



Online-Appendix

Good as Gold or Merely Glitter? Elite Board Members' Impact on Firm Performance

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8. Appendix

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Appendix 1. List and frequencies of industries in the sample

Industry	Frequency
Amusement And Recreation Services	1
Apparel And Accessory Stores	1
Apparel And Other Finished Products Made From Fabrics And Similar Materials	1
Building Construction General Contractors And Operative Builders	1
Building Materials, Hardware, Garden Supply, And Mobile Home Dealers	1
Business Services	12
Chemicals And Allied Products	14
Communications	10
Depository Institutions	4
Electric, Gas, And Sanitary Services	3
Electronic And Other Electrical Equipment And Components, Except Computer Equipment	13
Engineering, Accounting, Research, Management, And Related Services	1
Fabricated Metal Products, Except Machinery And Transportation Equipment	1
Food And Kindred Products	1
Health Services	4
Heavy Construction Other Than Building Construction Contractors	2
Holding And Other Investment Offices	2
Home Furniture, Furnishings, And Equipment Stores	2
Industrial And Commercial Machinery And Computer Equipment	22
Insurance Carriers	4
Leather And Leather Products	1
Measuring, Analyzing, And Controlling Instruments; Photographic, Medical And Optical Goods; Watches And Clocks	5
Mining And Quarrying Of Nonmetallic Minerals, Except Fuels	1
Miscellaneous Retail	2
Primary Metal Industries	4
Real Estate	9
Rubber And Miscellaneous Plastics Products	3
Security And Commodity Brokers, Dealers, Exchanges, And Services	1
Stone, Clay, Glass, And Concrete Products	1
Transportation By Air	2
Transportation Equipment	10
Transportation Services	1
United States Postal Service	1
Water Transportation	1
Wholesale Trade-durable Goods	2
Wholesale Trade-non-durable Goods	3
Total	147

Appendix Table 1. List and frequencies of industries in the sample

Appendix 2. Summary statistics including industry and year controls

	Variable	Obs.	Mean	SD	Min	Max
1	Elite board member	900	0.333	0.474	0	1
2	Elite board chair	900	0.196	0.397	0	1
3	Elite control	900	0.513	0.997	0	5
4	Firm size	900	50904.83	95779.27	4	636156
5	Board size	900	7.22	2.370	2	15
6	Busy board	900	1.255	0.265	1	2.4
7	Relative CEO power	900	1.587	1.700	0.096	14.33
8	Board chair/CEO power	900	1.598	2.098	0.04	19
9	Industry-adjusted ROA	900	0.000	6.213	-53.21	31.33
10	Market-adjusted Tobin's Q	900	0.000	1.173	-1.364	7.812
11	Prior performance model a	754	-0.008	0.466	-2.720	2.268
12	Prior performance model b	754	0.346	5.808	-40.41	31.33
13	Construction	900	0.017	0.128	0	1
14	Manufacturing	900	0.527	0.500	0	1
15	Transportation, Communi- cations, Electric, Gas, And Sanitary Services	900	0.142	0.349	0	1
16	Wholesale Trade	900	0.033	0.180	0	1
17	Retail Trade	900	0.030	0.171	0	1
18	Finance, Insurance, And Real Estate	900	0.132	0.339	0	1
19	Services	900	0.119	0.324	0	1
20	2010	900	0.118	0.323	0	1
21	2011	900	0.114	0.319	0	1
22	2012	900	0.114	0.319	0	1
23	2013	900	0.114	0.319	0	1
24	2014	900	0.114	0.319	0	1
25	2015	900	0.114	0.319	0	1
26	2016	900	0.114	0.317	0	1
27	2017	900	0.109	0.312	0	1
38	2018	900	0.088	0.283	0	1

Appendix Table 2. Summary statistics including industry and year controls

Appendix 3. Pairwise correlations including industry and year controls

Variable	1	2	3	4	5	6	7	8
1 Elite board member								
2 Elite board chair	0.690*							
3 Elite control	0.720*	0.486*						
4 Firm size	0.383*	0.275*	0.439*					
5 Board size	0.341*	0.259*	0.416*	0.482*				
6 Busy board	0.635*	0.554*	0.591*	0.336*	0.330*			
7 Relative CEO power	0.090*	0.117*	0.090*	0.062	0.016	0.120*		
8 Board chair/CEO power	0.050	0.088*	0.056	0.044	0.012	0.105*	0.788*	
9 Industry-adjusted ROA	-0.056	-0.072	-0.100*	-0.086*	-0.164*	-0.085	-0.038	-0.010
10 Market-adjusted Tobin's Q	-0.212*	-0.146*	-0.243*	-0.231*	-0.362*	-0.232*	-0.046	0.039
11 Prior performance model a	-0.054	-0.032	-0.037	-0.016	-0.034	-0.044	0.026	0.016
12 Prior performance model b	-0.095*	-0.090	-0.129*	-0.108*	-0.226*	-0.112*	-0.032	-0.018
13 Construction	-0.020	0.002	-0.050	0.012	-0.013	-0.007	0.067	0.017
14 Manufacturing	-0.135*	-0.133*	-0.059	-0.002	-0.140*	-0.105*	0.024	0.004
15 Transportation, Communications, Electric, Gas, And Sanitary Services	0.078	0.144*	0.065	0.103*	-0.166*	0.114*	-0.007	-0.01
16 Wholesale Trade	-0.002	0.033	-0.027	0.013	0.025	0.002	0.007	0.020
17 Retail Trade	0.012	0.028	0.001	0.085	0.100*	-0.013	-0.084	-0.061
18 Finance, Insurance, And Real Estate	0.095*	0.056	0.105*	-0.101*	0.096*	0.048	-0.026	-0.069
19 Services	0.027	-0.043	-0.055	0.058	-0.131*	-0.004	0.012	0.082
20 2010	-0.262*	-0.180*	-0.188*	-0.022	-0.056	0.076	-0.018	-0.015
21 2011	0.015	0.008	0.036	-0.011	-0.048	-0.006	-0.014	0.004
22 2012	0.015	-0.010	0.043	-0.005	0.029	-0.004	-0.010	-0.013
23 2013	0.015	-0.001	0.039	-0.005	0.047	0.008	-0.020	-0.015
24 2014	0.060	0.043	0.022	-0.000	-0.023	0.011	-0.013	-0.005
25 2015	0.045	0.034	0.029	-0.004	-0.015	0.008	-0.011	-0.018
26 2016	0.048	0.036	0.030	0.007	0.020	-0.008	0.038	0.036
27 2017	0.051	0.053	-0.008	0.013	0.020	-0.034	0.013	0.007
28 2018	0.019	0.025	0.002	0.033	0.031	-0.060	0.008	0.021

*Correlation is significant at the 0.01 level.

Appendix Table 3. Pairwise correlations including industry and year controls

	9	10	11	12	13	14	15	16	17	18
10	0.446*									
11	0.004	0.272*								
12	0.683*	0.420*	-0.146*							
13	-0.000	-0.076	-0.002	-0.016						
14	0.000	0.041	-0.033	0.018	-0.137*					
15	-0.000	0.044	0.018	-0.008	-0.053	-0.430*				
16	0.000	-0.091*	-0.008	-0.003	-0.024	-0.196*	-0.076			
17	-0.000	0.201*	-0.036	0.027	-0.023	-0.186*	-0.071	-0.033		
18	0.000	-0.261*	0.000	-0.023	-0.051	-0.412*	-0.159*	-0.072	-0.069	
19	-0.000	0.232*	0.058	-0.001	-0.048	-0.389*	-0.150*	-0.068	-0.065	-0.143*
20	-0.000	-0.000	.	.	0.033	0.015	-0.001	0.028	0.017	-0.021
21	-0.000	0.000	-0.017	-0.006	0.007	0.012	0.004	0.031	-0.018	-0.017
22	-0.000	0.000	0.000	0.026	0.007	-0.002	0.004	0.031	-0.022	0.004
23	0.000	0.000	-0.015	-0.005	0.007	-0.009	0.014	0.011	-0.022	0.004
24	0.000	0.000	0.085	-0.012	0.007	-0.002	0.004	0.011	-0.022	0.004
25	0.000	-0.000	-0.031	0.002	0.007	0.005	-0.017	-0.008	-0.002	-0.006
26	0.000	-0.000	-0.064	0.004	0.008	-0.012	-0.015	-0.027	0.019	0.005
27	0.000	-0.000	0.074	-0.039	-0.046	-0.012	-0.010	-0.025	0.022	0.022
28	-0.000	0.000	-0.035	0.032	-0.040	-0.040	0.020	-0.058	0.015	0.006

	19	20	21	22	23	24	25	26	27
19									
20	-0.038								
21	-0.024	-0.131*							
22	-0.013	-0.131*	-0.129*						
23	-0.003	-0.131*	-0.129*	-0.129*					
24	-0.003	-0.131*	-0.129*	-0.129*	-0.129*				
25	0.019	-0.131*	-0.129*	-0.129*	-0.129*	-0.129*			
26	0.031	-0.131*	-0.129*	-0.129*	-0.129*	-0.129*	-0.129*		
27	0.026	-0.128*	-0.126*	-0.126*	-0.126*	-0.126*	-0.126*	-0.125*	
28	0.007	-0.113*	-0.112*	-0.122*	-0.122*	-0.112*	-0.112*	-0.111*	-0.108*

*Correlation is significant at the 0.01 level.

Appendix 4. Detailed summary statistics ROA and Tobin's Q

ROA				
	Percentiles	Smallest		
1%	-15.2	-47.20763		
5%	-2.45869	-35.61538		
10%	.26019	-34.03668	Observations	916
25%	2.741435	-23.13365	Sum of weight	916
50%	5.173045		Mean	5.322278
		Largest	SD	6.374826
75%	8.16	28.58359		
90%	10.71	31.32415	Variance	40.6384
95%	14.93	35.60939	Skewness	-.9272735
99%	23.3246	37.69812	Kurtosis	14.5712

Appendix Table 4. Detailed summary statistics ROA

Tobin's Q				
	Percentiles	Smallest		
1%	0.0190824	0.0086709		
5%	0.0835547	0.0101301		
10%	0.1882311	0.123539	Observations	900
25%	0.4079953	0.0132063	Sum of weight	900
50%	0.7723288		Mean	1.128498
		Largest	SD	1.186867
75%	1.387802	6.87516		
90%	2.468228	7.361308	Variance	1.408654
95%	3.486903	7.712336	Skewness	2.580782
99%	6.336319	9.069851	Kurtosis	11.6553

Appendix Table 5. Detailed summary statistics Tobin's Q

Appendix 5. ROA industry mean and Tobin's Q market mean

The marked (*) industry means indicate that in the given sample only one firm was operating in this industry in year t. Since an adjustment would set these observations to a ROA of zero, which might bias results, these firms are dropped from the analysis (16 observations, four firms). This results in excluding the industry divisions (A) Agriculture, Forestry, and Fishing, and (B) Mining. There are no such concerns with Tobin's Q market means.

Industry Division	ROA Industry Mean								
	2010	2011	2012	2013	2014	2015	2016	2017	2018
Agriculture, Forestry, and Fishing	N/A	N/A	N/A	N/A	N/A	8.48*	8.56*	8.98*	7.79*
Mining	8.100*	10.393*	11.86*	6.897*	6.39*	6.63*	2.07*	2.16*	1.17*
Construction	5.956	2.980	3.206	2.801	1.57	-3.095	5.035*	3.95*	4.79*
Manufacturing	6.373	6.002	5.485	4.840	4.733	5.602	6.163	6.527	6.905
Transportation, Communications, Electric, Gas, And Sanitary Services	3.516	4.729	4.554	7.205	4.755	4.592	3.391	7.033	4.368
Wholesale Trade	3.762	1.631	-0.679	1.804	2.435	-0.050	3.595	2.085	7.01*
Retail Trade	6.706	8.621	8.908	9.149	10.05	9.51	8.255	2.575	7.563
Finance, Insurance, And Real Estate	2.460	2.688	3.060	2.298	2.868	3.284	3.996	4.06	4.531
Services	7.242	6.236	6.378	6.349	7.494	6.500	5.289	5.926	7.932

Appendix Table 6. ROA industry mean per year

Tobin's Q Market Mean								
2010	2011	2012	2013	2014	2015	2016	2017	2018
0.972	0.817	0.958	1.263	1.120	1.302	1.258	1.387	1.094

Appendix Table 7. Tobin's Q market mean per year

Appendix 6. Detailed summary statistics of adjusted ROA and Tobin's Q

Industry-adjusted ROA				
	Percentiles	Smallest		
1%	-20.58563	-53.2098		
5%	-8.322512	-40.40928		
10%	-4.668462	-39.13101	Observations	900
25%	-2.457926	-28.61885	Sum of weight	900
50%	-0.1698066		Mean	-1.17e-08
		Largest	SD	6.213142
75%	2.677021	23.41149		
90%	5.518269	25.83895	Variance	38.60313
95%	9.10967	28.40438	Skewness	-1.10344
99%	18.21059	31.32552	Kurtosis	15.83239

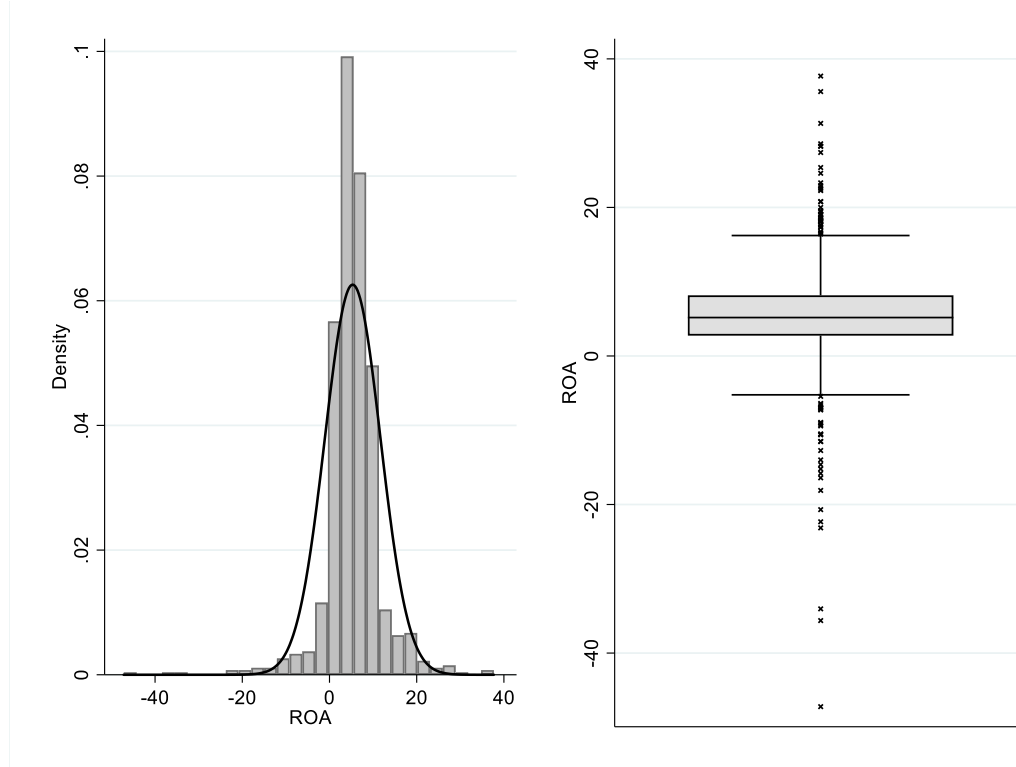
Appendix Table 8. Detailed summary statistics industry-adjusted ROA

Market-adjusted Tobin's Q				
	Percentiles	Smallest		
1%	-1.260394	-1.364436		
5%	-1.083966	-1.351946		
10%	-0.9382316	-1.332766	Observations	900
25%	-0.6812706	-1.329401	Sum of weight	900
50%	-0.3393534		Mean	-0.0004604
		Largest	SD	1.173113
75%	0.2332884	6.041823		
90%	1.270098	6.098291	Variance	1.376194
95%	2.438673	6.754207	Skewness	2.581471
99%	5.225346	7.81184	Kurtosis	11.78714

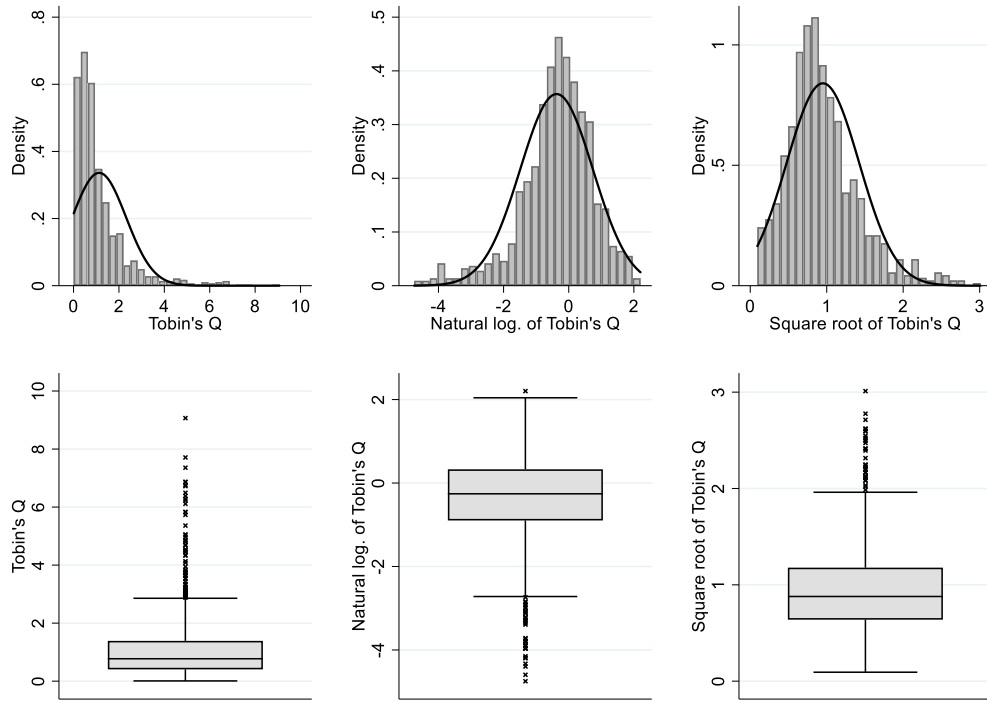
Appendix Table 9. Detailed summary statistics market-adjusted Tobin's Q

