In the CEO We Trust:

Negative Effects of Trust between the Board and the CEO

Internet Appendix

Summary

The Internet Appendix presents additional information related to our board–CEO trust measure and reports robustness test results. Figure IA1 presents the distribution of board–CEO trust for a sample of S&P 1500 firms. Table IA1 presents the country-pair bilateral trust score matrix obtained from Eurobarometer survey results. Table IA2 demonstrates an example of computing board–CEO trust. Table IA3 presents results of robustness tests of the effect of acquirer board–CEO trust on acquirer announcement returns using alternative board–CEO trust measures, sample periods, and event windows. Table IA4 presents the results for the effect of acquirer board–CEO trust on acquirer announcement returns after including additional control variables. Table IA5 presents the results of placebo tests using the reshuffled bilateral trust matrix. Table IA6 presents the results of agency costs and the effect of board–CEO trust using industry Tobin's Q as the proxy for investment opportunities.

Figure IA1. Distribution of Board–CEO Trust

This figure plots the distribution of BOARD_CEO_TRUST before winsorization/standardization for S&P 1500 firms during the 1996 to 2017 period.
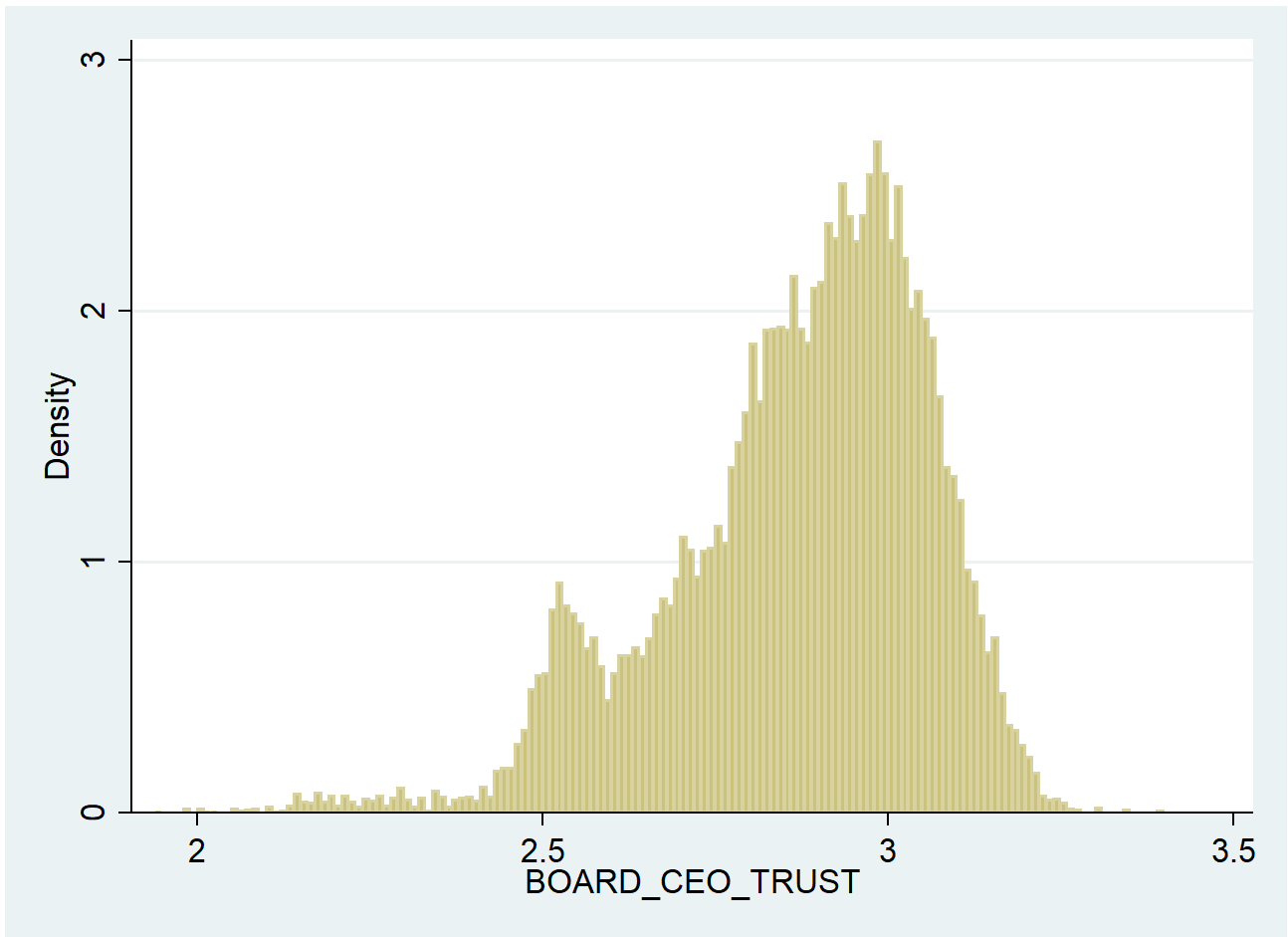
Table IA1. Country-Pair Bilateral Trust Matrix

