board members that are University of Mannheim alumni would be defined as $(3/7)^2 + (4/7)^2$.
<i>HHI Nationality</i>	Herfindahl-Hirschman index of the number of (executive or/and supervisory) board members in each firm-year that are classified in categories by their nationality. For example, two supervisory board members who are Germans and five supervisory board members who are Americans would be defined as $(2/7)^2 + (5/7)^2$.
<i>HHI Financial Expertise</i>	Herfindahl-Hirschman index of the number of (executive or/and supervisory) board members in each firm-year that are classified as having financial expertise or not having financial expertise. For example, four supervisory board who have financial expertise and three supervisory board members who do not have any financial expertise would be defined as $(4/7)^2 + (3/7)^2$. The used keywords to identify the financial experts are "Accounting", "Acquisitions", "Asset", "Auditor", "Banking", "CFO", "Commercial", "FD", "Funding", "Investment", "Risk", "Treasurer", and the letter sequence "Fin".
<i>Mean number of other boards</i>	For each firm-year, the mean number of other (executive or supervisory) boards on which current board members serve.
<i>Board diversity index</i>	For each firm-year, this index is computed as $(\text{standardised Female board member ratio}) + (\text{standardised Standard deviation of age}) + (\text{standardised Mean number of other boards}) - (\text{standardised HHI nationality}) - (\text{standardised HHI university}) - (\text{standardised HHI financial expert})$.
<i>Demographic board diversity index</i>	For each firm-year, this index is computed as $(\text{standardised Female board member ratio}) + (\text{standardised Standard deviation of age}) - (\text{standardised HHI nationality})$.

*Cognitive board
diversity index*

For each firm-year, this index is computed as
(*standardised Mean number of other boards*) –
(*standardised HHI university*) –
(*standardised HHI financial expert*).

Notes. Adapted from “Board diversity, firm risk, and corporative policies”, by Bernile, G., Bhagwat, V., Yonker, S., 2018, *Journal of Financial Economics*, 127(3), Appendix B. Variable definitions, p.611.

Measures used in the descriptive study of the board diversification trends in Germany.