Appendix 7. Histograms and box plots of ROA and Tobin's Q

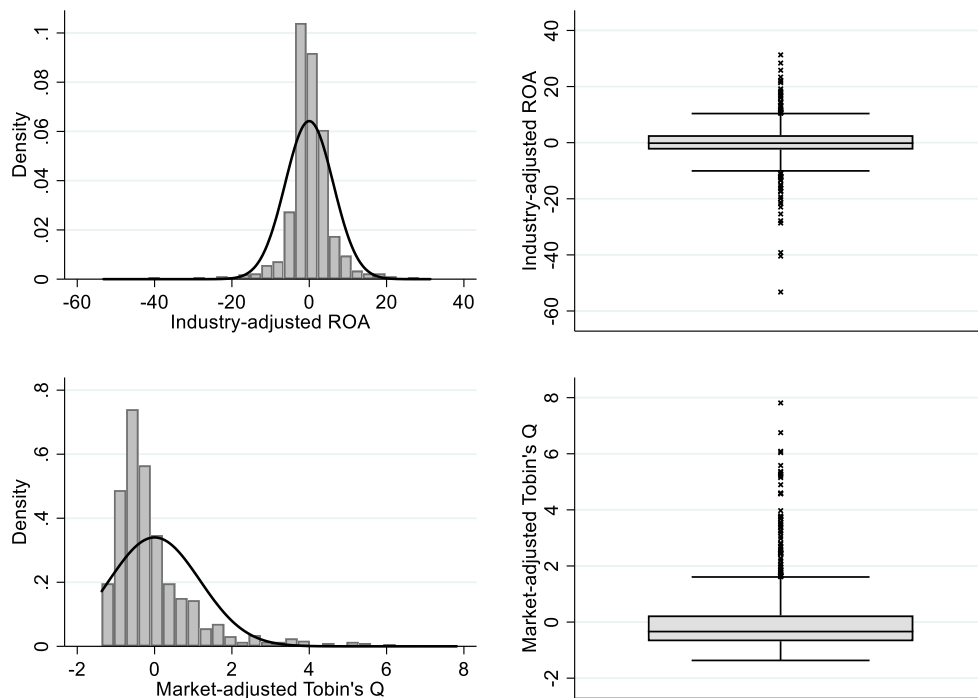
As indicated by the detailed summary statistics, the distribution of ROA is lightly negatively skewed and has positive kurtosis (leptokurtic). A transformation is not possible since the data has negative values. The box plot shows one observation, which might be an outlier. Checking the data revealed that it is not a measurement error and to avoid altering the underlying data it is not dropped from the sample. As indicated by the detailed summary statistics, the distribution of Tobin's Q is positively skewed and has positive kurtosis (leptokurtic). Tobin's Q does not have negative values, therefore, a transformation is possible and I choose to take the natural logarithm of the underlying data. Adjusting the dependent variables does not change the distribution of the underlying data considerably. Since the transformation of Tobin's Q introduces negative values, a transformation is no longer possible.



Appendix Figure 1. Histogram and box plot ROA



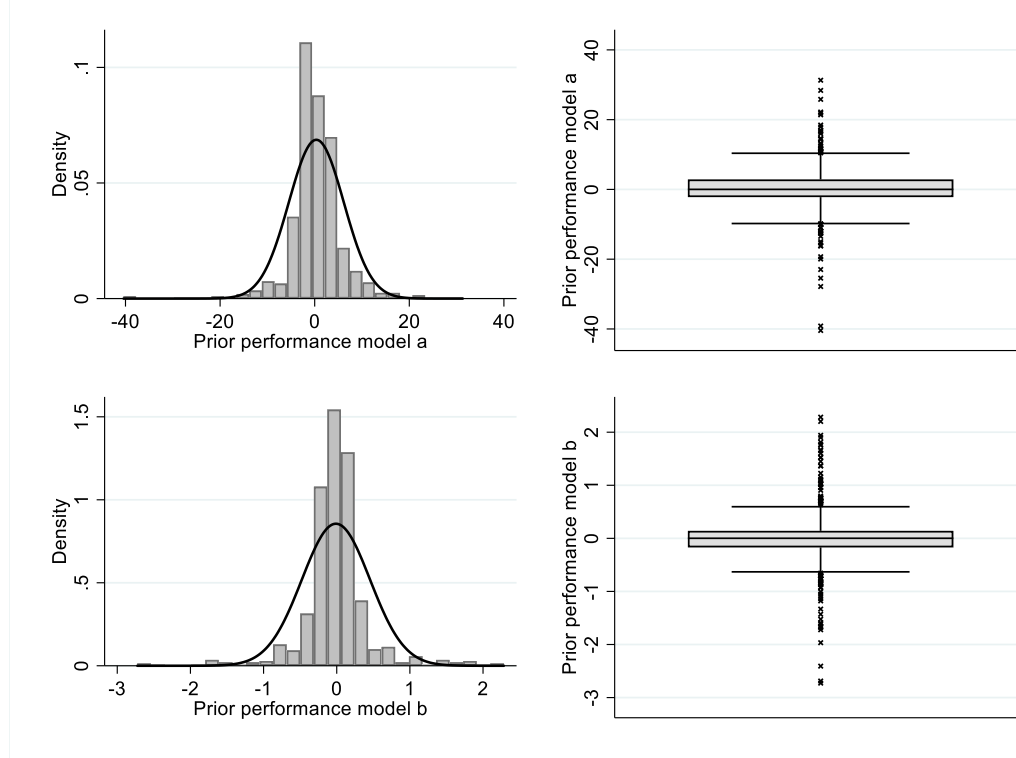
Appendix Figure 2. Histogram and box plot Tobin's Q



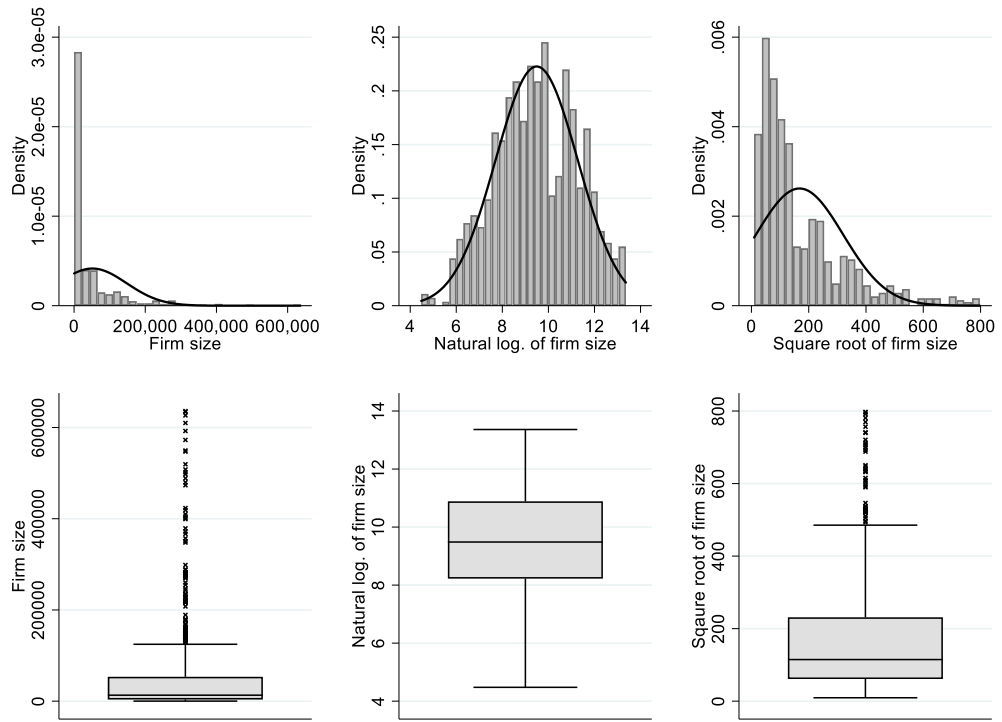
Appendix Figure 3. Histogram and box plot adjusted ROA and Tobin's Q

Appendix 8. Histograms and box plots of the control variables

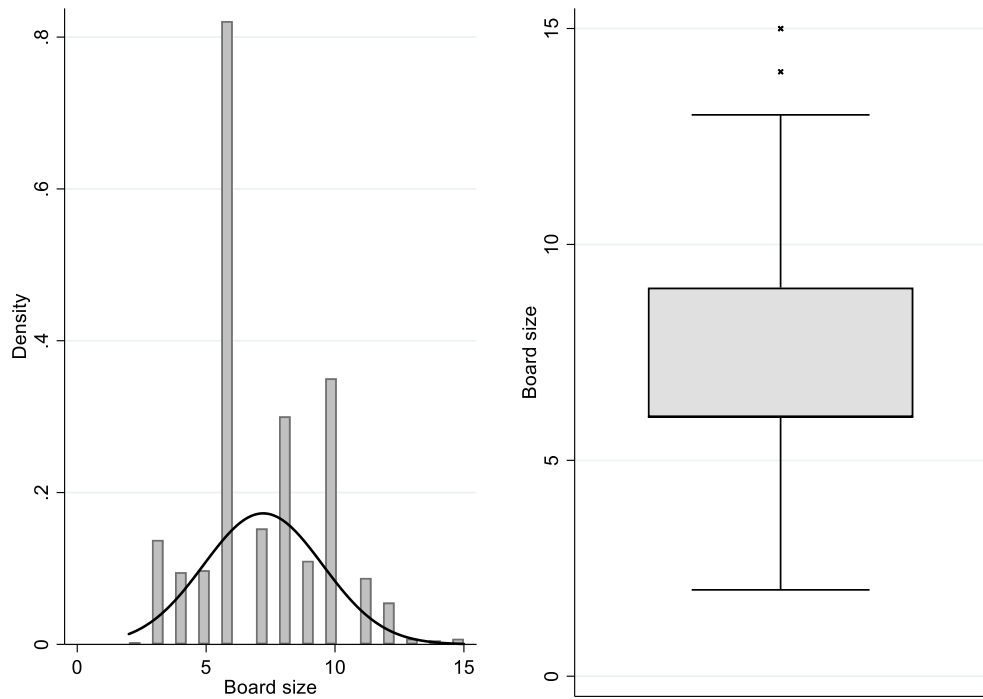
The histograms of the prior performance variables approach normal distribution and the box plots show potential outliers. The outliers are no measurement errors and are not dropped to avoid altering the data (see robustness test). One firm in the given sample has four (or five) employees, which represents an outlier for the firm size variable that might bias the results. I choose to drop the observations (nine observations dropped). Moreover, I take the natural logarithm of the underlying data to improve the distribution, which approaches normality after the transformation. No transformation or dropping outliers is necessary for the board size variable. I choose an alternative operationalization of the busy board variable that excludes elite board members due to the high correlation (see Chapter 5.1) and better distribution. No observations are dropped. Finally, both relative CEO power variables are logarithmized. Values above or beneath whiskers are no measurement errors and are not dropped or altered.



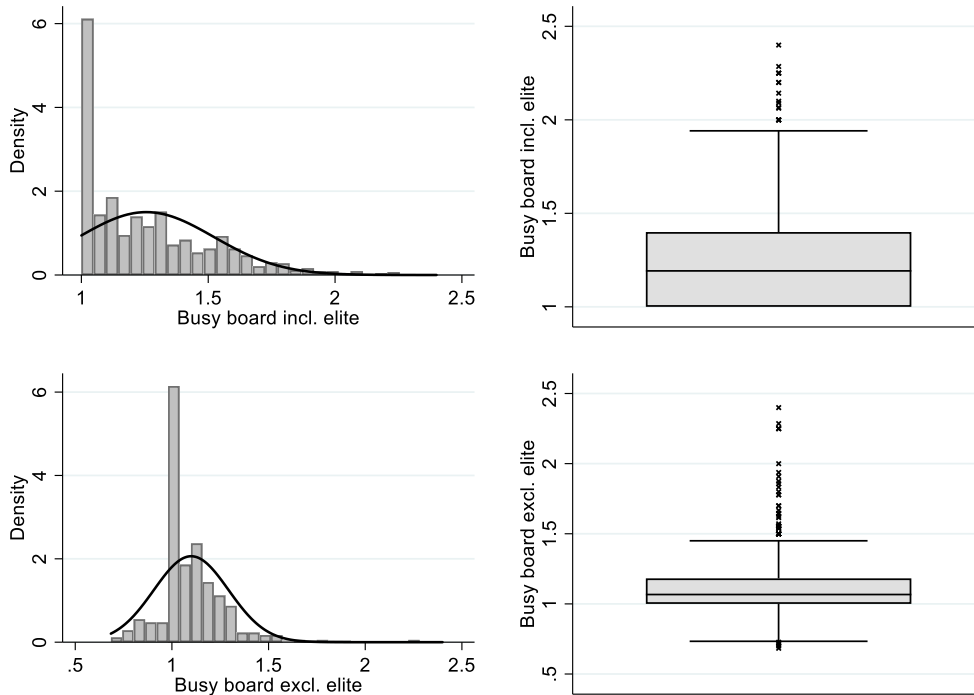
Appendix Figure 4. Histogram and box plot prior performance



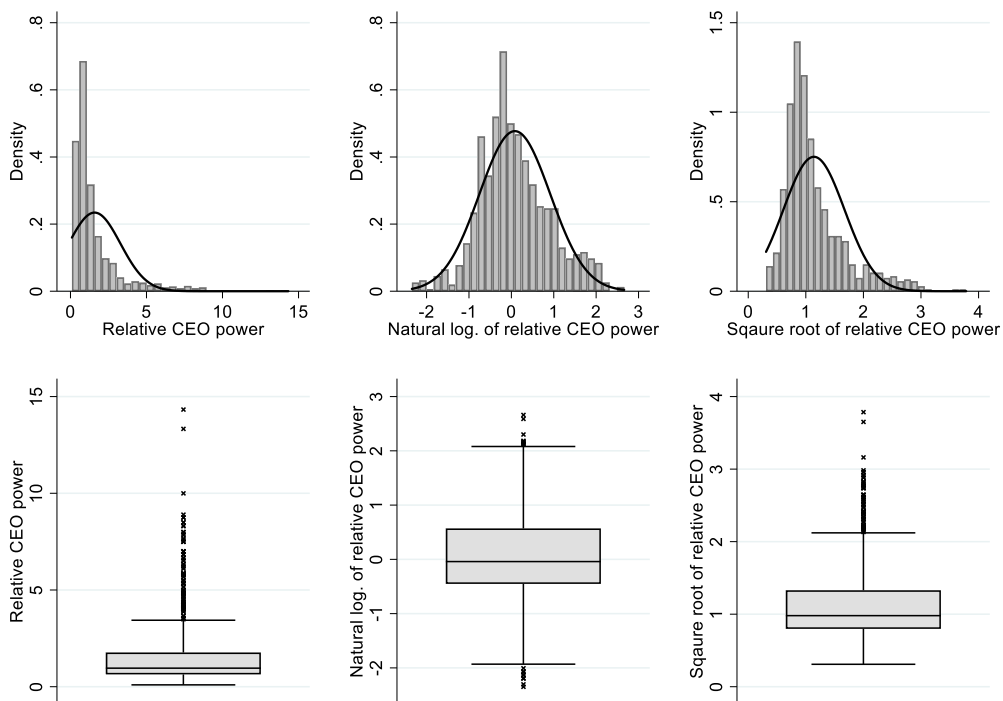
Appendix Figure 5. Histogram and box plot firm size



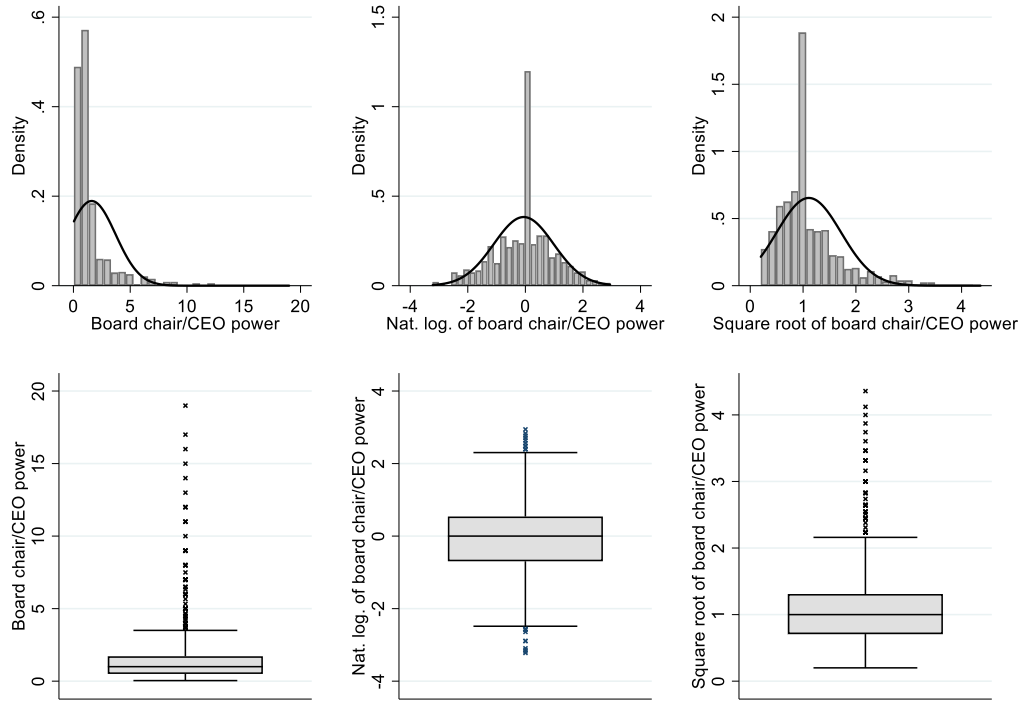
Appendix Figure 6. Histogram and box plot board size



