

## **Director Qualifications and Acquisition Outcomes**

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## **1. Introduction**

Boards are multi-dimensional in character, with some firms appointing directors with many different skills, whereas other firms concentrate on a few specific skills (Adams et al., 2018). With the number of qualifications/experiences used to represent directors' skills, researchers argue how various qualifications contribute to corporate outcomes. Güner et al. (2008) claim that better board oversight is achieved by financial experts' inclusion on boards, thus serving shareholders' interests. Fich (2005) argues that appointing well-known successful executives to firms' boards is of great value through their management experience, industry contacts and business acumen. Agrawal and Knoeber (2001) contend that directors with political/legal experience use their knowledge of government procedures to enlist the government in the firm's interests or to forestall government actions inimical to the firm. Hambrick and Mason (1984) view executives' educational background as reflective of their knowledge and skill base, predicting a positive association between executives' formal education and a firm's innovativeness. Francis et al. (2015) contend that academics, as independent critical thinkers who hold their own opinions and judgements, provide a different perspective in the boardroom improving board efficiency and firm performance. Li and Rainville (2021) argue that, due to military institutions' cultural uniqueness, directors with a military background prioritise the firm over their own self-interest and therefore are better monitors than their civilian counterparts.

Empirically, researchers find that the: (i) appointment of financial experts and other firms' Chief Executive Officers (CEOs) to corporate boards enhances the appointing firm's value (DeFond et al., 2005; Fahlenbrach et al., 2010; Fich, 2005; Perry and Payer, 2005); (ii) presence of directors with banking experience on corporate boards reduces investment–cash flow sensitivity, increases the firm's debt capacity and provides access to more favourable debt contracts (Güner et al., 2008; Sisli-Ciamarra (2012)); (iii) appointment of politically connected individuals to corporate boards is associated with sales growth and increased firm value (Agrawal and Knoeber, 2001; Goldman et al., 2009); (iv) presence of lawyer directors on boards is associated with a reduction in corporate risk-taking and an increase in firm value (Litov et al., 2013); and (v) firms' financial and stock market performances are positively influenced by the presence of academics on corporate boards (Francis et al., 2015). However, empirical evidence is markedly absent on how various qualifications held by directors affect a firm's acquisition decisions. Our study aims to fill this vacuum.

We investigate whether director qualifications have an influence on firms' acquisition decisions. Two main reasons provide the motivation for this study. Firstly, existing studies analyse the influence of a limited number of qualifications on acquisitions and provide inconclusive evidence. While Güner et al. (2008) find the presence of investment bankers on boards to be associated with value-destroying acquisitions, Francis et al. (2015) find the presence of academics to be associated with value-creating acquisitions. Fahlenbrach et al. (2010) find that external-CEO directors have no impact on acquisition decisions. In analysing a range of qualifications, we provide more robust evidence on the influence of director qualifications on acquisitions. Secondly, Adams et al. (2018) emphasise that director qualifications need to be analysed as a set when analysing the influence of directors' skills on corporate outcomes. The reason is the marked distinction between boards with diverse qualifications and those with concentrated qualifications.

Following Fedaseyeu et al. (2018), we develop a qualifications index for each board on an annual basis. Our index encompasses seven types of qualifications, capturing a wide range of skills and experiences (see Section 3.2.1), and therefore distinguishes boards with diverse qualifications from those with concentrated qualifications. By analysing a sample of 14,052 acquisitions undertaken by United States (US) firms from 1999–2021, we find that acquirers with more qualified directors obtain higher market valuations during the announcement period of acquisitions, while demonstrating efficiency improvements in executing deals.

The remainder of the paper is as follows: Section 2 develops hypotheses. Section 3 outlines the research design and methodology. Section 4 discusses the findings, while Section 5 presents additional tests. Section 6 concludes.