This table presents the average bilateral trust scores of country-pairs, calculated using Eurobarometer survey results. Survey interviewees from 16 European Union countries were asked the following: "I would like to ask you a question about how much trust you have in people from various countries. For each, please tell me whether you have a lot of trust, some trust, not very much trust, or no trust at all." We assign a score of 1 for the answer "no trust at all," 2 for "not very much trust," 3 for "some trust," and 4 for "a lot of trust."

Trust In		AUT	BEL	DNK	FIN	FRA	DEU	GRC	IRL	ITA	LUX	NLD	NOR	PRT	ESP	SWE	GBR	Avg.
Austria	AUT	3.56	2.83	3.22	3.29	2.70	2.98	2.32	2.93	2.66	2.95	2.90	-	2.13	2.65	3.53	2.89	2.90
Belgium	BEL	2.95	3.28	3.18	3.07	3.07	2.84	2.60	2.93	2.64	2.82	3.18	3.18	2.66	2.73	3.23	2.91	2.95
Bulgaria	BGR	-	2.46	2.70	-	2.49	2.16	2.05	2.60	2.32	2.39	2.70	-	2.47	2.15	-	2.56	2.42
China	CHN	-	1.88	2.60	-	2.05	1.94	2.45	2.20	2.14	2.07	2.03	-	2.34	2.42	-	2.34	2.21
Czech Rep.	CZE	2.05	2.40	2.71	2.64	2.44	2.10	2.39	2.59	2.34	2.36	2.73	-	2.17	2.27	2.88	2.66	2.45
Denmark	DNK	2.95	3.01	3.39	3.30	2.96	2.97	2.56	2.99	2.70	2.86	3.29	3.53	2.66	2.73	3.57	3.13	3.04
Finland	FIN	2.94	2.92	3.20	3.69	2.91	2.85	2.42	2.92	2.78	2.94	3.25	-	2.18	2.71	3.49	2.98	2.95
France	FRA	2.62	2.92	2.86	2.92	3.18	2.85	2.78	2.81	2.66	2.83	2.72	2.93	2.91	2.37	3.04	2.32	2.80
Germany	DEU	3.09	2.75	3.12	2.89	2.74	3.50	2.31	2.78	2.63	2.76	2.84	2.99	2.54	2.66	3.13	2.62	2.83
Greece	GRC	2.52	2.45	2.61	2.68	2.53	2.51	3.21	2.50	2.40	2.53	2.59	2.52	2.41	2.47	2.88	2.54	2.58
Hungary	HUN	2.31	2.47	2.75	2.87	2.53	2.33	2.37	2.67	2.38	2.38	2.74	-	2.18	2.22	2.87	2.68	2.52
Ireland	IRL	2.55	2.75	3.02	2.92	2.72	2.59	2.55	3.33	2.37	2.55	2.80	3.01	2.51	2.57	3.26	2.61	2.76
Italy	ITA	2.43	2.40	2.53	2.51	2.43	2.36	2.33	2.65	2.80	2.54	2.35	2.65	2.55	2.61	2.81	2.51	2.53
Japan	JPN	2.49	2.44	2.92	3.05	2.28	2.69	2.60	2.61	2.86	2.54	2.72	3.09	2.42	2.55	3.19	2.48	2.68
Luxembourg	LUX	3.07	3.30	3.23	3.06	3.09	2.99	2.56	2.96	2.62	3.46	3.29	3.20	2.71	2.71	3.31	2.96	3.03
Netherlands	NLD	2.95	2.90	3.33	3.14	2.94	2.90	2.55	3.00	2.77	2.97	3.28	3.26	2.70	2.85	3.33	3.16	3.00
Norway	NOR	3.00	2.91	3.50	3.48	2.97	2.92	2.40	2.93	2.78	2.91	3.30	-	2.22	2.79	3.65	3.06	2.99
Poland	POL	2.07	2.50	2.76	2.59	2.56	1.94	2.35	2.74	2.43	2.38	2.77	-	2.21	2.32	2.69	2.83	2.48
Portugal	PRT	2.50	2.53	2.67	2.67	2.59	2.48	2.60	2.65	2.32	2.56	2.74	2.60	3.29	2.51	2.97	2.74	2.65
Romania	ROU	-	2.52	2.65	-	2.49	2.07	2.38	2.56	2.44	2.37	2.70	-	2.46	2.23	-	2.59	2.46
Russia	RUS	1.76	2.01	2.32	1.90	2.03	1.93	2.38	2.10	2.16	2.00	2.20	2.52	2.13	2.29	2.45	2.17	2.15
Slovenia	SVN	1.98	2.17	2.51	2.53	2.22	1.80	2.27	2.52	2.10	2.06	2.43	-	1.79	2.27	2.79	2.49	2.26
Spain	ESP	2.58	2.59	2.66	2.61	2.68	2.66	2.71	2.64	2.64	2.65	2.64	2.56	2.59	3.32	2.86	2.47	2.68
Sweden	SWE	3.05	2.99	3.41	3.35	2.99	2.99	2.51	2.92	2.89	2.98	3.34	-	2.24	2.84	3.59	3.03	3.01
Switzerland	CHE	3.24	3.16	3.28	3.37	3.03	3.25	2.89	3.05	2.85	3.09	3.26	-	2.79	2.79	3.50	3.18	3.12
Turkey	TUR	1.78	1.90	2.27	2.13	1.95	2.05	1.33	2.16	1.74	1.98	2.31	-	2.05	1.96	2.39	2.17	2.01
U.K.	GBR	2.61	2.84	3.22	3.18	2.55	2.69	2.34	2.81	2.51	2.58	3.00	3.27	2.66	2.31	3.43	3.29	2.83
	Avg.	2.63	2.64	2.91	2.91	2.63	2.57	2.45	2.72	2.52	2.61	2.82	2.95	2.44	2.53	3.12	2.72	