Appendix Figure 7. Histogram and box plot busy board



Appendix Figure 8. Histogram and box plot relative CEO power



Appendix Figure 9. Histogram and box plot board chair/CEO power

Appendix 9. Individual and mean variance inflation factors

(1) Accounting-based performance		(2) Market-based performance	
Manufacturing	10.18	Manufacturing	9.71
Transportation, Communications, Electric, Gas, And Sanitary Services	5.83	Transportation, Communications, Electric, Gas, And Sanitary Services	5.51
Finance, Insurance, And Real Estate	5.33	Finance, Insurance, And Real Estate	5.08
Services	5.13	Services	4.92
Firm size	2.56	Firm size	2.53
Wholesale trade	2.16	Wholesale trade	2.19
Elite board member	1.95	Board size	1.89
Board size	1.75	2011	1.79
2011	1.72	2017	1.78
2012	1.72	2014	1.78
2013	1.70	2012	1.77
2015	1.69	2015	1.77
Construction	1.68	2016	1.76
2016	1.63	Elite board member	1.72
Busy board	1.12	2018	1.66
Relative CEO power	1.09	Construction	1.63
Prior performance	1.04	Busy board	1.10
		Relative CEO power	1.08
		Prior performance	1.07
Mean VIF	2.84	Mean VIF	2.67

Appendix Table 10. Variance inflation factors incl. industry divisions (H1)

(1) Accounting-based performance		(2) Market-based performance	
Firm size	2.06	Firm size	2.07
2012	1.72	2011	1.79
2011	1.72	2014	1.78
2013	1.70	2017	1.77
2015	1.69	2012	1.77
Elite board member	1.66	2015	1.76
2016	1.62	2016	1.76
Board size	1.58	Board size	1.69
Busy board	1.09	2018	1.64
Relative CEO power	1.05	Elite board member	1.53
Prior performance	1.03	Busy board	1.08
		Prior performance	1.06
		Relative CEO power	1.04
Mean VIF	1.54	Mean VIF	1.60

Appendix Table 11. Variance inflation factors excl. industry divisions (H1)

(1) Accounting-based performance		(2) Market-based performance	
Manufacturing	10.08	Manufacturing	9.63
Transportation, Commu- nications, Electric, Gas, And Sanitary Services	5.79	Transportation, Commu- nications, Electric, Gas, And Sanitary Services	5.47
Finance, Insurance, And Real Estate	5.28	Finance, Insurance, And Real Estate	5.06
Services	5.05	Services	4.91
Firm size	2.56	Firm size	2.58
Elite control	2.50	Elite control	2.28
Wholesale trade	2.13	Wholesale trade	2.16
Board size	1.79	Board size	1.92
2012	1.73	2017	1.81
2011	1.73	2011	1.79
2013	1.71	2014	1.78
2015	1.69	2016	1.77
Construction	1.65	2012	1.77
2016	1.63	2015	1.77
Busy board	1.49	2018	1.68
Elite board chair	1.46	Construction	1.60
Board chair/CEO power	1.04	Elite board chair	1.41
Prior performance	1.04	Busy board	1.39
		Prior performance	1.07
		Board chair/CEO power	1.04
Mean VIF	2.80	Mean VIF	2.56

Appendix Table 12. Variance inflation factors incl. industry divisions (H2)

(1) Accounting-based performance		(2) Market-based performance	
Elite control	2.27	Elite control	2.12
Firm size	2.08	Firm size	2.11
2012	1.72	2011	1.79
2011	1.72	2017	1.79
2013	1.71	2014	1.78
2015	1.69	2012	1.77
Board size	1.66	2015	1.77
2016	1.62	2016	1.77
Busy board	1.44	Board size	1.75
Elite board chair	1.39	2018	1.65
Prior performance	1.03	Busy board	1.36
Board chair/CEO power	1.02	Elite board chair	1.36
		Prior performance	1.06
		Board chair/CEO power	1.02
Mean VIF	1.61	Mean VIF	1.65

Appendix Table 13. Variance inflation factors excl. industry divisions (H2)

Appendix 10. Summary statistics including industry and year controls, after modification

	Variable	Obs.	Mean	SD	Min	Max
1	Elite board member	891	0.342	0.475	0	1
2	Elite board chair	891	0.198	0.398	0	1
3	Elite control	891	0.519	1.000	0	5
4	Firm size	891	9.491	1.791	4.477	13.363
5	Board size	891	7.211	2.314	2	15
6	Busy board	891	1.100	0.193	0.684	2.4
7	Relative CEO power	891	0.082	0.836	-2.347	2.663
8	Board chair/CEO power	891	-0.057	1.040	-3.219	2.944
9	Industry-adjusted ROA	891	-0.025	6.236	-53.21	31.33
10	Market-adjusted Tobin's Q	891	0.007	1.177	-1.368	7.815
11	Prior performance model a	746	-0.010	0.468	-2.726	2.285
12	Prior performance model b	746	0.317	5.830	-40.41	31.33
13	Construction	891	0.017	0.129	0	1
14	Manufacturing	891	0.5332	0.499	0	1
15	Transportation, Communi- cations, Electric, Gas, And Sanitary Services	891	0.144	0.351	0	1
16	Wholesale Trade	891	0.034	0.180	0	1
17	Retail Trade	891	0.030	0.172	0	1
18	Finance, Insurance, And Real Estate	891	0.123	0.329	0	1
19	Services	891	0.120	0.325	0	1
20	2010	891	0.119	0.323	0	1
21	2011	891	0.114	0.319	0	1
22	2012	891	0.114	0.319	0	1
23	2013	891	0.114	0.319	0	1
24	2014	891	0.114	0.319	0	1
25	2015	891	0.114	0.319	0	1
26	2016	891	0.113	0.317	0	1
27	2017	891	0.109	0.312	0	1
38	2018	891	0.088	0.283	0	1

Appendix Table 14. Summary statistics including industry and year controls, after modification

Appendix 11. Pairwise correlations including industry and year controls, after modification

Variable	1	2	3	4	5	6	7	8
1 Elite board member								
2 Elite board chair	0.688*							
3 Elite control	0.719*	0.484*						
4 Firm size	0.507*	0.389*	0.515*					
5 Board size	0.346*	0.263*	0.420*	0.624*				
6 Busy board	-0.247*	-0.221*	-0.352*	0.094*	0.069			
7 Relative CEO power	0.134*	0.128*	0.143*	0.148*	0.094*	-0.052		
8 Board chair/CEO power	0.059	0.091*	0.069	0.091*	0.064	0.013	0.757*	
9 Industry-adjusted ROA	-0.053	-0.070	-0.098*	-0.098*	-0.167*	-0.020	-0.071	-0.013
10 Market-adjusted Tobin's Q	-0.217*	-0.149*	-0.247*	-0.384*	-0.360*	-0.068*	-0.104*	0.036
11 Prior performance model a	-0.054	-0.032	-0.038	-0.037	-0.033	-0.023	0.016	0.012
12 Prior performance model b	-0.090	-0.088	-0.127*	-0.136*	-0.231*	-0.002	-0.045	0.008
13 Construction	-0.021	0.001	-0.050	0.088*	-0.012	0.032	0.082	0.039
14 Manufacturing	-0.143*	-0.139*	-0.065	0.042	-0.135*	0.004	0.040	0.011
15 Transportation, Communications, Electric, Gas, And Sanitary Services	0.075	0.142*	0.063	0.060	-0.169*	-0.000	0.037	0.041
16 Wholesale Trade	-0.004	0.032	-0.028	0.086	0.026	0.023	0.039	0.041
17 Retail Trade	0.011	0.027	0.000	0.123*	0.111*	-0.006	-0.123*	-0.059
18 Finance, Insurance, And Real Estate	0.118*	0.071	0.123*	-0.153*	0.065	-0.054	-0.002	-0.066
19 Services	0.025	-0.046	-0.057	-0.122*	-0.129*	0.027	-0.089*	-0.081
20 2010	-0.264*	-0.181*	-0.190*	-0.039	-0.053	0.398*	-0.013	-0.019
21 2011	0.016	0.008	0.036	-0.026	-0.045	-0.058	0.036	0.024
22 2012	0.016	-0.010	0.043	-0.022	0.028	-0.032	0.034	0.026
23 2013	0.016	-0.001	0.039	-0.016	0.045	-0.016	-0.001	-0.037
24 2014	0.060	0.043	0.022	0.005	-0.024	-0.051	-0.015	-0.027
25 2015	0.045	0.034	0.029	0.007	-0.016	-0.041	-0.054	-0.022
26 2016	0.048	0.036	0.030	0.016	0.019	-0.079	0.004	0.020
27 2017	0.052	0.053	-0.008	0.027	0.020	-0.068	0.009	0.026
28 2018	0.019	0.026	0.002	0.054	0.030	-0.069	0.001	0.011

*Correlation is significant at the 0.01 level.

Appendix Table 15. Pairwise correlations including industry and year controls, after modification

	9	10	11	12	13	14	15	16	17	18
10	0.450*									
11	0.005	0.272*								
12	0.683*	0.424*	-0.146*							
13	0.001	-0.078	-0.002	-0.016						
14	0.004	0.035	-0.034	0.024	-0.140*					
15	0.002	-0.047	0.018	-0.006	-0.054	-0.437*				
16	0.001	-0.092*	-0.008	-0.002	-0.024	-0.199*	-0.076			
17	0.001	0.200*	-0.036	0.028	-0.023	-0.189*	-0.072	-0.033		
18	-0.011	-0.255*	0.002	-0.037	-0.049	-0.400*	-0.154*	-0.070	-0.066	
19	0.002	0.231*	0.055	-0.001	-0.048	-0.394*	-0.151*	-0.069	-0.065	-0.139*
20	0.000	-0.001	.	.	0.033	0.015	-0.001	0.028	0.017	-0.021
21	0.000	-0.001	-0.018	-0.005	0.008	0.012	0.004	0.031	-0.002	-0.017
22	-0.000	-0.001	0.000	0.027	0.008	-0.002	0.004	0.031	-0.022	0.004
23	-0.001	0.000	-0.013	-0.005	0.008	-0.009	0.014	0.011	-0.022	0.004
24	-0.001	-0.000	0.083	-0.012	0.008	-0.002	0.004	0.011	-0.022	0.004
25	-0.002	0.000	-0.031	0.001	0.008	0.005	-0.017	-0.009	-0.002	-0.006
26	-0.000	0.000	-0.064	0.002	0.008	-0.012	-0.015	-0.028	0.019	0.006
27	0.001	0.001	0.076	-0.039	-0.046	-0.012	-0.010	-0.025	0.022	0.022
28	0.003	0.001	-0.038	0.034	-0.040	0.004	0.020	-0.058	0.015	0.005

	19	20	21	22	23	24	25	26	27
19									
20	-0.039								
21	-0.024	-0.131*							
22	-0.014	-0.131*	-0.129*						
23	-0.003	-0.131*	-0.129*	-0.129*					
24	-0.003	-0.131*	-0.129*	-0.129*	-0.129*				
25	0.019	-0.131*	-0.129*	-0.129*	-0.129*	-0.129*			
26	0.031	-0.131*	-0.129*	-0.129*	-0.129*	-0.129*	-0.129*		
27	0.026	-0.128*	-0.126*	-0.126*	-0.126*	-0.126*	-0.126*	-0.125*	
28	0.008	-0.113*	-0.111*	-0.111*	-0.111*	-0.111*	-0.111*	-0.111*	-0.108*

*Correlation is significant at the 0.01 level.

Appendix 12. Robustness test results: Alternative independent variable "one is a token"

	Accounting-based performance (a)		Market-based performance (b)	
	Model A.1	Model A.2	Model A.3	Model A.4
Elite board member (2)		0.216 (0.475)		-0.038 (0.068)
Prior performance model a	1.209* (0.533)	1.206* (0.533)		
Prior performance model b			0.018* (0.009)	0.018* (0.009)
Firm size	-1.382 (1.505)	-1.398 (1.504)	0.121 (0.130)	0.125 (0.130)
Board size	0.103 (0.199)	0.104 (0.199)	-0.000 (0.024)	-0.001 (0.023)
Busy board	0.808 (1.487)	0.934 (1.597)	0.063 (0.196)	0.037 (0.203)
Relative CEO power	-0.111 (0.291)	-0.113 (0.291)	-0.043 (0.033)	-0.042 (0.033)
2011	0.932 (0.723)	0.925 (0.723)	0.131+ (0.077)	0.134+ (0.076)
2012	0.966 (0.628)	0.956 (0.627)	0.088 (0.075)	0.092 (0.075)
2013	0.702 (0.528)	0.698 (0.527)	0.072 (0.094)	0.075 (0.094)
2014	0.127 (0.432)	0.128 (0.434)	0.125 (0.082)	0.128 (0.082)
2015	0.687+ (0.347)	0.680+ (0.348)	0.048 (0.080)	0.052 (0.080)
2016			0.011 (0.068)	0.014 (0.068)
2017			0.100 (0.068)	0.102 (0.069)
Constant	11.119 (14.683)	11.081 (14.712)	-1.301 (1.317)	-1.308 (1.320)
Observations	491	491	746	746
Number of firms	108	108	132	132
F-statistics	2.243	2.055	1.804	1.738
p-value	0.020	0.030	0.054	0.060
Adjusted R-squared	0.038	0.036	0.025	0.024

Robust standard errors in parentheses | *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Appendix Table 16. Fixed-effects regression analysis for accounting and market-based performance, alternative independent variable "one is a token"

Appendix 13. Robustness test results: Alternative independent variable "count"

	Accounting-based performance (a)		Market-based performance (b)	
	Model A.5	Model A.6	Model A.7	Model A.8
Elite board member (count)		-0.396 (0.303)		-0.008 (0.037)
Prior performance model a	1.209* (0.533)	1.194* (0.537)		
Prior performance model b			0.018* (0.009)	0.018* (0.009)
Firm size	-1.382 (1.505)	-1.255 (1.468)	0.121 (0.130)	0.125 (0.129)
Board size	0.103 (0.199)	0.141 (0.212)	-0.000 (0.024)	0.000 (0.024)
Busy board	0.808 (1.487)	-0.266 (1.948)	0.063 (0.196)	0.041 (0.212)
Relative CEO power	-0.111 (0.291)	-0.109 (0.288)	-0.043 (0.033)	-0.043 (0.033)
	0.932 (0.723)	0.988 (0.722)	0.131+ (0.077)	0.134+ (0.081)
2012	0.966 (0.628)	1.014 (0.626)	0.088 (0.075)	0.092 (0.080)
2013	0.702 (0.528)	0.747 (0.515)	0.072 (0.094)	0.075 (0.102)
2014	0.127 (0.432)	0.151 (0.424)	0.125 (0.082)	0.128 (0.086)
2015	0.687+ (0.347)	0.715* (0.352)	0.048 (0.080)	0.051 (0.084)
2016			0.011 (0.068)	0.013 (0.071)
2017			0.100 (0.068)	0.101 (0.070)
Constant	11.119 (14.683)	11.106 (14.482)	-1.301 (1.317)	-1.321 (1.317)
Observations	491	491	746	746
Number of firms	108	108	132	132
F-statistics	2.243	2.180	1.804	1.698
p-value	0.020	0.021	0.054	0.068
Adjusted R-squared	0.038	0.039	0.025	0.024

Robust standard errors in parentheses | *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Appendix Table 17. Fixed-effects regression analysis for accounting and market-based performance, alternative independent variable "count"

Appendix 14. Robustness test results: Alternative time lag for dependent variables

	ROA in year t		ROA in year t+1		ROA moving average	
	Model A.9	Model A.10	Model A.11	Model A.12	Model A.13	Model A.14
Elite board member		0.604 (0.606)		0.163 (0.432)		0.085 (0.300)
Prior performance	0.077 (0.532)	0.110 (0.540)	1.709*** (0.465)	1.718*** (0.470)	0.787** (0.288)	0.793** (0.291)
Firm size	-0.247 (0.916)	-0.376 (0.945)	-1.364 (1.165)	-1.390 (1.182)	-0.623 (1.037)	-0.628 (1.039)
Board size	-0.221 (0.171)	-0.222 (0.172)	0.374+ (0.220)	0.373+ (0.221)	0.039 (0.140)	0.039 (0.140)
Busy board	0.827 (1.226)	1.358 (1.424)	-1.726 (1.285)	-1.596 (1.378)	0.027 (0.834)	0.095 (0.945)
Relative CEO power	-0.536* (0.227)	-0.522* (0.227)	-0.094 (0.258)	-0.089 (0.262)	-0.320 (0.215)	-0.316 (0.217)
2011	2.054** (0.618)	1.964** (0.632)	1.166* (0.497)	1.162* (0.497)	0.715+ (0.395)	0.715+ (0.395)
2012	1.059+ (0.543)	0.965+ (0.555)	0.756 (0.642)	0.751 (0.643)	0.351 (0.398)	0.350 (0.399)
2013	1.011 (0.635)	0.926 (0.665)	0.966 (0.638)	0.962 (0.640)	0.331 (0.393)	0.330 (0.394)
2014	0.775 (0.560)	0.676 (0.594)	0.635 (0.450)	0.626 (0.453)	0.030 (0.291)	0.027 (0.293)
2015	0.571 (0.474)	0.482 (0.500)	0.479 (0.410)	0.476 (0.410)	0.109 (0.182)	0.109 (0.183)
2016	0.238 (0.500)	0.166 (0.512)	0.773* (0.369)	0.771* (0.371)		
2017	0.683+ (0.365)	0.610 (0.377)				
Constant	2.313 (9.072)	2.827 (9.255)	11.510 (11.229)	11.559 (11.276)	5.732 (10.056)	5.672 (10.075)
Observations	746	746	613	613	495	495
Number of firms	132	132	121	121	109	109
F-statistics	1.810	1.685	2.810	2.574	1.987	1.836
p-value	0.053	0.071	0.003	0.005	0.042	0.057
Adjusted R-squared	0.029	0.030	0.077	0.076	0.058	0.056

