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#### Article

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

Junior Management Science (JUMS)

Provided in Cooperation with:

Junior Management Science e. V.

*Suggested Citation:* Bedelev, Bogdan (2023) : The more, the better? Diversification Trends in Executive and Supervisory Boards in Germany and their Potential Effects, Junior Management Science (JUMS), ISSN 2942-1861, Junior Management Science e. V., Planegg, Vol. 8, Iss. 3, pp. 569-590,

https://doi.org/10.5282/jums/v8i3pp569-590

This Version is available at: https://hdl.handle.net/10419/295046

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## **Online-Appendix zu**

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

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Junior Management Science 8(3) (2023) 569-590

Diversity Trend Study of Interest	Corporate Entity of Interest	Number of Observations
	Combined Boards	22,670
Board Diversity Index	Supervisory Boards	15,129
	Executive Boards	6,100
	Combined Boards	38,489
Demographic Diversity	Supervisory Boards	26,907
	Executive Boards	10,359
	Combined Boards	30,327
Cognitive Diversity	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
	Combined Boards	67,133
Blau's Index for Financial Expertise	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

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

*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

Percentage of Female Board Members	The number of female (executive or/and supervisory) board members divided by the respective board size.
Standard deviation of age	Standard deviation of ages of the (executive or/and super- visory) 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 ex- ample, 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 $2021 - 1965$ .
HHI University	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 $(3/7)^2 + (4/7)^2$ .
HHI Nationality	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 $(2/7)^2 + (5/7)^2$ .
HHI Financial Expertise	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",
Mean number of other boards	"Treasurer", and the letter sequence "Fin". For each firm-year, the mean number of other (executive or supervisory) boards on which current board members
Board diversity index	For each firm-year, this index is computed as (standardised Female board member ratio) + (standardised Standard deviation of age) + (standardised Mean number of other boards) – (standardised HHI nationality) – (standardised HHI university) – (standardised HHI financial expert).
<i>Demographic board diversity index</i>	For each firm-year, this index is computed as (standardised Female board member ratio) + (standardised Standard deviation of age) – (standardised HHI nationality).

Cognitive board	For	each	firm-year,	this	index	is	computed	as	
diversity index	(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.