Table IA2. Example of Computing Board–CEO Trust

This section describes the details of computing board–CEO trust using the board/CEO of American States Water Co. in 2006. Panel A presents the CEO/director name, and the three most frequent countries of origin associated with that name in Ancestry.com. The probabilities are computed based on passenger family name frequencies. Panel B describes the computation of board–CEO trust. Country-pair bilateral trust ($BT_{C1,C2}$) is from Eurobarometer survey as in Table IA1. Director–CEO trust ($TRUST_{i,CEO}$) is the probability-weighted average of bilateral trust ($TRUST_{i,CEO} = \sum_{C1=1}^{3} \sum_{C2=1}^{3} P_{i,C1} P_{CEO,C2} BT_{C1,C2}$). Board–CEO trust is the simple average of $TRUST_{i,CEO}$ for all directors ($BOARD\_CEO\_TRUST = \sum_{i=1}^{N} TRUST_{i,CEO}/N$).

Panel A. CEO/Director Name and Associated Countries of Origin

CEO/Director name	Country of Origin	Frequency	Probability (P)
FLOYD E. WICKS (CEO)	U.K.	690	0.92
	Germany	39	0.05
	Ireland	20	0.03
JAMES L. ANDERSON	Sweden	46,790	0.63
	U.K.	27,777	0.37
	-	-	-
N. P. DODGE JR.	U.K.	399	0.87
	Ireland	35	0.08
	Germany	26	0.06
ANNE M. HOLLOWAY	U.K.	3,780	0.98
	Ireland	75	0.02
	-	-	-
ROBERT F. KATHOL	Germany	6	1.00
	-	-	-
	-	-	-
LLOYD E. ROSS	U.K.	14,694	0.83
	Germany	1,507	0.09
	Ireland	1,485	0.08