Robust standard errors in parentheses | *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Appendix Table 18. Fixed-effects regression analysis for accounting-based performance, alternative time lag (H1)

	ROA in year t		ROA in year t+1		ROA moving average	
	Model A.15	Model A.16	Model A.17	Model A.18	Model A.19	Model A.20
Elite board chair		0.214 (0.604)		0.111 (0.387)		-0.008 (0.344)
Elite control	-0.418 (0.273)	-0.397 (0.295)	-0.226 (0.251)	-0.211 (0.267)	-0.222 (0.189)	-0.223 (0.215)
Prior performance	0.064 (0.530)	0.072 (0.535)	1.707*** (0.470)	1.713*** (0.473)	0.770* (0.300)	0.770* (0.303)
Firm size	-0.029 (0.931)	-0.057 (0.931)	-1.248 (1.167)	-1.262 (1.170)	-0.476 (1.035)	-0.475 (1.036)
Board size	-0.169 (0.172)	-0.172 (0.174)	0.372+ (0.224)	0.369 (0.225)	0.052 (0.140)	0.052 (0.142)
Busy board	-0.117 (1.370)	0.052 (1.616)	-2.221 (1.501)	-2.128 (1.638)	-0.368 (0.998)	-0.375 (1.159)
Board chair/CEO power	-0.237 (0.159)	-0.240 (0.158)	-0.195 (0.166)	-0.197 (0.166)	-0.281* (0.141)	-0.281* (0.141)
2011	2.197*** (0.622)	2.176*** (0.624)	1.226* (0.490)	1.222* (0.489)	0.763+ (0.388)	0.764+ (0.387)
2012	1.186* (0.542)	1.169* (0.543)	0.821 (0.644)	0.820 (0.645)	0.391 (0.393)	0.392 (0.393)
2013	1.120+ (0.627)	1.103+ (0.638)	1.005 (0.639)	1.004 (0.641)	0.333 (0.390)	0.333 (0.390)
2014	0.895 (0.553)	0.872 (0.567)	0.639 (0.448)	0.634 (0.450)	0.038 (0.285)	0.038 (0.289)
2015	0.693 (0.468)	0.671 (0.484)	0.535 (0.406)	0.530 (0.407)	0.128 (0.178)	0.129 (0.183)
2016	0.301 (0.494)	0.288 (0.498)	0.801* (0.370)	0.801* (0.371)		
2017	0.685+ (0.358)	0.670+ (0.366)				
Constant	0.956 (9.199)	1.017 (9.178)	11.039 (11.247)	11.064 (11.258)	4.726 (10.150)	4.726 (10.161)
Observations	746	746	613	613	495	495
Number of firms	132	132	121	121	109	109
F-statistics	1.684	1.570	2.613	2.400	1.866	1.742
p-value	0.072	0.096	0.004	0.007	0.052	0.068
Adjusted R-squared	0.024	0.023	0.078	0.077	0.063	0.061

Robust standard errors in parentheses | *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Appendix Table 19. Fixed-effects regression analysis for accounting-based performance, alternative time lag (H2)

Appendix 15. Robustness test results: No adjustment of dependent variables

	Accounting-based performance (a)		Market-based performance (b)	
	Model A.21	Model A.22	Model A.23	Model A.24
Elite board member		-1.302* (0.611)		-0.025 (0.068)
Prior performance model a	1.195* (0.583)	1.113+ (0.574)		
Prior performance model b			0.016*** (0.004)	0.016*** (0.004)
Firm size	-0.808 (1.420)	-0.739 (1.397)	-0.021 (0.070)	-0.016 (0.073)
Board size	0.167 (0.215)	0.168 (0.215)	-0.023 (0.023)	-0.023 (0.023)
Busy board	1.243 (1.534)	0.222 (1.578)	0.114 (0.124)	0.093 (0.140)
Relative CEO power	0.047 (0.309)	-0.004 (0.307)	-0.022 (0.021)	-0.022 (0.021)
2011	0.207 (0.678)	0.193 (0.672)	-0.204*** (0.061)	-0.201** (0.063)
2012	-0.404 (0.644)	-0.376 (0.640)	-0.056 (0.059)	-0.053 (0.063)
2013	-0.693 (0.566)	-0.649 (0.557)	0.232*** (0.059)	0.236*** (0.063)
2014	-0.401 (0.403)	-0.372 (0.399)	0.157** (0.055)	0.161** (0.059)
2015	0.280 (0.377)	0.288 (0.377)	0.211*** (0.052)	0.215*** (0.055)
2016			0.183*** (0.040)	0.186*** (0.043)
2017			0.358*** (0.036)	0.361*** (0.038)
Constant	10.659 (13.690)	11.634 (13.631)	-0.316 (0.651)	-0.338 (0.666)
Observations	501	501	760	760
Number of firms	110	110	134	134
F-statistics	1.801	1.977	20.477	19.466
p-value	0.069	0.037	0.000	0.000
Adjusted R-squared	0.020	0.026	0.306	0.306

Robust standard errors in parentheses | *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Appendix Table 20. Fixed-effects regression analysis for non-adjusted accounting and market-based performance (H1)

	Accounting-based performance (a)		Market-based performance (b)	
	Model A.25	Model A.26	Model A.27	Model A.28
Elite board chair		-0.880 (0.620)		0.018 (0.067)
Prior performance model a	-0.042 (0.193)	-0.197 (0.213)	0.005 (0.027)	0.007 (0.028)
Prior performance model b	1.187* (0.586)	1.132+ (0.582)		
Firm size			0.016*** (0.004)	0.016*** (0.004)
Board size	-0.684 (1.441)	-0.595 (1.415)	-0.026 (0.073)	-0.029 (0.073)
Busy board	0.154 (0.228)	0.179 (0.233)	-0.022 (0.023)	-0.022 (0.023)
Board chair/CEO power	1.109 (1.816)	0.286 (1.858)	0.133 (0.145)	0.146 (0.158)
2011	-0.232 (0.267)	-0.223 (0.268)	-0.005 (0.016)	-0.005 (0.016)
2012	0.229 (0.681)	0.250 (0.684)	-0.209*** (0.062)	-0.210** (0.063)
2013	-0.379 (0.644)	-0.360 (0.646)	-0.061 (0.061)	-0.063 (0.062)
2014	-0.718 (0.557)	-0.680 (0.551)	0.228*** (0.060)	0.227*** (0.062)
2015	-0.456 (0.399)	-0.418 (0.401)	0.156** (0.056)	0.154** (0.058)
2016			0.210*** (0.053)	0.208*** (0.054)
2017			0.180*** (0.040)	0.179*** (0.041)
Constant	9.733 (13.888)	9.871 (13.783)	-0.297 (0.670)	-0.291 (0.669)
Observations	501	501	760	760
Number of firms	110	110	134	134
F-statistics	1.665	1.657	18.610	17.773
p-value	0.091	0.087	0.000	0.000
Adjusted R-squared	0.022	0.024	0.303	0.303

Robust standard errors in parentheses | *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Appendix Table 21. Fixed-effects regression analysis for non-adjusted accounting and market-based performance (H2)

Appendix 16. Robustness test results: Alternative busy board control

	Accounting-based performance (a)		Market-based performance (b)	
	Model A.29	Model A.30	Model A.31	Model A.32
Elite board member		-1.139*		-0.074
		(0.527)		(0.085)
Prior performance model a	1.222*	1.144*		
	(0.536)	(0.530)		
Prior performance model b			0.018*	0.018*
			(0.009)	(0.009)
Firm size	-1.360	-1.435	0.130	0.133
	(1.509)	(1.497)	(0.133)	(0.134)
Board size	0.111	0.104	0.001	0.000
	(0.191)	(0.193)	(0.023)	(0.023)
Busy board incl. elite	0.190	1.178	-0.038	0.026
	(1.284)	(1.360)	(0.266)	(0.226)
Relative CEO power	-0.116	-0.145	-0.044	-0.045
	(0.289)	(0.291)	(0.033)	(0.033)
2011	0.955	0.880	0.137	0.138
	(0.740)	(0.733)	(0.095)	(0.097)
2012	0.999	0.927	0.095	0.096
	(0.646)	(0.643)	(0.095)	(0.096)
2013	0.729	0.669	0.079	0.079
	(0.538)	(0.539)	(0.117)	(0.118)
2014	0.172	0.160	0.131	0.134
	(0.439)	(0.438)	(0.097)	(0.100)
2015	0.710*	0.658+	0.053	0.057
	(0.347)	(0.343)	(0.094)	(0.096)
2016			0.014	0.018
			(0.079)	(0.082)
2017			0.102	0.107
			(0.073)	(0.076)
Constant	11.448	11.520	-1.282	-1.361
	(14.540)	(14.417)	(1.258)	(1.278)
Observations				
Number of firms	491	491	746	746
F-statistics	108	108	132	132
p-value	2.078	2.734	1.832	1.725
Adjusted R-squared	0.032	0.004	0.049	0.063

Robust standard errors in parentheses | *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Appendix Table 22. Fixed-effects regression analysis for accounting and market-based performance, alternative busy board variable (H1)

	Accounting-based performance (a)		Market-based performance (b)	
	Model A.33	Model A.34	Model A.35	Model A.36
Elite board chair		-0.606 (0.443)		-0.028 (0.082)
Elite control	-0.335 (0.216)	-0.424+ (0.221)	-0.005 (0.032)	-0.008 (0.029)
Prior performance model a	1.208* (0.540)	1.164* (0.539)		
Prior performance model b			0.018* (0.009)	0.018* (0.009)
Firm size	-1.232 (1.531)	-1.243 (1.521)	0.129 (0.138)	0.128 (0.137)
Board size	0.117 (0.197)	0.127 (0.198)	0.003 (0.023)	0.003 (0.023)
Busy board incl. elite	0.563 (1.339)	1.055 (1.312)	-0.030 (0.293)	-0.008 (0.256)
Board chair/CEO power	-0.283 (0.248)	-0.273 (0.250)	-0.016 (0.025)	-0.015 (0.025)
2011	0.977 (0.731)	0.957 (0.728)	0.135 (0.094)	0.134 (0.094)
2012	1.009 (0.638)	0.970 (0.634)	0.092 (0.094)	0.091 (0.092)
2013	0.694 (0.526)	0.667 (0.526)	0.075 (0.116)	0.074 (0.114)
2014	0.110 (0.428)	0.116 (0.429)	0.132 (0.097)	0.132 (0.097)
2015	0.679+ (0.345)	0.682+ (0.345)	0.054 (0.093)	0.055 (0.094)
2016			0.012 (0.078)	0.011 (0.078)
2017			0.099 (0.073)	0.099 (0.074)
Constant	9.920 (14.722)	9.552 (14.647)	-1.297 (1.328)	-1.309 (1.333)
Observations				
Number of firms	491	491	746	746
F-statistics	108	108	132	132
p-value	2.735	2.870	1.593	1.470
Adjusted R-squared	0.004	0.002	0.095	0.131

Robust standard errors in parentheses | *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Appendix Table 23. Fixed-effects regression analysis for accounting and market-based performance, alternative busy board variable (H2)

Appendix 17. Robustness test results: Non-transformed firm size control

	Accounting-based performance (a)		Market-based performance (b)	
	Model A.37	Model A.38	Model A.39	Model A.40
Elite board member		-1.054+		-0.049
		(0.550)		(0.106)
Prior performance model a	1.228*	1.159*		
	(0.546)	(0.544)		
Prior performance model b			0.019*	0.019*
			(0.009)	(0.009)
Firm size (no ln)	-0.000	-0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Board size	0.091	0.097	0.003	0.004
	(0.197)	(0.197)	(0.024)	(0.024)
Busy board	0.672	-0.146	0.075	0.032
	(1.548)	(1.715)	(0.205)	(0.203)
Relative CEO power	-0.096	-0.131	-0.041	-0.042
	(0.291)	(0.290)	(0.033)	(0.033)
2011	1.131	1.105	0.099	0.103
	(0.753)	(0.746)	(0.086)	(0.090)
2012	1.161+	1.154+	0.057	0.062
	(0.640)	(0.631)	(0.088)	(0.093)
2013	0.872	0.870	0.043	0.047
	(0.530)	(0.525)	(0.102)	(0.107)
2014	0.268	0.292	0.104	0.110
	(0.460)	(0.458)	(0.089)	(0.095)
2015	0.760*	0.749*	0.029	0.035
	(0.373)	(0.372)	(0.083)	(0.089)
2016			-0.006	-0.002
			(0.069)	(0.073)
2017			0.091	0.095
			(0.068)	(0.072)
Constant	-1.356	0.111	-0.172	-0.113
	(1.809)	(2.127)	(0.272)	(0.254)
Observations	491	491	746	746
Number of firms	108	108	132	132
F-statistics	2.318	2.548	1.815	1.715
p-value	0.016	0.007	0.052	0.065
Adjusted R-squared	0.035	0.038	0.023	0.022

Robust standard errors in parentheses | *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Appendix Table 24. Fixed-effects regression analysis for accounting and market-based performance, non-transformed firm size variable (H1)

	Accounting-based performance (a)		Market-based performance (b)	
	Model A.41	Model A.42	Model A.43	Model A.44
Elite board chair		-0.548 (0.506)		-0.014 (0.106)
Elite control	-0.308 (0.279)	-0.404 (0.308)	0.012 (0.033)	0.011 (0.035)
Prior performance model a	1.217* (0.553)	1.181* (0.554)		
Prior performance model b			0.019* (0.009)	0.019* (0.009)
Firm size (no ln)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
Board size	0.103 (0.210)	0.119 (0.214)	0.004 (0.024)	0.005 (0.024)
Busy board	0.038 (1.886)	-0.474 (2.040)	0.110 (0.240)	0.099 (0.236)
Board chair/CEO power	-0.296 (0.248)	-0.289 (0.249)	-0.012 (0.024)	-0.012 (0.024)
2011	1.159 (0.742)	1.170 (0.746)	0.091 (0.088)	0.092 (0.091)
2012	1.189+ (0.633)	1.189+ (0.631)	0.049 (0.091)	0.050 (0.093)
2013	0.850 (0.521)	0.857 (0.519)	0.035 (0.105)	0.036 (0.109)
2014	0.211 (0.452)	0.237 (0.456)	0.102 (0.091)	0.104 (0.095)
2015	0.744* (0.372)	0.769* (0.382)	0.027 (0.084)	0.028 (0.088)
2016			-0.012 (0.070)	-0.011 (0.072)
2017			0.086 (0.068)	0.087 (0.071)
Constant	-0.630 (2.126)	-0.023 (2.197)	-0.210 (0.293)	-0.198 (0.275)
Observations	491	491	746	746
Number of firms	108	108	132	132
F-statistics	2.575	2.413	1.594	1.475
p-value	0.006	0.008	0.094	0.129
Adjusted R-squared	0.040	0.040	0.019	0.017

Robust standard errors in parentheses | *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Appendix Table 25. Fixed-effects regression analysis for accounting and market-based performance, non-transformed firm size variable (H2)

Appendix 18. Robustness test results: Non-transformed relative CEO power control

	Accounting-based performance (a)		Market-based performance (b)	
	Model A.45	Model A.46	Model A.47	Model A.48
Elite board member		-0.894+ (0.518)		-0.069 (0.110)
Prior performance model a	1.204* (0.530)	1.147* (0.532)		
Prior performance model b			0.018* (0.009)	0.018* (0.009)
Firm size	-1.391 (1.511)	-1.339 (1.492)	0.120 (0.129)	0.136 (0.130)
Board size	0.106 (0.198)	0.108 (0.198)	-0.000 (0.023)	-0.000 (0.023)
Busy board	0.846 (1.486)	0.143 (1.628)	0.055 (0.200)	-0.007 (0.195)
Relative CEO power (no ln)	-0.002 (0.101)	-0.008 (0.101)	-0.022 (0.020)	-0.023 (0.020)
2011	0.935 (0.724)	0.935 (0.720)	0.128+ (0.076)	0.138 (0.084)
2012	0.966 (0.631)	0.978 (0.626)	0.083 (0.075)	0.093 (0.083)
2013	0.713 (0.526)	0.729 (0.519)	0.067 (0.094)	0.076 (0.103)
2014	0.177 (0.424)	0.211 (0.423)	0.125 (0.081)	0.136 (0.090)
2015	0.699* (0.345)	0.699* (0.342)	0.049 (0.080)	0.059 (0.088)
2016			0.011 (0.067)	0.020 (0.074)
2017			0.097 (0.068)	0.105 (0.073)
Constant	11.127 (14.736)	11.754 (14.690)	-1.254 (1.300)	-1.319 (1.305)
Observations	491	491	746	746
Number of firms	108	108	132	132
F-statistics	2.184	2.404	1.824	1.792
p-value	0.024	0.010	0.050	0.051
Adjusted R-squared	0.037	0.039	0.028	0.028

Robust standard errors in parentheses | *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Appendix Table 26. Fixed-effects regression analysis for accounting and market-based performance, non-transformed relative CEO power variable (H1)