## 2. Hypotheses development

Acquisitions are high-end corporate decisions that fall within the responsibility of the board of directors (Fahlenbrach et al., 2010). We contend that firms with directors who possess diverse qualifications are better able to properly evaluate deals and execute value-creating acquisitions. The board is entrusted with the responsibility of conducting appropriate due diligence with the objective of undertaking value-creating acquisitions. This process enables acquirers to make better acquisition decisions, giving them access to private information to assess the value of the target firm, and the deal's risks and expected synergies. It also reduces information asymmetry between the buyer and seller, thereby easing frictions that arise when negotiating

the transaction price and other terms (Lajoux and Elson 2000; Wangerin, 2019). Following the claim that board duties require substantial expertise and experience (Fama and Jensen, 1983), Fedaseyev et al. (2018) propose, and find evidence to support, the expertise hypothesis in which they claim that more qualified directors perform more board functions. Based on this evidence, we argue that acquirers with more qualified boards should have a pool of skilful directors to perform effective due diligence exercises and make value-creating acquisition decisions. The value created in acquisitions is reflected in the announcement period abnormal return earned by acquirers. Therefore, we propose the following hypothesis:

*H1: A positive association exists between director qualifications and the announcement period abnormal return of acquirers.*

The commonly cited reason for the failure of acquisitions is that too much is paid by the acquirer to the target, as reflected by the excessive bid premium (Moeller et al., 2004). If boards with qualified directors are more efficient in their cash flow estimates and valuation judgements, they should approach acquisition decisions with a value-creating focus, thus imparting a negative association between board qualifications and the bid premium paid to target firms. Additionally, they should be able to expedite deal negotiations and due diligence exercises, keeping prospective competitors at bay and successfully completing initiated deals by offering pre-emptive bids to target firms. We therefore propose the following hypothesis:

*H2: A positive association exists between director qualifications and acquisition efficiency reflected by: (i) lower premium paid; (ii) shorter time taken to complete the deal; and (iii) higher probability of completing the deal.*

### **3. Research design and methodology**

#### **3.1. Sample and data sources**

We focus on acquisition announcements made by US firms during the period 1999–2021, collecting information on these acquisition deals from the Securities Data Company (SDC) Platinum database. We collect director qualifications data from the BoardEx database, and financial and market-based data from the Compustat database. After merging the data from these sources, we analyse a sample of 14,052 acquisition announcements. Table 1 provides yearly and industry distributions of our sample. While the acquisitions sample is fairly evenly distributed across these years, annual deal value shows a gradual increase over the time. More acquisitions take place in business services and finance sectors; the pharmaceutical products sector reports the highest deal value.

### **3.2. Variables construction**

#### **3.2.1. Explanatory variable: Director qualifications**

Our qualification index (*QUALINDEX*) captures seven types of qualifications possessed by directors: (i) graduate degree; (ii) accounting/finance experience; (iii) legal/consulting experience; (iv) management experience; (v) political experience; (vi) military experience; and (vii) academic experience. We assign 1 point for each qualification of individual directors, with these added together for the whole board. The qualification index is normalised between the values of 0 and 1 for use in the regression analysis. We use minimum–maximum (min–max) normalisation as shown in Equation (1), where the minimum value ( $QI_{min}$ ) is transformed into a 0 and the maximum value ( $QI_{max}$ ) into a 1. All other observations are transformed into a decimal between 0 and 1:

$$QI_{norm} = \frac{QI_{value} - QI_{min}}{QI_{max} - QI_{min}} \quad (1)$$

#### **3.2.2. Dependent variables: Value creation and acquisition efficiency**

Two measures are used to capture announcement period abnormal return: (i) the three-day cumulative abnormal return (*3DCAR*) and (ii) the dollar value abnormal return (*\$CAR*). Three variables capture acquisition efficiency: (i) bid premium offered (*BIDPREM*); (ii) number of days taken to complete the deal (*DAYSTAKEN*); and (iii) deal completion status (*COMPLETED*).