Panel B. Trust Measure

Director Name	C1 (director)	Country-Pair Bilateral Trust ($BT_{C1,C2}$) C2 (CEO) U.K.	Germany	Ireland	$TRUST_{i,CEO}$	BOARD_ CEO_TRUST
JAMES L. ANDERSON	Sweden	3.43	3.13	3.26	3.35*	3.13
	U.K.	3.29	2.62	2.61		
	-	-	-	-		
N. P. DODGE JR.	U.K.	3.29	2.62	2.61	3.18	
	Ireland	2.81	2.78	3.33		
	Germany	2.69	3.50	2.59		
ANNE M. HOLLOWAY	U.K.	3.29	2.62	2.61	3.23	
	Ireland	2.81	2.78	3.33		
	-	-	-	-		
ROBERT F. KATHOL	Germany	2.69	3.50	2.59	2.73	
	-	-	-	-		
	-	-	-	-		
LLOYD E. ROSS	U.K.	3.29	2.62	2.61	3.16	

Germany	2.69	3.50	2.59
Ireland	2.81	2.78	3.33

* $\text{TRUST}_{i,\text{CEO}} = \sum_{C1=1}^{3} \sum_{C2=1}^{3} P_{i,C1} P_{\text{CEO},C2} BT_{C1,C2}$

$\text{TRUST}_{\text{Anderson, Wicks}} = 0.92 \times (0.63 \times 3.43 + 0.37 \times 3.29) + 0.05 \times (0.63 \times 3.13 + 0.37 \times 2.62) + 0.02 \times (0.63 \times 3.26 + 0.37 \times 2.61)$

$= 3.35$

Table IA3. Robustness Tests

This table presents the results of robustness tests of the effect of acquirer board–CEO trust on acquirer announcement returns. We exclude withdrawn deals. Columns 1 and 2 use alternative methods to identify the countries of origin for family names, in which the most frequent country of origin and the equal-weighted average of the three most frequent countries are used to measure board–CEO trust and cultural distance, respectively. Column 3 uses bilateral trust among the 16 European Union countries only. Column 4 excludes from BOARD_CEO_TRUST and CULTURAL_DISTANCE those directors and CEOs with last names originated in the U.K. Column 5 examines the effect of board–CEO trust before and after the adoption of Sarbanes–Oxley Act (SOX) in 2002. POST_SOX is a dummy variable that equals 1 for the M&A deals announced during the 2003 to 2017 period, and 0 for deals announced during the 1996 to 2002 period. Columns 6 and 7 use CAR (−3, +3) and CAR (−5,+5) as the dependent variables, respectively. Column 8 excludes deals made by acquirers from financial (SIC 6000–6999) and utility (SIC 4900–4999) industries. Variables are defined in the Appendix. In all regressions, control variables are included but their coefficient estimates are not reported for brevity. Announcement year and acquirer industry (2-digit SIC) fixed effects are included. Standard errors are adjusted for clustering at the acquirer level, and *t*-statistics are in parentheses. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

Variables	1 Trust (Mode)	2 Trust (Equal-Weight)	3 European Union Countries Only	4 Excluding U.K. CEO/Directors	5 SOX	6 CAR (−3, +3)	7 CAR (−5, +5)	8 Excluding Financial and Utility Acquirers
BOARD_CEO_TRUST	-0.447**	-0.543***	-0.445***	-0.601***	-0.695**	-0.657***	-0.743***	-0.715***
	(-2.429)	(-3.269)	(-2.941)	(-3.048)	(-2.049)	(-3.148)	(-2.960)	(-3.693)
BOARD_CEO_TRUST × POST_SOX					0.119			
					(0.353)			
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.069	0.072	0.079	0.051	0.073	0.061	0.059	0.078
Observations	2,326	2,496	2,523	1,454	2,727	2,727	2,727	2,127
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Acquirer industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table IA4. Robustness Test—Additional Control Variables