	Accounting-based performance (a)		Market-based performance (b)	
	Model A.49	Model A.50	Model A.51	Model A.52
Elite board chair		-0.528 (0.494)		-0.029 (0.103)
Elite control	-0.260 (0.285)	-0.354 (0.315)	0.001 (0.031)	-0.002 (0.032)
Prior performance model a	1.211* (0.534)	1.178* (0.537)		
Prior performance model b			0.018* (0.009)	0.018* (0.009)
Firm size	-1.308 (1.484)	-1.246 (1.467)	0.120 (0.129)	0.124 (0.129)
Board size	0.124 (0.208)	0.139 (0.212)	0.001 (0.024)	0.001 (0.024)
Busy board	0.268 (1.818)	-0.237 (1.953)	0.051 (0.230)	0.028 (0.219)
Board chair/CEO power (no ln)	-0.048 (0.079)	-0.046 (0.079)	-0.019 (0.016)	-0.020 (0.016)
2011	0.955 (0.717)	0.977 (0.723)	0.126+ (0.075)	0.129 (0.079)
2012	0.982 (0.627)	0.993 (0.629)	0.081 (0.075)	0.083 (0.079)
2013	0.712 (0.520)	0.728 (0.516)	0.064 (0.095)	0.067 (0.100)
2014	0.159 (0.419)	0.188 (0.420)	0.124 (0.082)	0.127 (0.086)
2015	0.686+ (0.347)	0.714* (0.357)	0.045 (0.080)	0.048 (0.085)
2016			0.007 (0.068)	0.009 (0.071)
2017			0.093 (0.068)	0.095 (0.070)
Constant	11.067 (14.604)	11.071 (14.513)	-1.257 (1.299)	-1.269 (1.302)
Observations	491	491	746	746
Number of firms	108	108	132	132
F-statistics	2.509	2.396	1.827	1.717
p-value	0.008	0.009	0.045	0.059
Adjusted R-squared	0.037	0.037	0.027	0.026

Robust standard errors in parentheses | *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Appendix Table 27. Fixed-effects regression analysis for accounting and market-based performance, non-transformed board chair/CEO power variable (H2)

Appendix 19. Post-hoc analysis: Alternative independent variable “one elite member”

	Accounting-based performance (a)		Market-based performance (b)	
	Model A.53	Model A.54	Model A.55	Model A.56
Elite board member (1)		-0.654+ (0.342)		-0.032 (0.081)
Prior performance model a	1.209* (0.533)	1.159* (0.532)		
Prior performance model b			0.018* (0.009)	0.018* (0.009)
Firm size	-1.382 (1.505)	-1.392 (1.498)	0.121 (0.130)	0.124 (0.130)
Board size	0.103 (0.199)	0.108 (0.199)	-0.000 (0.024)	0.000 (0.024)
Busy board	0.808 (1.487)	0.668 (1.511)	0.063 (0.196)	0.056 (0.193)
Relative CEO power (no ln)	-0.111 (0.291)	-0.141 (0.292)	-0.043 (0.033)	-0.044 (0.033)
2011	0.932 (0.723)	0.911 (0.718)	0.131+ (0.077)	0.132+ (0.078)
2012	0.966 (0.628)	0.946 (0.622)	0.088 (0.075)	0.090 (0.077)
2013	0.702 (0.528)	0.702 (0.524)	0.072 (0.094)	0.074 (0.097)
2014	0.127 (0.432)	0.152 (0.433)	0.125 (0.082)	0.129 (0.085)
2015	0.687+ (0.347)	0.663+ (0.343)	0.048 (0.080)	0.050 (0.082)
2016			0.011 (0.068)	0.013 (0.070)
2017			0.100 (0.068)	0.101 (0.070)
Constant	11.119 (14.683)	11.465 (14.618)	-1.301 (1.317)	-1.325 (1.319)
Observations	491	491	746	746
Number of firms	108	108	132	132
F-statistics	2.243	2.480	1.804	1.679
p-value	0.020	0.008	0.054	0.073
Adjusted R-squared	0.038	0.040	0.025	0.025

Appendix 20. STATA code eliteboardmembers.do

[start of do file]

// #ELITEBOARDMEMBERS - MT VERONIKA TIMOSCHENKO

```
clear // clear memory, remove all data
version 13.1 // helps Stata to interpret your commands correctly
set more off // tells Stata not to pause or display the --more-- message
set matsize 800 // sets maximum number of variables to be included in any of the estimation commands
set cformat %9.3f // specifies the output format of coefficients, standard errors, and confidence limits
```

```
cd "XXX" // changes current working directory to specified drive and directory
```

```
capture log close // closes open log files
log using eliteboardmembers_logfile, replace // records Stata session in log file
```

```
** Load excel data set: ISM_Master_08_18
```

```
import excel ISM_Master_08_18.xlsx, sheet("Zusammenfügung") firstrow
save ISM_Master_08_18.dta, replace // saves dataset in current working directory
```

```
clear
import excel Handelsblatt_Ranking_2011_2021.xlsx, sheet("Handelsblatt Ranking") firstrow
save Handelsblatt_Ranking_2011_2021.dta, replace
```

```
clear
```

```
** Merge datasets: ISM_Master_08_18 & Handelsblatt_Ranking_2011_2021
```

```
use ISM_Master_08_18.dta
replace name = "Bernotat, Wulf" if name == "Bernotat, Wulf, H. "
```

```
merge m:1 name year using Handelsblatt_Ranking_2011_2021.dta
drop if _merge == 2 // 91 observations deleted (mainly years 2019 - 2022)
save eliteboardmembers_data.dta, replace
// Observations: 19,846
```

```
** Data management
```

```
ssc install mdesc
mdesc
```

```
drop person_ID_year gb_file_ism cusip index_db uni_pl uni_co uni_pl_pop job_pl job_co job_pl_pop owner-
ship_concentration ownership_freefloat ownership_largest_owner ownership_largest_owner_name sic_codes
year_founded total_debt total_assets total_sales foreign_total_sales capex_total_sales RD_expenditures RD_in-
tensity WC mv BE absolutehits quotahitstotalwords sustainabilityreport20162018 Name_BoardMember _merge
```

```
drop if year == 2008 // 1,754 observations deleted
drop if year == 2009 // 1,821 observations deleted
```

```
mdesc ROA tq // ROA 177 missing, tq 3,731 missing (tq missing completely in 2017, 2018)
save eliteboardmembers_data.dta, replace
```

```
**Fill missing data on ROA and tq with data from IFB
```

```
*ROA
clear
import excel IFB_Master_10_18_bearbeitet.xlsx, sheet("ROA") firstrow
ds year, not
rename ( `r(varlist)` ) ROA=
reshape long ROA, i(year) j(isin_for_data) string
rename ROA ROA2
save IFB_ROA_2010_2018.dta, replace
```

```
clear
use eliteboardmembers_data.dta
```

```

merge m:1 isin_for_data year using IFB_ROA_2010_2018.dta // result: 50 not matched from master (1), 688 not
matched from using (2)
drop if _merge == 2 // these firms are not in the HDAX in the given year

gen roa = ROA
replace roa = ROA2 if roa ==.
mdesc roa // only 48 missing ROA, all Uniper 2016, 2017, 2018
drop if roa ==.
drop ROA ROA2 _merge
save eliteboardmembers_data.dta, replace

*Tobin's Q
clear
import excel IFB_Master_10_18_bearbeitet.xlsx, sheet("TobinsQ2") firstrow
ds year, not
rename (`r(varlist)') tobinsq=
reshape long tobinsq, i(year) j(isin_for_data) string
save IFB_tobinsq_2010_2018.dta, replace

clear
use eliteboardmembers_data.dta
merge m:1 isin_for_data year using IFB_tobinsq_2010_2018.dta // result: 2 not matched from master (1), 688 not
matched from using (2)
drop if _merge == 2 // these firms are not in the HDAX in the given year
drop tq _merge

mdesc tobinsq // 300 missing
drop if tobinsq==.
save IFB_tobinsq_2010_2018.dta, replace
save eliteboardmembers_data.dta, replace

drop if pos_grem == 5 // drop employee representatives (4,743)
drop if pos_grem == . // Position unknown (8 observations deleted)

// 11,172 firm-year-director observations, 2,338 directors, 947 firm-year observations, 147 firms (CHAPTER 4.1)
//bysort year isin: keep if _n==1
//bysort isin: keep if _n==1
//bysort name: keep if _n==1
//bysort name pos_grem: keep if _n==1

// Comparison between elite and non-elite members (CHAPTER 5.1)
// egen first_elite = min(cond(eliteboardmember == 1, _n, .)), by(name)
// duplicates drop name first_elite, force
// replace eliteboardmember = 1
// replace eliteboardmember = 0 if first_elite == .

**GENERATE VARIABLES FOR HYPOTHESIS TESTING (CHAPTER 4.2)

*CONTROL VARIABLE: Busy board - Number of positions as chair of the TMT, member of the TMT, chair of the
board, shareholder representative

bysort name year: gen boardmemberships = _N
label variable boardmemberships "Number of board memberships"

bys isin_for_data year: egen busyboard = mean(boardmemberships)
label variable busyboard "Average number of board memberships"

//Correlation between elite_binary and busyboard is high, so I create variable excluding EBM (see chapter 5.1)

bysort name year: gen boardmemberships_2 = _N if eliteboardmember ==.
replace boardmemberships_2 = 0 if boardmemberships_2 ==.
bys isin_for_data year: egen busyboard_2 = mean(boardmemberships_2)

drop if pos_grem == 2 // drop members of TMT (3,500 observations deleted)

*CONTROL VARIABLE: relative CEO power - Average board tenure / CEO tenure AND COB tenure / CEO tenure
(1/2)

```

```
mdesc yearten_pos // 26 missing
tab name if yearten_pos ==.
```

```
*fill in missing information about tenure based on websearch
drop if isin_for_data == "DE000A111338" // 12 observations deleted
replace yearten_pos=1 if name == "Angel, Steve" & pos_grem == 4
replace ten_pos = "2012" if name == "Basting, Dirk"
replace yearten_pos=3 if name == "Basting, Dirk" & h_col == "sartorius2014"
replace yearten_pos=4 if name == "Basting, Dirk" & h_col == "sartorius2015"
replace yearten_pos=5 if name == "Basting, Dirk" & h_col == "sartorius2016"
replace ten_pos = "2013" if name == "Duplaix, Jean-Marc"
replace yearten_pos=6 if name == "Duplaix, Jean-Marc"
replace yearten_pos=1 if name == "Favoccia, Daniela" & year == 2017
replace ten_pos = "2007" if name == "Huth, Johannes P." & h_col == "kion2014"
replace yearten_pos=8 if name == "Huth, Johannes P." & h_col == "kion2014"
replace ten_pos = "2016" if name == "Lazat, Béatrice"
replace yearten_pos=3 if name == "Lazat, Béatrice"
replace yearten_pos=1 if name == "Linares Lopez, Julio" & h_col == "telefonica2017"
replace yearten_pos=1 if name == "Merkel, Julia" & h_col == "suedzuck2017"
replace yearten_pos=1 if name == "Oelkers, Guido" & h_col == "sartorius2017"
replace yearten_pos=1 if name == "Panzer, Ilke Hildegard" & h_col == "sartorius2017"
replace ten_pos = "2009" if name == "Repegather, Sebastian" & h_col == "suess-mi-tech2011"
replace yearten_pos=3 if name == "Repegather, Sebastian" & h_col == "suess-mi-tech2011"
replace ten_pos = "2006" if name == "Scheiber, Silke" & h_col == "kion2014"
replace yearten_pos=9 if name == "Scheiber, Silke" & h_col == "kion2014"
replace yearten_pos=1 if name == "Streng, Stefan" & h_col == "suedzuck2017"
replace ten_pos = "2013" if name == "Wiese, Christo" & h_col == "steinhoff2016"
replace yearten_pos=3 if name == "Wiese, Christo" & h_col == "steinhoff2016"
replace ten_pos = "2013" if name == "Xugang, Tan"
replace yearten_pos=2 if name == "Xugang, Tan" & h_col == "kion2014"
replace yearten_pos=3 if name == "Xugang, Tan" & h_col == "kion2015"
replace yearten_pos=4 if name == "Xugang, Tan" & h_col == "kion2016"
replace yearten_pos=5 if name == "Xugang, Tan" & h_col == "kion2017"
```

```
gen CEOtenure = yearten_pos if pos_grem == 1
ssc inst mipolate
bysort h_col: mipolate CEOtenure year , gen (CEOtenure_ext) groupwise
label variable CEOtenure_ext "CEO tenure"
drop CEOtenure
rename CEOtenure_ext CEOtenure
drop if CEOtenure == . // no observation on the CEO available, 97 observations deleted
drop if pos_grem == 1 // drop chair of the TMT (939 observations deleted)
```

*CONTROL VARIABLE: board size - number of shareholder representatives

```
bysort h_col: gen boardsize = _N
label variable boardsize "Number of supervisory board members"
```

*CONTROL VARIABLE: relative CEO power - Average board tenure / CEO tenure AND COB tenure / CEO tenure (2/2)

```
bysort h_col: egen boardtenure = total(yearten_pos)
gen avg_boardtenure = boardtenure / boardsize
tab CEOtenure // 10x CEO tenure = 0, not possible to create relative power variable
replace CEOtenure=0.5 if CEOtenure == 0
gen relativeCEOpower = avg_boardtenure / CEOtenure
**if this measure is <0, the CEO is more powerful than the board
```

```
gen COBtenure = yearten_pos if pos_grem == 3
ssc inst mipolate
bysort h_col: mipolate COBtenure year , gen (COBtenure_ext) groupwise
label variable COBtenure_ext "COB tenure"
drop COBtenure
rename COBtenure_ext COBtenure
drop if COBtenure == . // no observation on the COB available, 13 observations deleted
tab COBtenure // 25x COB tenure = 0, not possible to create relative power variable
replace COBtenure=0.5 if COBtenure == 0
gen COB_CEOpower = COBtenure / CEOtenure
```

**if this measure is <0, the CEO is more powerful than the COB

*CONTROL VARIABLE: firm size - number of employees

rename no_employees firmsize

*CONTROL VARIABLE: Industry - operationalized by 4-digit SIC code or SIC division

```
mdesc industry_text
tab h_col if industry_text == ""
replace industry_text = "Holding And Other Investment Offices" if firm_db == "ALSTRIA OFFICE REIT AG"
replace industry_group = 6798 if firm_db == "ALSTRIA OFFICE REIT AG"
replace industry_text = "Security And Commodity Brokers, Dealers, Exchanges, And Services" if firm_db ==
"DEUTSCHE BOERSE NA O.N."
replace industry_group = 6231 if firm_db == "DEUTSCHE BOERSE NA O.N."
replace industry_text = "Real Estate" if firm_db == "GRAND CITY PROPERTIES"
replace industry_group = 6513 if firm_db == "GRAND CITY PROPERTIES"
replace industry_text = "Electric, Gas, And Sanitary Services" if firm_db == "INNOGY SE"
replace industry_group = 4911 if firm_db == "INNOGY SE"
replace industry_text = "Chemicals And Allied Products" if firm_db == "MEDIGENE AG"
replace industry_group = 2836 if firm_db == "MEDIGENE AG"
replace industry_text = "Health Services" if firm_db == "QIAGEN NV EO -,01"
replace industry_group = 8071 if firm_db == "QIAGEN NV EO -,01"
replace industry_text = "Business Services" if firm_db == "S&T AG"
replace industry_group = 7371 if firm_db == "S&T AG"
replace industry_text = "Measuring, Analyzing, And Controlling Instruments; Photographic, Medical And Optical
Goods; Watches And Clocks" if firm_db == "SARTORIUS AG O.N."
replace industry_group = 3826 if firm_db == "SARTORIUS AG O.N."
replace industry_text = "Transportation Equipment" if firm_db == "SCHAEFFLER"
replace industry_group = 3714 if firm_db == "SCHAEFFLER"
replace industry_text = "Home Furniture, Furnishings, And Equipment Stores" if isin_for_data == "NL0011375019"
replace industry_group = 5712 if isin_for_data == "NL0011375019"
```