#### **3.2.3. Control variables: Governance, financial and bid characteristics**

Following prior studies, we control for the following: board size (*BDSIZE*); CEO duality (*CEODUAL*); percentage of independent directors (*PIND*); firm size (*SIZE*); leverage (*LEV*); cash holdings (*CASH*); growth (*GROWTH*); return on assets (*ROA*); Tobin's Q (*TOBINQ*); firm age (*FIRMAGE*); private/subsidiary status of the target (*PRIVATE/SUBSIDIARY*); cash-financed deals (*ALLCASH*); stock-financed deals (*ALLSTOCK*); unrelated acquisitions (*UNRELATED*); relative size (*RELSIZE*); high-tech targets (*HIGHTECH*); cross-border acquisitions (*FOREIGN*); hostile bids (*HOSTILE*); and serial bidders (*SERIAL*), with definitions are provided in Appendix A, Table A1.

#### **3.2.4. Empirical model**

The following baseline model is used to examine our hypotheses:

$$\gamma_{i,t} = \alpha_0 + \alpha_1(QUALINDEX_{i,t-1}) + \sum \alpha_i Controls_{i,t-1} + Year FE + Industry FE + \varepsilon_{i,t} \quad (2)$$

where, in separate models,  $\gamma_{i,t}$  is either one of the two abnormal return variables ( $3DCAR$  and  $\$CAR$ ) or one of the three efficiency measures ( $PREMIUM$ ,  $DAYSTAKEN$  and  $COMPLETED$ ). The main explanatory variable,  $QUALINDEX_{i,t-1}$ , represents the qualification index for the board of directors, excluding the CEO, while  $Controls_{i,t-1}$  captures the influence of control variables on acquisition outcomes. We control for the year and industry fixed effects ( $Year FE$  and  $Industry FE$ , respectively), while  $\varepsilon_{i,t}$  is the error term.

### 3.2.5. Descriptive statistics

Table 2 reports descriptive statistics for the sample. The members of a typical board collectively hold 25 qualifications, ranging from a minimum of zero to a maximum of 201 (Panel A). An average board has nine members of whom 74% are external directors (Panel B). On average, a firm in the sample owns assets worth US\$11 billion, with a quarter of these assets financed by debt. These firms are profitable and growth-oriented and average 18 years of age (Panel C). Their acquisitions represent a diverse menu of bid characteristics (Panel D). Their average announcement period abnormal return is weakly positive at 0.20% (Panel E).

## 4. Empirical findings

### 4.1. Director qualifications and abnormal return to acquirers

Table 3 presents coefficient estimates for Equation (2) when the dependent variable is either  $3DCAR$  (Model 1) or  $\$CAR$  (Model 2). Both models generate positive coefficients for the  $QUALINDEX$  (0.0157 and 0.0277, respectively) which are significant at the 1% level. An increase of one standard deviation in  $QUALINDEX$  is associated with an increase in  $3DCAR$  ( $\$CAR$ ) of 0.18% (US\$0.04mil), signifying an economically important influence of board qualifications. These findings imply the market's belief that qualified directors on acquirer boards create value for shareholders through their selective engagement in high-quality acquisition decisions. In Model 3, a logit regression is estimated where the dependent variable is a categorical variable which takes the value of 1 if  $3DCAR$  is positive and 0 if negative. The  $QUALINDEX$  variable in Model 3 also generates a positive and significant coefficient (1.6477), implying that boards with qualified directors promote value-creating acquisitions while

discouraging value-destroying acquisitions. Our study's findings therefore support H1. We next examine the impact of director qualification on acquisition efficiency.

#### **4.2. Director qualifications and acquisition efficiency**

Table 4 presents regression estimates when the dependent variable represents acquisition efficiency measures. The coefficient of the *QUALINDEX* variable is negative and significant when *BIDPREM* and *DAYSTAKEN* are the dependent variables (-0.5501 and -0.4629, respectively), whereas it is positive when *COMPLETED* is the dependent variable (0.8263). This finding suggests that an increase of one standard deviation in *QUALINDEX* is associated with a reduction in bid premium by 6.16% and time taken to complete the deal by 2.75 days (on average), while increasing the probability of completing the deal by 4.35%. These efficiency improvements can result from critical evaluations and analyses undertaken by boards with qualified directors before initiating acquisition bids. Consequently, fewer surprises occur during the processes of due diligence and offers being made of attractive premiums to target firm shareholders without exposing the transaction to possible competitors.