This table presents the results for the effect of acquirer board–CEO trust on acquirer announcement returns after including additional control variables. We exclude withdrawn deals. The dependent variable is the acquirer's three-day (−1, +1) cumulative abnormal return (%) around deal announcements. INSTITUTIONAL_OWNERSHIP is the percentage of shares owned by institutions from Thomson Reuters' S34 Holdings Database. EINDEX is the Entrenchment index, measured as the number of antitakeover provisions made by the firm, as defined by Bebchuk, Cohen, and Ferrell (2009). ln(CEO_DELTA) is the logarithm of 1 plus the expected dollar change ($000) in CEO wealth for a 1% change in firm stock price. CEO_PAY_SLICE is the ratio of CEO's total compensation (ExecuComp item TDC1) to the sum of total compensations of the top five highest-paid executives in the company. ATTENDANCE_PROBLEM is a dummy variable equal to 1 if the board has one or more directors attend fewer than 75% of the board meetings, and 0 otherwise. BOARD_COOPTION is the number of directors appointed after the CEO took office, divided by total number of directors. CEO_ONLY_INSIDER is a dummy variable that equals 1 if the CEO is the only insider on the board, and 0 otherwise. CEO_DUALITY is a dummy variable that equals 1 if the CEO also holds the position of chairman of the board, and 0 otherwise. FAMILY_FIRM is a dummy variable that equals 1 for family firms, and 0 otherwise from Ron Anderson's website (http://www.ronandersonprofessionalpage.net/data-sets.html). CEO_FOUNDER is a dummy variable that equals 1 if the CEO is also the company's founder, and 0 otherwise. OVERCONFIDENT_CEO is a dummy variable that equals 1 if the CEO during his tenure held an option to the last year before expiration, provided it was at least 40 percent in-the-money entering its final year and 0 otherwise from Malmendier and Tate (2015). CEO_GENERAL_ABILITY is the CEO general ability index from Custódio, Ferreira, and Matos (2013). RELIGIOUS_SIMILARITY is the average of each director's probability of having the same religion as the CEO based on the ancestry information of their last names. LANGUAGE_SIMILARITY is the average of each director's probability of speaking the same language as the CEO based on the ancestry information of their last names. ANCESTRAL_DIVERSITY is computed as $1 - \sum_{i=1}^{N} s_{i,f,t}^2$, where $s_{i,f,t}$ is the share of board members of ancestry i among all board members (including CEO) of firm f at time t. This measure captures the probability that two randomly selected directors have different countries of origin. ln(GEOGRAPHIC_DISTANCE) is the logarithm of the average geographic distance between the capital of the ancestral country of each director to that of the CEO. Control variables are included, but their coefficient estimates are not reported for brevity. Announcement year and acquirer industry (2-digit SIC) fixed effects are included. Standard errors are adjusted for clustering at the acquirer level, and t-statistics are in parentheses. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

Variables	1	2	3	4	5	6	7	8	9	10
BOARD_CEO_TRUST	-0.551***	-0.601***	-0.594***	-0.727***	-0.597***	-0.578***	-0.598***	-0.554***	-0.616***	-0.724***
	(-3.317)	(-3.638)	(-3.539)	(-4.286)	(-3.641)	(-2.899)	(-3.650)	(-2.710)	(-3.656)	(-3.587)
INSTITUTIONAL_OWNERSHIP	0.225									
	(0.653)									
EINDEX		-0.041								
		(-0.382)								
ln(CEO_DELTA)			0.125							
			(1.199)							
CEO_PAY_SLICE				-1.183						
				(-0.941)						
ATTENDANCE_PROBLEM					-0.121					
					(-0.301)					
BOARD_COOPTION					0.234					
					(0.703)					

8

Variable										
CEO_ONLY_INSIDER					0.267					
					(0.913)					
CEO_DUALITY					-0.025					
					(-0.096)					
FAMILY_FIRM						0.222				
						(0.553)				
CEO_FOUNDER							-0.389			
							(-0.633)			
OVERCONFIDENT_CEO								0.483		
								(1.645)		
CEO_GENERAL_ABILITY									0.015	
									(0.107)	
RELIGIOUS_SIMILARITY										0.918
										(0.859)
LANGUAGE_SIMILARITY										1.619*
										(1.884)
ANCESTRAL_DIVERSITY										0.783
										(0.563)
ln(GEOGRAPHIC_DISTANCE)										0.301
										(1.009)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.078	0.071	0.079	0.075	0.073	0.072	0.073	0.072	0.075	0.074
Observations	2,396	2,678	2,639	2,508	2,727	1,690	2,727	1,928	2,288	2,727
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Acquirer industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table IA5. Placebo Tests Using Reshuffled Bilateral Trust Matrix

This table presents the results of placebo tests of the effect of acquirer board–CEO trust on M&A outcomes. Pseudo-trust measures are calculated using shuffled country-pair bilateral trust matrices. We use four shuffling methods. We run three regression models to test the effect of pseudo-trust measures on M&A outcome variables. The regression models, M&A outcome variables, and coefficient estimates on the key independent variable using the BOARD_CEO_TRUST (actual estimate) are presented in columns 1 to 3, respectively. Column 4 indicates the shuffling method used. For each method, we shuffle the matrix 1,000 times, and construct 1,000 sets of pseudo-trust measures. Each regression model is then repeated 1,000 times. The 1st percentile, mean, and 99th percentile of the distribution of coefficient estimates on the key independent variable are presented in columns 5 to 7, respectively. The proportion of the coefficient estimates smaller than the actual estimate (out of the 1,000 repeated tests) is presented in column 8.