*creating variable for less detailed classification (Division), creating dummies for primary industry sector based on divisions

```
gen sicA=0
label variable sicA "Agriculture, Forestry, And Fishing"
gen sicB=0
label variable sicB "Mining"
gen sicC=0
label variable sicC "Construction"
gen sicD=0
label variable sicD "Manufacturing"
gen sicE=0
label variable sicE "Transportation, Communications, Electric, Gas, And Sanitary Services"
gen sicF=0
label variable sicF "Wholesale Trade"
gen sicG=0
label variable sicG "Retail Trade"
gen sicH=0
label variable sicH "Finance, Insurance, And Real Estate"
gen sicI=0
label variable sicI "Services"
gen sicJ=0
label variable sicJ "Public Administration"
```

```
gen industry_division = ""
```

```
replace sicA = 1 if industry_text == "Amusement And Recreation Services"
replace industry_division = "A" if industry_text == "Amusement And Recreation Services"
replace sicG = 1 if industry_text == "Apparel And Accessory Stores"
replace industry_division = "G" if industry_text == "Apparel And Accessory Stores"
replace sicD = 1 if industry_text == "Apparel And Other Finished Products Made From Fabrics And Similar Materi-
als"
replace industry_division = "D" if industry_text == "Apparel And Other Finished Products Made From Fabrics And
Similar Materials"
replace sicC = 1 if industry_text == "Building Construction General Contractors And Operative Builders"
```

replace industry_division = "C" if industry_text == "Building Construction General Contractors And Operative Builders"
 replace sicG = 1 if industry_text == "Building Materials, Hardware, Garden Supply, And Mobile Home Dealers"
 replace industry_division = "G" if industry_text == "Building Materials, Hardware, Garden Supply, And Mobile Home Dealers"
 replace sicI = 1 if industry_text == "Business Services"
 replace industry_division = "I" if industry_text == "Business Services"
 replace sicD = 1 if industry_text == "Chemicals And Allied Products"
 replace industry_division = "D" if industry_text == "Chemicals And Allied Products"
 replace sicE = 1 if industry_text == "Communications"
 replace industry_division = "E" if industry_text == "Communications"
 replace sicH = 1 if industry_text == "Depository Institutions"
 replace industry_division = "H" if industry_text == "Depository Institutions"
 replace sicE = 1 if industry_text == "Electric, Gas, And Sanitary Services"
 replace industry_division = "E" if industry_text == "Electric, Gas, And Sanitary Services"
 replace sicD = 1 if industry_text == "Electronic And Other Electrical Equipment And Components, Except Computer Equipment"
 replace industry_division = "D" if industry_text == "Electronic And Other Electrical Equipment And Components, Except Computer Equipment"
 replace sicI = 1 if industry_text == "Engineering, Accounting, Research, Management, And Related Services"
 replace industry_division = "I" if industry_text == "Engineering, Accounting, Research, Management, And Related Services"
 replace sicD = 1 if industry_text == "Fabricated Metal Products, Except Machinery And Transportation Equipment"
 replace industry_division = "D" if industry_text == "Fabricated Metal Products, Except Machinery And Transportation Equipment"
 replace sicD = 1 if industry_text == "Food And Kindred Products"
 replace industry_division = "D" if industry_text == "Food And Kindred Products"
 replace sicI = 1 if industry_text == "Health Services"
 replace industry_division = "I" if industry_text == "Health Services"
 replace sicC = 1 if industry_text == "Heavy Construction Other Than Building Construction Contractors"
 replace industry_division = "C" if industry_text == "Heavy Construction Other Than Building Construction Contractors"
 replace sicH = 1 if industry_text == "Holding And Other Investment Offices"
 replace industry_division = "H" if industry_text == "Holding And Other Investment Offices"
 replace sicG = 1 if industry_text == "Home Furniture, Furnishings, And Equipment Stores"
 replace industry_division = "G" if industry_text == "Home Furniture, Furnishings, And Equipment Stores"
 replace sicD = 1 if industry_text == "Industrial And Commercial Machinery And Computer Equipment"
 replace industry_division = "D" if industry_text == "Industrial And Commercial Machinery And Computer Equipment"
 replace sicH = 1 if industry_text == "Insurance Carriers"
 replace industry_division = "H" if industry_text == "Insurance Carriers"
 replace sicD = 1 if industry_text == "Leather And Leather Products"
 replace industry_division = "D" if industry_text == "Leather And Leather Products"
 replace sicD = 1 if industry_text == "Measuring, Analyzing, And Controlling Instruments; Photographic, Medical And Optical Goods; Watches And Clocks"
 replace industry_division = "D" if industry_text == "Measuring, Analyzing, And Controlling Instruments; Photographic, Medical And Optical Goods; Watches And Clocks"
 replace sicB = 1 if industry_text == "Mining And Quarrying Of Nonmetallic Minerals, Except Fuels"
 replace industry_division = "B" if industry_text == "Mining And Quarrying Of Nonmetallic Minerals, Except Fuels"
 replace sicG = 1 if industry_text == "Miscellaneous Retail"
 replace industry_division = "G" if industry_text == "Miscellaneous Retail"
 replace sicD = 1 if industry_text == "Primary Metal Industries"
 replace industry_division = "D" if industry_text == "Primary Metal Industries"
 replace sicH = 1 if industry_text == "Real Estate"
 replace industry_division = "H" if industry_text == "Real Estate"
 replace sicD = 1 if industry_text == "Rubber And Miscellaneous Plastics Products"
 replace industry_division = "D" if industry_text == "Rubber And Miscellaneous Plastics Products"
 replace sicH = 1 if industry_text == "Security And Commodity Brokers, Dealers, Exchanges, And Services"
 replace industry_division = "H" if industry_text == "Security And Commodity Brokers, Dealers, Exchanges, And Services"
 replace sicD = 1 if industry_text == "Stone, Clay, Glass, And Concrete Products"
 replace industry_division = "D" if industry_text == "Stone, Clay, Glass, And Concrete Products"
 replace sicE = 1 if industry_text == "Transportation By Air"
 replace industry_division = "E" if industry_text == "Transportation By Air"
 replace sicD = 1 if industry_text == "Transportation Equipment"
 replace industry_division = "D" if industry_text == "Transportation Equipment"
 replace sicE = 1 if industry_text == "Transportation Services"
 replace industry_division = "E" if industry_text == "Transportation Services"
 replace sicE = 1 if industry_text == "United States Postal Service"

```

replace industry_division = "E" if industry_text == "United States Postal Service"
replace sicE = 1 if industry_text == "Water Transportation"
replace industry_division = "E" if industry_text == "Water Transportation"
replace sicF = 1 if industry_text == "Wholesale Trade-durable Goods"
replace industry_division = "F" if industry_text == "Wholesale Trade-durable Goods"
replace sicF = 1 if industry_text == "Wholesale Trade-non-durable Goods"
replace industry_division = "F" if industry_text == "Wholesale Trade-non-durable Goods"

```

```

tab industry_division // create globals
drop sicJ // no observations
global sic_division_FE sicA sicB sicC sicD sicE sicF sicG sicH sicI

```

*CONTROL VARIABLE: Year fixed-effects

```

tab year, gen(dyear) // create globals
rename dyear1 y2010
rename dyear2 y2011
rename dyear3 y2012
rename dyear4 y2013
rename dyear5 y2014
rename dyear6 y2015
rename dyear7 y2016
rename dyear8 y2017
rename dyear9 y2018

```

```

global year_FE y2010 y2011 y2012 y2013 y2014 y2015 y2016 y2017 y2018

```

*INDEPENDENT VARIABLE: elite_binary - indicating whether there is at least one elite member on the supervisory board

```

replace eliteboardmember = 0 if eliteboardmember != 1
bysort h_col: egen elite = total(eliteboardmember) // Number of elite board members on board in year t
label variable elite "Number of elite board members"
gen elite_binary = 1 if elite != 0
replace elite_binary = 0 if elite_binary == . // elite binary = 1 if there is at least one elite board member on board in year t
label variable elite_binary "1 if at least one elite member on board"

```

```

gen elitechair = 1 if eliteboardmember == 1 & pos_grem == 3
bysort h_col: mipolate elitechair year, gen (elitechair_binary) groupwise
replace elitechair_binary = 0 if elitechair_binary == .

```

```

gen elite_control = elite - elitechair_binary // Control variable for H2

```

```

// Compare tenure as indicator for human capital (Chapter 5.1)
// gen yearten_firm = year - ten_firm
// egen first_elite = min(cond(eliteboardmember == 1, _n, .)), by(name)
// duplicates drop name isin_for_data first_elite, force
// replace eliteboardmember = 1
// replace eliteboardmember = 0 if first_elite == .

```

** SAMPLE ANALYSIS AND DESCRIPTIVE STATISTICS

```

bysort year isin: keep if _n==1 //firm level data, no year and isin were missing // 812 firm-year observations
mdesc roa tobinsq elite elite_binary elitechair_binary elite_control firmsize boardsize relativeCEOpower COB_CE-
Opower busyboard industry_text year // firmsize missing 7x

```

```

// fill in missing data on firmsize, based on websearch
replace firmsize = 1894 if h_col == "adva2017"
replace firmsize = 2071 if h_col == "dialog-semi2017"
replace firmsize = 2100 if h_col == "dialog-semi2018"
replace firmsize = 22024 if h_col == "fraport2017"
replace firmsize = 23299 if h_col == "fraport2018"
replace firmsize = 42410 if h_col == "mue-rueck2017"
replace firmsize = 41410 if h_col == "mue-rueck2018"

```

*1.DEPENDENT VARIABLES: roa and tobinsq

```

//Industry-adjusted ROA

sum roa, detail
hist roa, normal name(roa_hist, replace)
graph box roa, marker(1, msymbol(x)) name(roa_box, replace) nodraw
graph box roa, marker(1, msymbol(x) mlabel(h_col))
graph combine roa_hist roa_box

bysort industry_division year: egen roa_indmean = mean(roa) //
gen adj_roa = roa - roa_indmean
tab h_col if adj_roa == 0 // For 16 firm-year observations (4 companies), adjusted roa is zero, since they are the
only company in the industry in the given year
drop if adj_roa == 0

sum adj_roa, detail
hist adj_roa, normal name(adj_roa_hist, replace) nodraw
graph box adj_roa, marker(1, msymbol(x)) name(adj_roa_box, replace) nodraw
graph box adj_roa, marker(1, msymbol(x) mlabel(h_col))

//Market-adjusted Tobin's Q

sum tobinsq, detail
hist tobinsq, normal name(tq_hist, replace) nodraw
graph box tobinsq, marker(1, msymbol(x)) name(tq_box, replace) nodraw
graph box tobinsq, marker(1, msymbol(x) mlabel(h_col))

gen lntobinsq = ln(tobinsq)
gen srtobinsq = sqrt(tobinsq)
hist lntobinsq, normal name(tq_hist_ln, replace) nodraw
graph box lntobinsq, marker(1, msymbol(x)) name(tq_box_ln, replace) nodraw
hist srtobinsq, normal name(tq_hist_sr, replace) nodraw
graph box srtobinsq, marker(1, msymbol(x)) name(tq_box_sr, replace) nodraw
graph combine tq_hist tq_hist_ln tq_hist_sr tq_box tq_box_ln tq_box_sr

bys year: egen tobinsq_mean = mean(tobinsq)
gen adj_tobinsq = tobinsq - tobinsq_mean

sum adj_tobinsq, detail // has negative values, therefore no transformation possible
hist adj_tobinsq, normal name(adj_tq_hist, replace) nodraw
graph box adj_tobinsq, marker(1, msymbol(x)) name(adj_tq_box, replace) nodraw
graph box adj_tobinsq, marker(1, msymbol(x) mlabel(h_col))

graph combine adj_roa_hist adj_roa_box adj_tq_hist adj_tq_box

*2. CONTROL VARIABLE: Prior performance

sort isin_for_data year
by isin_for_data: gen roa_tminus1 = roa[_n-1] if year==year[_n-1]+1
sort isin_for_data year
by isin_for_data: gen adj_roa_tminus1 = adj_roa[_n-1] if year==year[_n-1]+1 // 146 missing values due to time lag

sort isin_for_data year
by isin_for_data: gen tq_tminus1 = tobinsq[_n-1] if year==year[_n-1]+1
sort isin_for_data year
by isin_for_data: gen adj_tq_tminus1 = adj_tobinsq[_n-1] if year==year[_n-1]+1
gen tq_dif = tobinsq - tq_tminus1
gen adj_tq_dif = adj_tobinsq - adj_tq_tminus1 // 146 missing value due to time lag
// year 2010 missing 100%, since there is no data for 2009

hist adj_roa_tminus1, normal name(adj_roa_tminus1_hist, replace) nodraw
graph box adj_roa_tminus1, marker(1, msymbol(x)) name(adj_roa_tminus1_box, replace) nodraw
graph box adj_roa_tminus1, marker(1, msymbol(x) mlabel(h_col))

hist adj_tq_dif, normal name(adj_tq_dif_hist, replace) nodraw
graph box adj_tq_dif, marker(1, msymbol(x)) name(adj_tq_dif_box, replace) nodraw
graph box adj_tq_dif, marker(1, msymbol(x) mlabel(h_col))

```



```

graph combine adj_roa_tminus1_hist adj_roa_tminus1_box adj_tq_dif_hist adj_tq_dif_box

// First summary statistics and pairwise correlation table (Chapter 5.1)

*Summary statistics table
//sum elite_binary elitechair_binary elite_control firmsize boardsize busyboard relativeCEOpower COB_CEOpower
adj_roa adj_tobinsq adj_tq_dif adj_roa_tminus1 $sic_division_FE $year_FE

*Correlations
//pworth elite_binary elitechair_binary elite_control firmsize boardsize busyboard relativeCEOpower COB_CEO-
power adj_roa adj_tobinsq adj_tq_dif adj_roa_tminus1 $sic_division_FE $year_FE, star(.01)

*3. INDEPENDENT VARIABLE: elite_binary

tab elite_binary // 33.89% = 1
tab elite
tab elitechair_binary // 19.56% = 1
tab elite_control

*4. CONTROL VARIABLE: firm_size

hist firmsize, normal
graph box firmsize, marker(1, msymbol(x)) over(year)
sum firmsize, detail
drop if firmsize <= 5 // outliers, 9 observations deleted

gen lnfirm_size = ln(firmsize)
gen srfirm_size = sqrt(firmsize)
hist firmsize, normal name(firmsize_hist, replace) nodraw
graph box firmsize, marker(1, symbol(x)) name(firmsize_box, replace) nodraw
hist lnfirm_size, normal name(firmsize_hist_ln, replace) nodraw
graph box lnfirm_size, marker(1, symbol(x)) name(lnfirm_size_box, replace) nodraw
hist srfirm_size, normal name(firmsize_hist_sr, replace) nodraw
graph box srfirm_size, marker(1, symbol(x)) name(srfirm_size_box, replace) nodraw
graph combine firmsize_hist firmsize_hist_ln firmsize_hist_sr firmsize_box lnfirm_size_box srfirm_size_box // choos-
ing ln
drop srfirm_size

*5. CONTROL VARIABLE: board_size

sum boardsize, detail
tab boardsize
hist boardsize, normal name(boardsize_hist, replace) nodraw
graph box boardsize, marker(1, msymbol(x)) name(boardsize_box, replace) nodraw
graph combine boardsize_hist boardsize_box

*6. CONTROL VARIABLE: busyboard

sum busyboard, detail
hist busyboard, normal name(busyboard_hist, replace) nodraw
graph box busyboard, marker(1, msymbol(x)) name(busyboard_box, replace) nodraw

// Alternative control, excluding elite board members
sum busyboard_2, detail
graph box busyboard_2, marker(1, msymbol(x) mlabel (h_col))
hist busyboard_2, normal name (busyboard_2_hist, replace) nodraw
graph box busyboard_2, marker(1, msymbol(x)) name(busyboard_2_box, replace) nodraw
graph combine busyboard_hist busyboard_box busyboard_2_hist busyboard_2_box

// Choosing 2nd option because of high correlation and better distribution

rename busyboard busyboard_withEBM
rename busyboard_2 busyboard

*7. CONTROL VARIABLE: relativeCEOpower

sum relativeCEOpower, detail
hist relativeCEOpower, normal

```

```

graph box relativeCEOpower, marker(1, msymbol(x) mlabel(h_col))

gen lnrelativeCEOpower = ln(relativeCEOpower)
gen srrelativeCEOpower = sqrt(relativeCEOpower)
hist relativeCEOpower, normal name (relativeCEOpower_hist, replace) nodraw
graph box relativeCEOpower, marker(1, msymbol(x)) name(relativeCEOpower_box, replace) nodraw
hist lnrelativeCEOpower, normal name (relativeCEOpower_hist_ln, replace) nodraw
graph box lnrelativeCEOpower, marker(1, msymbol(x)) name(relativeCEOpower_box_ln, replace) nodraw
hist srrelativeCEOpower, normal name (relativeCEOpower_hist_sr, replace) nodraw
graph box srrelativeCEOpower, marker(1, msymbol(x)) name(relativeCEOpower_box_sr, replace) nodraw

graph combine relativeCEOpower_hist relativeCEOpower_hist_ln relativeCEOpower_hist_sr relativeCEO-
power_box relativeCEOpower_box_ln relativeCEOpower_box_sr // choosing ln
drop srrelativeCEOpower

sum COB_CEOpower, detail
hist COB_CEOpower, normal
graph box COB_CEOpower, marker(1, msymbol(x) mlabel(h_col))

gen lnCOB_CEOpower = ln(COB_CEOpower)
gen srCOB_CEOpower = sqrt(COB_CEOpower)
hist COB_CEOpower, normal name (COB_CEOpower_hist, replace) nodraw
graph box COB_CEOpower, marker(1, msymbol(x)) name(COB_CEOpower_box, replace) nodraw
hist lnCOB_CEOpower, normal name (COB_CEOpower_hist_ln, replace) nodraw
graph box lnCOB_CEOpower, marker(1, msymbol(x)) name(COB_CEOpower_box_ln, replace) nodraw
hist srCOB_CEOpower, normal name (COB_CEOpower_hist_sr, replace) nodraw
graph box srCOB_CEOpower, marker(1, msymbol(x)) name(COB_CEOpower_box_sr, replace) nodraw

graph combine COB_CEOpower_hist COB_CEOpower_hist_ln COB_CEOpower_hist_sr COB_CEOpower_box
COB_CEOpower_box_ln COB_CEOpower_box_sr // choosing ln
drop srCOB_CEOpower

**PANEL REGRESSION MODEL

sort isin year
egen firm_id = group(isin_for_data)
xtset firm_id year
xtdescribe // 891 firm-year observations, 141 firms, 9 years

*Lag ROA
sort isin_for_data year
by isin_for_data: gen adj_roa_t1 = adj_roa[_n+1] if year==year[_n+1]-1 // 145 missing values
sort isin_for_data year
by isin_for_data: gen adj_roa_t2 = adj_roa[_n+2] if year==year[_n+2]-2 // 278 missing values

**VIF - testing for multicollinearity

*Hypothesis 1
pwcrr adj_roa_t2 elite_binary lnfirm_size boardsize busyboard lnrelativeCEOpower adj_tq_dif $sic_division_FE
$year_FE, star(.01)
reg adj_roa_t2 elite_binary lnfirm_size boardsize busyboard lnrelativeCEOpower adj_tq_dif $sic_division_FE
$year_FE // variance inflation factors (rule of thumb: vif should be < 10)
estat vif
pwcrr adj_roa_t2 elite_binary lnfirm_size boardsize busyboard lnrelativeCEOpower adj_tq_dif $year_FE, star(.01)
reg adj_roa_t2 elite_binary lnfirm_size boardsize busyboard lnrelativeCEOpower adj_tq_dif $year_FE // variance
inflation factors (rule of thumb: vif should be < 10)
estat vif

pwcrr adj_tobinsq elite_binary lnfirm_size boardsize busyboard lnrelativeCEOpower adj_roa_tminus1 $year_FE
$sic_division_FE, star(.01)
reg adj_tobinsq elite_binary lnfirm_size boardsize busyboard lnrelativeCEOpower adj_roa_tminus1 $year_FE
$sic_division_FE // variance inflation factors (rule of thumb: vif should be < 10)
estat vif
pwcrr adj_tobinsq elite_binary lnfirm_size boardsize busyboard lnrelativeCEOpower adj_roa_tminus1 $year_FE,
star(.01)
reg adj_tobinsq elite_binary lnfirm_size boardsize busyboard lnrelativeCEOpower adj_roa_tminus1 $year_FE // var-
iance inflation factors (rule of thumb: vif should be < 10)