#### **4.3. Director qualifications and acquirers' long-term performance**

With directors' qualifications leading to value-creating acquisitions by their firms and improved acquisition efficiency, we postulate that these firms should report improved performance in the long run. This should impart a positive association between director qualifications and the long-term performance of acquirers. We test this phenomenon by using four post-acquisition performance metrics: (i) average change in return on assets (*AVGCHGROA*); (ii) average change in Tobin's Q (*AVGCHGTOBINQ*); (iii) average change in equally weighted return (*AVGRET/EW*) and (iv) average change in value-weighted return (*AVGRET/VW*). Equation (2) is estimated using these variables as the dependent variable.

As shown in Table 5, *QUALINDEX* generates positive coefficients in all four models, three of which are statistically significant. This finding implies that positive contributions made by qualified directors to acquisition decisions bring their firms performance improvement for up to three years after the event.

### **5. Additional tests**

The existing evidence suggests that market reaction to acquisition announcements is conditional on bid characteristics, such as the organisational form; method of payment; relatedness; and jurisdiction. We address the question of whether the positive association

between director qualifications and the market valuation of acquisitions is confined to particular bid characteristics favoured by market participants. We divide firms in the sample into two groups under each characteristic and estimate Equation (2) separately.

As shown in Table 6, Panel A, we find that, when barring related acquisitions, the *QUALINDEX* variable enters all models with positive and significant coefficients, thus ruling out the possibility that our main findings are driven by qualified directors' preferences for bid characteristics favoured by the capital market.

The acquisition literature suggests that directors with finance expertise and directors with academic backgrounds have an influence on acquisition outcomes (Francis et al., 2015; Güner et al., 2008). We therefore test whether or not our findings are driven by only these two qualification types by estimating Equation (2) separately for each qualification type. For reasons of brevity, we analyse the effect on *3DCAR* and *BIDPREM* only.

As shown in Table 7, we find that, except for political experience and military experience, all other qualification types are positively (negatively) and significantly associated with the market reaction to acquisition announcements (bid premium paid). Our main findings thus are not confined to finance and academic experience but are a result of the contribution of an array of the director qualifications analysed.

## 6. Conclusion

Do qualified directors make value-creating decisions? Using a qualification index to capture an array of directors' qualifications and experiences, this question is investigated in the context of acquisitions. A positive association is found between board qualifications and announcement period abnormal returns to acquirers, thus implying that the market believes boards with more qualified directors make value-creating acquisition decisions. Furthermore, boards with qualified directors demonstrate efficiency in their acquisition decisions as reflected by lower premiums paid, shorter periods taken to complete deals and increased probability of successfully completing deals. These findings remain robust across different deal characteristics. The acquisition deals conducted by boards with qualified directors bring long-term performance improvements to acquiring firms. Our study's findings contribute to the governance literature by providing evidence of how director qualifications contribute to firms' important external investment decisions, such as acquisitions.