1	2	3	4	5	6	7	8
Regression Model	Dependent Variable	Actual Estimate	Shuffling Method	1st Percentile	Mean	99th Percentile	Proportion of Estimates < Actual Estimate
Table 5, column 1	CAR (%)	-0.598	Complete shuffle	-0.285	-0.005	0.301	0/1,000
			Diagonal unshuffled	-0.377	-0.095	0.196	0/1,000
			Within-row shuffle	-0.495	-0.286	-0.118	0/1,000
			Within-column shuffle	-0.302	-0.006	0.269	0/1,000
Table 6, Panel A, column 1	BHAR (−1, COMPLETION) (MARKET_ADJUSTED) (%)	-1.340	Complete shuffle	-0.903	-0.022	0.874	0/1,000
			Diagonal unshuffled	-0.989	-0.145	0.814	0/1,000
			Within-row shuffle	-1.320	-0.801	-0.125	0/1,000
			Within-column shuffle	-0.932	-0.074	0.838	8/1,000
Table 6, Panel B, column 2	EBIT/ASSETS (YEAR +3) (%)	-0.491	Complete shuffle	-0.297	0.003	0.310	0/1,000
			Diagonal unshuffled	-0.417	-0.132	0.162	1/1,000
			Within-row shuffle	-0.501	-0.232	-0.019	12/1,000
			Within-column shuffle	-0.258	0.025	0.318	0/1,000

Table IA6. Robustness Test Results for Agency Costs and the Effect of Board–CEO Trust Using Industry Tobin's Q as a Proxy for Investment Opportunities

This table presents the results of a test of the effect of acquirer board–CEO trust on M&A performance with partitioned samples based on proxies for free cash flow (FCF) and investment opportunities. Investment opportunities is proxied for by industry (3-digit SIC) median Tobin's Q at year t. FCF is proxied for by operating cash flow minus cash dividend, divided by total assets at year t. Year t is the fiscal year before the deal announcement. The sample deals are first partitioned by within-year sample median FCF, then partitioned by the within-year sample median investment opportunities proxy. The high-agency costs group contains deals with below-median investment opportunities and above-median FCF acquirers. The low-agency costs group contains deals with above-median investment opportunities and below-median FCF acquirers. In all regressions, control variables are included but their coefficient estimates are not reported for brevity. Announcement year and acquirer industry (2-digit SIC) fixed effects are included. Standard errors are adjusted for clustering at the acquirer level, and t-statistics are in parentheses. The p-values (one-tailed) corresponding to the differences in coefficient estimates on BOARD_CEO_TRUST between high- and low-agency costs groups are presented. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively.

Variables	1 High Agency Costs	2 Low Agency Costs
Panel A: Dependent Variable = CAR (%)		
BOARD_CEO_TRUST	-1.006***	-0.660*
	(-2.779)	(-1.934)
Observations	647	692
Test of equal coefficients: p-value (one-tailed)	0.257	
Control variables	Yes	Yes
Year FE	Yes	Yes
Acquirer industry FE	Yes	Yes
Panel B: Dependent Variable = BHAR (−1, COMPLETION) (MARKET_ADJUSTED) (%)		
BOARD_CEO_TRUST	-2.516***	-0.694
	(-3.072)	(-0.961)
Observations	645	691
Test of equal coefficients: p-value (one-tailed)	0.052	
Control variables	Yes	Yes
Year FE	Yes	Yes
Acquirer industry FE	Yes	Yes
Panel C: Dependent variable = EBIT/ASSETS (YEAR +3) (%)		
BOARD_CEO_TRUST	-1.524***	-0.426
	(-3.357)	(-1.379)
Observations	539	570
Test of equal coefficients: p-value (one-tailed)	0.031	
Control variables	Yes	Yes
Year FE	Yes	Yes
Acquirer industry FE	Yes	Yes