```

estat vif

***Hypothesis 2**

```
pwcorr adj_roa_t2 elitechair_binary elite_control Infirmsize boardsize busyboard lnCOB_CEOpower adj_tq_dif $sic_division_FE $year_FE, star(.01)
```

```
reg adj_roa_t2 elitechair_binary elite_control Infirmsize boardsize busyboard lnCOB_CEOpower adj_tq_dif $sic_division_FE $year_FE // variance inflation factors (rule of thumb: vif should be < 10)
```

estat vif

```
pwcorr adj_roa_t2 elitechair_binary elite_control Infirmsize boardsize busyboard lnCOB_CEOpower adj_tq_dif $year_FE, star(.01)
```

```
reg adj_roa_t2 elitechair_binary elite_control Infirmsize boardsize busyboard lnCOB_CEOpower adj_tq_dif $year_FE // variance inflation factors (rule of thumb: vif should be < 10)
```

estat vif

```
pwcorr adj_tobinsq elitechair_binary elite_control Infirmsize boardsize busyboard lnCOB_CEOpower adj_roa_tminus1 $year_FE $sic_division_FE, star(.01)
```

```
reg adj_tobinsq elitechair_binary elite_control Infirmsize boardsize busyboard lnCOB_CEOpower adj_roa_tminus1 $year_FE $sic_division_FE // variance inflation factors (rule of thumb: vif should be < 10)
```

estat vif

```
pwcorr adj_tobinsq elitechair_binary elite_control Infirmsize boardsize busyboard lnCOB_CEOpower adj_roa_tminus1 $year_FE, star(.01)
```

```
reg adj_tobinsq elitechair_binary elite_control Infirmsize boardsize busyboard lnCOB_CEOpower adj_roa_tminus1 $year_FE // variance inflation factors (rule of thumb: vif should be < 10)
```

estat vif

***Summary statistics**

```
sum elite_binary elitechair_binary elite_control Infirmsize boardsize busyboard lnrelativeCEOpower lnCOB_CEOpower adj_roa adj_tobinsq adj_tq_dif adj_roa_tminus1 $sic_division_FE $year_FE
```

***Pairwise correlations**

```
correlate elite_binary elitechair_binary elite_control Infirmsize boardsize busyboard lnrelativeCEOpower lnCOB_CEOpower adj_roa adj_tobinsq adj_tq_dif adj_roa_tminus1 $sic_division_FE $year_FE
```

```
pwcorr elite_binary elitechair_binary elite_control Infirmsize boardsize busyboard lnrelativeCEOpower lnCOB_CEOpower adj_roa adj_tobinsq adj_tq_dif adj_roa_tminus1 $sic_division_FE $year_FE, star(.01)
```

```
ssc install mkcorr
```

```
mkcorr elite_binary elitechair_binary elite_control Infirmsize boardsize busyboard lnrelativeCEOpower lnCOB_CEOpower adj_roa adj_tobinsq adj_tq_dif adj_roa_tminus1 $sic_division_FE $year_FE, log(statistics_table.xls) replace means no
```

```
> corr sig label cdec(3) mdec(3)
```

```
mkcorr elite_binary elitechair_binary elite_control Infirmsize boardsize busyboard lnrelativeCEOpower lnCOB_CEOpower adj_roa adj_tobinsq adj_tq_dif adj_roa_tminus1 $sic_division_FE $year_FE, log(correlation_table.xls) replace sig lab
```

```
> el cdec(3) mdec(3)
```

****HYPOTHESIS TESTING**

**** HYPOTHESIS 1:** Having an elite board member is positively associated with firm performance.

// random effects or pooled OLS?

```
quietly xtreg adj_roa_t2 elite_binary adj_tq_dif Infirmsize boardsize busyboard lnrelativeCEOpower $sic_division_FE $year_FE, re
```

```
xttest0 // Breusch-Pagan Lagrange multiplier (LM) test (H0: variance across firms = 0, i.e. no panel effect) // H0 can be rejected, therefore I do not use OLS
```

```
quietly xtreg adj_tobinsq elite_binary adj_roa_tminus1 Infirmsize boardsize busyboard lnrelativeCEOpower $sic_division_FE $year_FE, re
```

```
xttest0 // Breusch-Pagan Lagrange multiplier (LM) test (H0: variance across firms = 0, i.e. no panel effect) -> I cannot use OLS
```

// fixed effects or random effects?

```
quietly xtreg adj_roa_t2 elite_binary adj_tq_dif Infirmsize boardsize busyboard lnrelativeCEOpower $sic_division_FE $year_FE, fe
```

```
estimates store fixed
```

```
quietly xtreg adj_roa_t2 elite_binary adj_tq_dif Infirmsize boardsize busyboard lnrelativeCEOpower $sic_division_FE $year_FE, re
```

```
estimates store random
hausman fixed random // Hausman test (H0: random effects is preferred model-> if Prob<0.05, significant, use
fixed effects) -> reject H0, use FE
```

```
quietly xtreg adj_tobinsq elite_binary adj_roa_tminus1 Infirmisize boardsize busyboard InrelativeCEOpower $sic_divi-
sion_FE $year_FE, fe
estimates store fixed
quietly xtreg adj_tobinsq elite_binary adj_roa_tminus1 Infirmisize boardsize busyboard InrelativeCEOpower $sic_divi-
sion_FE $year_FE, re
estimates store random
hausman fixed random, sigmamore // Hausman test (H0: random effects is preferred model-> if Prob<0.05, signif-
icant, use fixed effects) -> H0 rejected, therefore I use FE
```

```
// robust function
xtreg adj_roa_t2 elite_binary adj_tq_dif Infirmisize boardsize busyboard InrelativeCEOpower $sic_division_FE
$year_FE , fe
estimates table, star(0.05 0.01 0.001)
ssc install xttest3 // Testing for heteroskedasticity for fixed-effects models under H0: homoskedasticity
xttest3 // H0 rejected -> using robust function
```

```
xtreg adj_tobinsq elite_binary adj_roa_tminus1 Infirmisize boardsize busyboard InrelativeCEOpower $sic_divi-
sion_FE $year_FE, fe
estimates table, star(0.05 0.01 0.001)
ssc install xttest3 // Testing for heteroskedasticity for fixed-effects models; H0: homoskedasticity
xttest3 // H0 is rejected -> use robust function
```

```
// compare all models
quietly xtreg adj_roa_t2 elite_binary adj_tq_dif Infirmisize boardsize busyboard InrelativeCEOpower $sic_divi-
sion_FE $year_FE, fe robust
estimates store fixed
quietly xtreg adj_roa_t2 elite_binary adj_tq_dif Infirmisize boardsize busyboard InrelativeCEOpower $sic_divi-
sion_FE $year_FE, re robust
estimates store random
quietly reg adj_roa_t2 elite_binary adj_tq_dif Infirmisize boardsize busyboard InrelativeCEOpower $sic_division_FE
$year_FE
estimates store ols
estimates table ols random fixed, b(%9.3f) stfmt(%9.0f) star stats(N N_g)
```

```
quietly xtreg adj_tobinsq elite_binary adj_roa_tminus1 Infirmisize boardsize busyboard InrelativeCEOpower $sic_divi-
sion_FE $year_FE, fe robust
estimates store fixed
quietly xtreg adj_tobinsq elite_binary adj_roa_tminus1 Infirmisize boardsize busyboard InrelativeCEOpower $sic_divi-
sion_FE $year_FE, re robust
estimates store random
quietly reg adj_tobinsq elite_binary adj_roa_tminus1 Infirmisize boardsize busyboard InrelativeCEOpower $sic_divi-
sion_FE $year_FE
estimates store ols
estimates table ols random fixed, b(%9.3f) stfmt(%9.0f) star stats(N N_g)
```

*OUTPUT MODELS

```
ssc install outreg2
```

```
xtreg adj_roa_t2 adj_tq_dif Infirmisize boardsize busyboard InrelativeCEOpower $year_FE, fe robust // Control
model
outreg2 using regtable_H1, sortvar(adj_roa_t2 elite_binary adj_tq_dif adj_roa_tminus1 Infirmisize boardsize busy-
board InrelativeCEOpower $year_FE) excel replace alpha(0.001, 0.01, 0.05, 0.1) symbol(**, **, *, +) dec(3) nor2
addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_roa_t2 elite_binary adj_tq_dif Infirmisize boardsize busyboard InrelativeCEOpower $year_FE, fe robust //
HYP1A ROAt+2
outreg2 using regtable_H1, sortvar(adj_roa_t2 elite_binary adj_tq_dif adj_roa_tminus1 Infirmisize boardsize busy-
board InrelativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(**, **, *, +) dec(3) nor2
addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_tobinsq adj_roa_tminus1 Infirmisize boardsize busyboard InrelativeCEOpower $year_FE, fe robust // Con-
trol model
```

```

outreg2 using regtable_H1, sortvar(adj_roa_t2 elite_binary adj_tq_dif adj_roa_tminus1 Infirmisize boardsize busyboard InrelativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2
addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

```

xtreg adj_tobinsq elite_binary adj_roa_tminus1 Infirmisize boardsize busyboard InrelativeCEOpower $year_FE, fe
robust // HYP1B TQ
outreg2 using regtable_H1, sortvar(adj_roa_t2 elite_binary adj_tq_dif adj_roa_tminus1 Infirmisize boardsize busyboard InrelativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2
addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

****HYPOTHESIS 2:** If the board chair is elite, the impact on firm performance will be stronger.

```

// random effects or pooled OLS?
quietly xtreg adj_roa_t2 elitechair_binary elite_control adj_tq_dif Infirmisize boardsize busyboard lnCOB_CEOpower $sic_division_FE $year_FE, re
xttest0 // Breusch-Pagan Lagrange multiplier (LM) test (H0: variance across firms = 0, i.e. no panel effect) // H0 can be rejected, therefore I do not use OLS

```

```

quietly xtreg adj_tobinsq elitechair_binary elite_control adj_roa_tminus1 Infirmisize boardsize busyboard lnCOB_CEOpower $sic_division_FE $year_FE, re
xttest0 // Breusch-Pagan Lagrange multiplier (LM) test (H0: variance across firms = 0, i.e. no panel effect) // H0 can be rejected, therefore I do not use OLS

```

```

// fixed effects or random effects?
quietly xtreg adj_roa_t2 elitechair_binary elite_control adj_tq_dif Infirmisize boardsize busyboard lnCOB_CEOpower $sic_division_FE $year_FE, fe
estimates store fixed
quietly xtreg adj_roa_t2 elitechair_binary elite_control adj_tq_dif Infirmisize boardsize busyboard lnCOB_CEOpower $sic_division_FE $year_FE, re
estimates store random
hausman fixed random // Hausman test (H0: random effects is preferred model-> if Prob<0.05, significant, use fixed effects) -> reject H0, use FE

```

```

quietly xtreg adj_tobinsq elitechair_binary elite_control adj_roa_tminus1 Infirmisize boardsize busyboard lnCOB_CEOpower $sic_division_FE $year_FE, fe
estimates store fixed
quietly xtreg adj_tobinsq elitechair_binary elite_control adj_roa_tminus1 Infirmisize boardsize busyboard lnCOB_CEOpower $sic_division_FE $year_FE, re
estimates store random
hausman fixed random // Hausman test (H0: random effects is preferred model-> if Prob<0.05, significant, use fixed effects) -> reject H0, use FE

```

```

// robust function
xtreg adj_roa_t2 elitechair_binary elite_control adj_tq_dif Infirmisize boardsize busyboard lnCOB_CEOpower $sic_division_FE $year_FE, fe
estimates table, star(0.05 0.01 0.001)
ssc install xttest3 // Testing for heteroskedasticity for fixed-effects models under H0: homoskedasticity
xttest3 // H0 rejected -> using robust function

```

```

xtreg adj_tobinsq elitechair_binary elite_control adj_roa_tminus1 Infirmisize boardsize busyboard lnCOB_CEOpower $sic_division_FE $year_FE, fe
estimates table, star(0.05 0.01 0.001)
ssc install xttest3 // Testing for heteroskedasticity for fixed-effects models under H0: homoskedasticity
xttest3 // H0 rejected -> using robust function

```

```

// compare all models
quietly xtreg adj_roa_t2 elitechair_binary elite_control adj_tq_dif Infirmisize boardsize busyboard lnCOB_CEOpower $sic_division_FE $year_FE, fe robust
estimates store fixed
quietly xtreg adj_roa_t2 elitechair_binary elite_control adj_tq_dif Infirmisize boardsize busyboard lnCOB_CEOpower $sic_division_FE $year_FE, re robust
estimates store random
quietly reg adj_roa_t2 elitechair_binary elite_control adj_tq_dif Infirmisize boardsize busyboard lnCOB_CEOpower $sic_division_FE $year_FE
estimates store ols
estimates table ols random fixed, b(%9.3f) stfmt(%9.0f) star stats(N N_g)

```

```

quietly xtreg adj_tobinsq elitechair_binary elite_control adj_roa_tminus1 Infirmsize boardsize busyboard
lnCOB_CEOpower $sic_division_FE $year_FE, fe robust
estimates store fixed
quietly xtreg adj_tobinsq elitechair_binary elite_control adj_roa_tminus1 Infirmsize boardsize busyboard
lnCOB_CEOpower $sic_division_FE $year_FE, re robust
estimates store random
quietly reg adj_tobinsq elitechair_binary elite_control adj_roa_tminus1 Infirmsize boardsize busyboard lnCOB_CE-
Opower $sic_division_FE $year_FE
estimates store ols
estimates table ols random fixed, b(%9.3f) stfmt(%9.0f) star stats(N N_g)

```

***OUTPUT MODELS**

```
ssc install outreg2
```

```

xtreg adj_roa_t2 elite_control adj_tq_dif Infirmsize boardsize busyboard lnCOB_CEOpower $year_FE, fe robust //
Control model
outreg2 using regtable_H2, sortvar(adj_roa_t2 elitechair_binary elite_control adj_tq_dif adj_roa_tminus1 Infirmsize
boardsize busyboard lnCOB_CEOpower $year_FE) excel replace alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +)
dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

```

xtreg adj_roa_t2 elitechair_binary elite_control adj_tq_dif Infirmsize boardsize busyboard lnCOB_CEOpower
$year_FE, fe robust // HYP1 ROAt+2
outreg2 using regtable_H2, sortvar(adj_roa_t2 elitechair_binary elite_control adj_tq_dif adj_roa_tminus1 Infirmsize
boardsize busyboard lnCOB_CEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +)
dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

```

xtreg adj_tobinsq elite_control adj_roa_tminus1 Infirmsize boardsize busyboard lnCOB_CEOpower $year_FE, fe
robust // Control model
outreg2 using regtable_H2, sortvar(adj_tobinsq elitechair_binary elite_control adj_tq_dif adj_roa_tminus1 Infirmsize
boardsize busyboard lnCOB_CEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +)
dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

```

xtreg adj_tobinsq elitechair_binary elite_control adj_roa_tminus1 Infirmsize boardsize busyboard lnCOB_CEO-
power $year_FE, fe robust // HYP1 TQ
outreg2 using regtable_H2, sortvar(adj_tobinsq elitechair_binary elite_control adj_tq_dif adj_roa_tminus1 Infirmsize
boardsize busyboard lnCOB_CEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +)
dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

****OUTPUT FOR ROBUSTNESS TESTS**

*** HYPOTHESIS 1

// Results for alternative operationalization of IV: one is a token

```

gen elite_binary_2 = 1 if elite >= 2
replace elite_binary_2 = 0 if elite_binary_2 == . // elite binary = 1 if there is are least two elite board members on
board in year t
label variable elite_binary_2 "1 if at least two elite members on board"
tab elite_binary_2 // 18.41%

```

```

xtreg adj_roa_t2 adj_tq_dif Infirmsize boardsize busyboard lnrelativeCEOpower $year_FE, fe robust // Control
model
outreg2 using regtable_RT, sortvar(adj_roa_t2 elite_binary_2 adj_tq_dif adj_roa_tminus1 Infirmsize boardsize bus-
yboard lnrelativeCEOpower $year_FE) excel replace alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2
addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

```

xtreg adj_roa_t2 elite_binary_2 adj_tq_dif Infirmsize boardsize busyboard lnrelativeCEOpower $year_FE, fe robust
// HYP1A ROAt+2
outreg2 using regtable_RT, sortvar(adj_roa_t2 elite_binary_2 adj_tq_dif adj_roa_tminus1 Infirmsize boardsize bus-
yboard lnrelativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2
addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

```

xtreg adj_tobinsq adj_roa_tminus1 Infirmsize boardsize busyboard lnrelativeCEOpower $year_FE, fe robust // Con-
trol model
outreg2 using regtable_RT, sortvar(adj_roa_t2 elite_binary_2 adj_tq_dif adj_roa_tminus1 Infirmsize boardsize bus-
yboard lnrelativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2
addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

```

xtreg adj_tobinsq elite_binary_2 adj_roa_tminus1 Infirmisize boardsize busyboard InrelativeCEOpower $year_FE,
fe robust // HYP1B TQ
outreg2 using regtable_RT, sortvar(adj_roa_t2 elite_binary_2 adj_tq_dif adj_roa_tminus1 Infirmisize boardsize bus-
yboard InrelativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2
addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

// Results for alternative operationalization of IV: only if 1 elite board member

```

gen elite_binary_1 = 1 if elite == 1
replace elite_binary_1 = 0 if elite_binary_1 == .
label variable elite_binary_1 "1 if exactly one elite member on board"
tab elite_binary_1 // 15.82%

```

```

xtreg adj_roa_t2 adj_tq_dif Infirmisize boardsize busyboard InrelativeCEOpower $year_FE, fe robust // Control
model
outreg2 using regtable_RT, sortvar(adj_roa_t2 elite_binary_1 adj_tq_dif adj_roa_tminus1 Infirmisize boardsize bus-
yboard InrelativeCEOpower $year_FE) excel replace alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2
addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

```

xtreg adj_roa_t2 elite_binary_1 adj_tq_dif Infirmisize boardsize busyboard InrelativeCEOpower $year_FE, fe robust
// HYP1A ROAt+2
outreg2 using regtable_RT, sortvar(adj_roa_t2 elite_binary_1 adj_tq_dif adj_roa_tminus1 Infirmisize boardsize bus-
yboard InrelativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2
addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

```

xtreg adj_tobinsq adj_roa_tminus1 Infirmisize boardsize busyboard InrelativeCEOpower $year_FE, fe robust // Con-
trol model
outreg2 using regtable_RT, sortvar(adj_roa_t2 elite_binary_1 adj_tq_dif adj_roa_tminus1 Infirmisize boardsize bus-
yboard InrelativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2
addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

```

xtreg adj_tobinsq elite_binary_1 adj_roa_tminus1 Infirmisize boardsize busyboard InrelativeCEOpower $year_FE,
fe robust // HYP1B TQ
outreg2 using regtable_RT, sortvar(adj_roa_t2 elite_binary_1 adj_tq_dif adj_roa_tminus1 Infirmisize boardsize bus-
yboard InrelativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2
addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

//Results for alternative oepritionalization of IV: count variable instead of binary

```

xtreg adj_roa_t2 adj_tq_dif Infirmisize boardsize busyboard InrelativeCEOpower $year_FE, fe robust // Control
model
outreg2 using regtable_RT, sortvar(adj_roa_t2 elite adj_tq_dif adj_roa_tminus1 Infirmisize boardsize busyboard
InrelativeCEOpower $year_FE) excel replace alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2
addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

```

xtreg adj_roa_t2 elite adj_tq_dif Infirmisize boardsize busyboard InrelativeCEOpower $year_FE, fe robust // HYP1A
ROAt+2
outreg2 using regtable_RT, sortvar(adj_roa_t2 elite adj_tq_dif adj_roa_tminus1 Infirmisize boardsize busyboard
InrelativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2
addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

```

xtreg adj_tobinsq adj_roa_tminus1 Infirmisize boardsize busyboard InrelativeCEOpower $year_FE, fe robust // Con-
trol model
outreg2 using regtable_RT, sortvar(adj_roa_t2 elite adj_tq_dif adj_roa_tminus1 Infirmisize boardsize busyboard
InrelativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2
addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

```

xtreg adj_tobinsq elite adj_roa_tminus1 Infirmisize boardsize busyboard InrelativeCEOpower $year_FE, fe robust //
HYP1B TQ
outreg2 using regtable_RT, sortvar(adj_roa_t2 elite adj_tq_dif adj_roa_tminus1 Infirmisize boardsize busyboard
InrelativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2
addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

//Results for alternative lagging of ROA: ROAt+1, no lag and rolling average

```

bysort isin_for_data (year): gen adj_roa_MA3=(adj_roa[_n+2]+adj_roa[_n+1]+adj_roa[_n])/3 // 274 missing values

```

```

xtreg adj_roa adj_tq_dif Infirmsize boardsize busyboard InrelativeCEOpower $year_FE, fe robust // Control model
outreg2 using regtable_RT, sortvar(adj_roa adj_roa_t1 adj_roa_MA3 adj_roa_t2 elite_binary adj_tq_dif Infirmsize
boardsize busyboard InrelativeCEOpower $year_FE) excel replace alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *,
+) dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

```

xtreg adj_roa elite_binary adj_tq_dif Infirmsize boardsize busyboard InrelativeCEOpower $year_FE, fe robust //
HYP1 ROAt
outreg2 using regtable_RT, sortvar(adj_roa adj_roa_t1 adj_roa_MA3 adj_roa_t2 elite_binary adj_tq_dif Infirmsize
boardsize busyboard InrelativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *,
+) dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

```

xtreg adj_roa_t1 adj_tq_dif Infirmsize boardsize busyboard InrelativeCEOpower $year_FE, fe robust // Control
model
outreg2 using regtable_RT, sortvar(adj_roa adj_roa_t1 adj_roa_MA3 adj_roa_t2 elite_binary adj_tq_dif Infirmsize
boardsize busyboard InrelativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *,
+) dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

```

xtreg adj_roa_t1 elite_binary adj_tq_dif Infirmsize boardsize busyboard InrelativeCEOpower $year_FE, fe robust //
HYP1 ROAt+1
outreg2 using regtable_RT, sortvar(adj_roa adj_roa_t1 adj_roa_MA3 adj_roa_t2 elite_binary adj_tq_dif Infirmsize
boardsize busyboard InrelativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *,
+) dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

```

xtreg adj_roa_MA3 adj_tq_dif Infirmsize boardsize busyboard InrelativeCEOpower $year_FE, fe robust // Control
model
outreg2 using regtable_RT, sortvar(adj_roa adj_roa_t1 adj_roa_MA3 adj_roa_t2 elite_binary adj_tq_dif Infirmsize
boardsize busyboard InrelativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *,
+) dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

```

xtreg adj_roa_MA3 elite_binary adj_tq_dif Infirmsize boardsize busyboard InrelativeCEOpower $year_FE, fe robust
// HYP1 ROA moving average
outreg2 using regtable_RT, sortvar(adj_roa adj_roa_t1 adj_roa_MA3 adj_roa_t2 elite_binary adj_tq_dif Infirmsize
boardsize busyboard InrelativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *,
+) dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

// Results for not adjusted performance -> see RT_no adjustment of DV.do

//Results for alternative Busy board variable

```

xtreg adj_roa_t2 adj_tq_dif Infirmsize boardsize busyboard_withEBM InrelativeCEOpower $year_FE, fe robust //
Control model
outreg2 using regtable_RT, sortvar(elite_binary adj_tq_dif adj_roa_tminus1 Infirmsize boardsize busy-
board_withEBM InrelativeCEOpower $year_FE) excel replace alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +)
dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

```

xtreg adj_roa_t2 elite_binary adj_tq_dif Infirmsize boardsize busyboard_withEBM InrelativeCEOpower $year_FE,
fe robust // HYP1 ROAt+2, busy board alternative
outreg2 using regtable_RT, sortvar(elite_binary adj_tq_dif adj_roa_tminus1 Infirmsize boardsize busy-
board_withEBM InrelativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +)
dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

```

xtreg adj_tobinsq adj_roa_tminus1 Infirmsize boardsize busyboard_withEBM InrelativeCEOpower $year_FE, fe ro-
bust // Control model
outreg2 using regtable_RT, sortvar(elite_binary adj_tq_dif adj_roa_tminus1 Infirmsize boardsize
busybaord_withEBM InrelativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *,
+) dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

```

xtreg adj_tobinsq elite_binary adj_roa_tminus1 Infirmsize boardsize busyboard_withEBM InrelativeCEOpower
$year_FE, fe robust // HYP1 TQ
outreg2 using regtable_RT, sortvar(elite_binary adj_tq_dif adj_roa_tminus1 Infirmsize boardsize
busybaord_withEBM InrelativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *,
+) dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)

```

// Results for non-transformed control variables (firm size and relative CEO power)

```

xtreg adj_roa_t2 adj_tq_dif firmsize boardsize busyboard InrelativeCEOpower $year_FE, fe robust // Control model

```



```
outreg2 using regtable_RT, sortvar(elite_binary adj_tq_dif adj_roa_tminus1 firmsize boardsize busyboard lnrelativeCEOpower $year_FE) excel replace alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_roa_t2 elite_binary adj_tq_dif firmsize boardsize busyboard lnrelativeCEOpower $year_FE, fe robust // HYP1 ROAt+2, busy board alternative  
outreg2 using regtable_RT, sortvar(elite_binary adj_tq_dif adj_roa_tminus1 firmsize boardsize busyboard lnrelativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_tobinsq adj_roa_tminus1 firmsize boardsize busyboard lnrelativeCEOpower $year_FE, fe robust // Control model  
outreg2 using regtable_RT, sortvar(elite_binary adj_tq_dif adj_roa_tminus1 firmsize boardsize busybaord lnrelativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_tobinsq elite_binary adj_roa_tminus1 firmsize boardsize busyboard lnrelativeCEOpower $year_FE, fe robust // HYP1 TQ  
outreg2 using regtable_RT, sortvar(elite_binary adj_tq_dif adj_roa_tminus1 firmsize boardsize busybaord lnrelativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_roa_t2 adj_tq_dif lnfirmsize boardsize busyboard relativeCEOpower $year_FE, fe robust // Control model  
outreg2 using regtable_RT, sortvar(elite_binary adj_tq_dif adj_roa_tminus1 lnfirmsize boardsize busyboard relativeCEOpower $year_FE) excel replace alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_roa_t2 elite_binary adj_tq_dif lnfirmsize boardsize busyboard relativeCEOpower $year_FE, fe robust // HYP1 ROAt+2, busy board alternative  
outreg2 using regtable_RT, sortvar(elite_binary adj_tq_dif adj_roa_tminus1 lnfirmsize boardsize busyboard relativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_tobinsq adj_roa_tminus1 lnfirmsize boardsize busyboard relativeCEOpower $year_FE, fe robust // Control model  
outreg2 using regtable_RT, sortvar(elite_binary adj_tq_dif adj_roa_tminus1 lnfirmsize boardsize busybaord relativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_tobinsq elite_binary adj_roa_tminus1 lnfirmsize boardsize busyboard relativeCEOpower $year_FE, fe robust // HYP1 TQ  
outreg2 using regtable_RT, sortvar(elite_binary adj_tq_dif adj_roa_tminus1 lnfirmsize boardsize busybaord relativeCEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

*** HYPOTHESIS 2

//Results for alternative lagging of ROA: ROAt+1, no lag and rolling average

```
xtreg adj_roa elite_control adj_tq_dif lnfirmsize boardsize busyboard lnCOB_CEOpower $year_FE, fe robust // Control model  
outreg2 using regtable_RT, sortvar(adj_roa adj_roa_t1 adj_roa_MA3 adj_roa_t2 elitechair_binary elite_control adj_tq_dif lnfirmsize boardsize busyboard lnCOB_CEOpower $year_FE) excel replace alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_roa elitechair_binary elite_control adj_tq_dif lnfirmsize boardsize busyboard lnCOB_CEOpower $year_FE, fe robust // HYP1 ROAt  
outreg2 using regtable_RT, sortvar(adj_roa adj_roa_t1 adj_roa_MA3 adj_roa_t2 elitechair_binary elite_control adj_tq_dif lnfirmsize boardsize busyboard lnCOB_CEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_roa_t1 elite_control adj_tq_dif lnfirmsize boardsize busyboard lnCOB_CEOpower $year_FE, fe robust // Control model
```

```
outreg2 using regtable_RT, sortvar(adj_roa adj_roa_t1 adj_roa_MA3 adj_roa_t2 elitechair_binary elite_control
adj_tq_dif Infirmsize boardsize busyboard lnCOB_CEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1)
symbol(***, **, *, +) dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_roa_t1 elitechair_binary elite_control adj_tq_dif Infirmsize boardsize busyboard lnCOB_CEOpower
$year_FE, fe robust // HYP1 ROAt+1
outreg2 using regtable_RT, sortvar(adj_roa adj_roa_t1 adj_roa_MA3 adj_roa_t2 elitechair_binary elite_control
adj_tq_dif Infirmsize boardsize busyboard lnCOB_CEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1)
symbol(***, **, *, +) dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_roa_MA3 elite_control adj_tq_dif Infirmsize boardsize busyboard lnCOB_CEOpower $year_FE, fe robust
// Control model
outreg2 using regtable_RT, sortvar(adj_roa adj_roa_t1 adj_roa_MA3 adj_roa_t2 elitechair_binary elite_control
adj_tq_dif Infirmsize boardsize busyboard lnCOB_CEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1)
symbol(***, **, *, +) dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_roa_MA3 elitechair_binary elite_control adj_tq_dif Infirmsize boardsize busyboard lnCOB_CEOpower
$year_FE, fe robust // HYP1 ROA moving average
outreg2 using regtable_RT, sortvar(adj_roa adj_roa_t1 adj_roa_MA3 adj_roa_t2 elitechair_binary elite_control
adj_tq_dif Infirmsize boardsize busyboard lnCOB_CEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1)
symbol(***, **, *, +) dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

// Results for not adjusted performance -> see RT_no adjustment of DV.do

//Results for alternative busy board variable

```
xtreg adj_roa_t2 elite_control adj_tq_dif Infirmsize boardsize busyboard_withEBM lnCOB_CEOpower $year_FE, fe
robust // Control model
outreg2 using regtable_RT, sortvar(elitechair_binary elite_control adj_tq_dif adj_roa_tminus1 Infirmsize boardsize
busyboard_withEBM lnCOB_CEOpower $year_FE) excel replace alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +)
dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_roa_t2 elitechair_binary elite_control adj_tq_dif Infirmsize boardsize busyboard_withEBM lnCOB_CEO-
power $year_FE, fe robust // HYP1 ROAt+2, busy board alternative
outreg2 using regtable_RT, sortvar(elitechair_binary elite_control adj_tq_dif adj_roa_tminus1 Infirmsize boardsize
busyboard_withEBM lnCOB_CEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +)
dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_tobinsq elite_control adj_roa_tminus1 Infirmsize boardsize busyboard_withEBM lnCOB_CEOpower
$year_FE, fe robust // Control model
outreg2 using regtable_RT, sortvar(elitechair_binary elite_control adj_tq_dif adj_roa_tminus1 Infirmsize boardsize
busyboard_withEBM lnCOB_CEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +)
dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_tobinsq elitechair_binary elite_control adj_roa_tminus1 Infirmsize boardsize busyboard_withEBM
lnCOB_CEOpower $year_FE, fe robust // HYP1 TQ
outreg2 using regtable_RT, sortvar(elitechair_binary elite_control adj_tq_dif adj_roa_tminus1 Infirmsize boardsize
busyboard_withEBM lnCOB_CEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +)
dec(3) nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

// Results for non-transformed control variables (firm size and relative CEO power)

```
xtreg adj_roa_t2 elite_control adj_tq_dif firmsize boardsize busyboard lnCOB_CEOpower $year_FE, fe robust //
Control model
outreg2 using regtable_RT, sortvar(elitechair_binary elite_control adj_tq_dif adj_roa_tminus1 firmsize boardsize
busyboard lnCOB_CEOpower $year_FE) excel replace alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3)
nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_roa_t2 elitechair_binary elite_control adj_tq_dif firmsize boardsize busyboard lnCOB_CEOpower
$year_FE, fe robust // HYP1 ROAt+2, busy board alternative
outreg2 using regtable_RT, sortvar(elitechair_binary elite_control adj_tq_dif adj_roa_tminus1 firmsize boardsize
busyboard lnCOB_CEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3)
nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_tobinsq elite_control adj_roa_tminus1 firmsize boardsize busyboard lnCOB_CEOpower $year_FE, fe ro-
bust // Control model
```

```
outreg2 using regtable_RT, sortvar(elitechair_binary elite_control adj_tq_dif adj_roa_tminus1 firmsize boardsize
busyboard lnCOB_CEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3)
nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_tobinsq elitechair_binary elite_control adj_roa_tminus1 firmsize boardsize busyboard lnCOB_CEOpower
$year_FE, fe robust // HYP1 TQ
outreg2 using regtable_RT, sortvar(elitechair_binary elite_control adj_tq_dif adj_roa_tminus1 firmsize boardsize
busyboard lnCOB_CEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3)
nor2 addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_roa_t2 elite_control adj_tq_dif lnfirmsize boardsize busyboard COB_CEOpower $year_FE, fe robust //
Control model
outreg2 using regtable_RT, sortvar(elitechair_binary elite_control adj_tq_dif adj_roa_tminus1 lnfirmsize boardsize
busyboard COB_CEOpower $year_FE) excel replace alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2
addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_roa_t2 elitechair_binary elite_control adj_tq_dif lnfirmsize boardsize busyboard COB_CEOpower
$year_FE, fe robust // HYP1 ROAt+2, busy board alternative
outreg2 using regtable_RT, sortvar(elitechair_binary elite_control adj_tq_dif adj_roa_tminus1 lnfirmsize boardsize
busyboard COB_CEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2
addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_tobinsq elite_control adj_roa_tminus1 lnfirmsize boardsize busyboard COB_CEOpower $year_FE, fe ro-
bust // Control model
outreg2 using regtable_RT, sortvar(elitechair_binary elite_control adj_tq_dif adj_roa_tminus1 lnfirmsize boardsize
busyboard COB_CEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2
addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

```
xtreg adj_tobinsq elitechair_binary elite_control adj_roa_tminus1 lnfirmsize boardsize busyboard COB_CEOpower
$year_FE, fe robust // HYP1 TQ
outreg2 using regtable_RT, sortvar(elitechair_binary elite_control adj_tq_dif adj_roa_tminus1 lnfirmsize boardsize
busyboard COB_CEOpower $year_FE) excel append alpha(0.001, 0.01, 0.05, 0.1) symbol(***, **, *, +) dec(3) nor2
addstat(F-statistic, e(F), p-value, e(p), Adjusted R-squared, e(r2_a)) adec(3)
```

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