## References

- Adams, R. B., Akyol, A. C., & Verwijmeren, P. (2018). Director skill sets. *Journal of Financial Economics*, 130(3), 641-662.
- Agrawal, A., & Knoeber, C. R. (2001). Do some outside directors play a political role? *The Journal of Law and Economics*, 44(1), 179-198.
- Chang, S. (1998). Takeovers of privately held targets, methods of payment, and bidder returns. *The Journal of Finance*, 53(2), 773-784.
- Brown, S. J., & Warner, J. B. (1985). Using daily stock returns. *Journal of financial economics*, 14(1), 3-31.
- DeFond, M. L., Hann, R. N., & Hu, X. (2005). Does the market value financial expertise on audit committees of boards of directors? *Journal of Accounting Research*, 43(2), 153-193.
- Fahlenbrach, R., Low, A., & Stulz, R. M. (2010). Why do firms appoint CEOs as outside directors? *Journal of Financial Economics*, 97(1), 12-32.
- Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *The Journal of Law and Economics*, 26(2), 301-325.
- Fedaseyeu, V., Linck, J. S., & Wagner, H. F. (2018). Do qualifications matter? New evidence on board functions and director compensation. *Journal of Corporate Finance*, 48, 816-839.
- Fich, E. M. (2005). Are some outside directors better than others? Evidence from director appointments by Fortune 1000 firms. *The Journal of Business*, 78(5), 1943-1972.
- Francis, B., Hasan, I., Park, J. C., & Wu, Q. (2015). Gender differences in financial reporting decision making: Evidence from accounting conservatism. *Contemporary Accounting Research*, 32(3), 1285-1318.
- Goldman, E., Rocholl, J., & So, J. (2009). Do politically connected boards affect firm value? *The Review of Financial Studies*, 22(6), 2331-2360.
- Güner, A. B., Malmendier, U., & Tate, G. (2008). Financial expertise of directors. *Journal of Financial Economics*, 88(2), 323-354.
- Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review*, 9(2), 193-206.
- Lajoux, A., & Elson, C. (2000). *The art of M&A due diligence: Navigating critical steps and uncovering crucial data*. McGraw-Hill: New York, NY.
- Li, Z., & Rainville, M. (2021). Do military independent directors improve firm performance? *Finance Research Letters*, 43, 101988.
- Litov, L. P., Sepe, S. M., & Whitehead, C. K. (2013). Lawyers and fools: Lawyer-directors in public corporations. *Georgetown Law Journal*, 102(2), 413-480.
- Masulis, R. W., Wang, C., & Xie, F. (2007). Corporate governance and acquirer returns. *The Journal of Finance*, 62(4), 1851-1889.

- Moeller, S. B., Schlingemann, F. P., & Stulz, R. M. (2004). Firm size and the gains from acquisitions. *Journal of Financial Economics*, 73(2), 201-228.
- Perry, T., & Peyer, U. (2005). Board seat accumulation by executives: A shareholder's perspective. *The Journal of Finance*, 60(4), 2083-2123.
- Sisli-Ciamarra, E. (2012). Monitoring by affiliated bankers on board of directors: Evidence from corporate financing outcomes. *Financial Management*, 41(3), 665-702.
- Wangerin, D. (2019). M&A due diligence, post-acquisition performance, and financial reporting for business combinations. *Contemporary Accounting Research*, 36(4), 2344-2378.

**Table 1: Sample's Distribution**

This table presents the sample's distribution across years (Panel A) and industries (Panel B) of bidders over the period from 1999–2021.

<b>Year</b>	<b>Obs.</b>	<b>Percent</b>	<b>Total deal value (US\$mil)</b>	<b>Industry category</b>	<b>Obs.</b>	<b>Percent</b>	<b>Total deal value (US\$mil)</b>
1999	73	0.52	59,750.97	Business Services	2166	15.51	800,568.60
2000	397	2.83	184,851.70	Finance	1718	12.31	597,774.10
2001	457	3.25	104,813.20	Banking	872	6.24	243,960.60
2002	472	3.36	112,911.60	Semiconductors	803	5.76	482,694.60
2003	799	5.68	200,206.40	Pharmaceutical Products	690	4.94	1,095,598.00
2004	920	6.55	285,907.90	Petroleum and Natural Gas	666	4.77	610,977.10
2005	981	6.99	318,964.70	Computers	613	4.39	252,416.30
2006	974	6.93	244,436.30	Medical Equipment	521	3.73	141,315.40
2007	747	5.31	244,539.80	Machinery	508	3.64	158,222.90
2008	524	3.73	286,391.20	Others	5,495	39.09	3,229,432.12
2009	666	4.74	254,064.70				
2010	675	4.80	262,183.50				
2011	709	5.04	219,526.80				
2012	671	4.77	257,605.20				
2013	836	5.95	670,647.60				
2014	334	2.38	394,672.50				
2015	585	4.16	370,390.20				
2016	585	4.16	483,053.40				
2017	760	5.41	963,248.60				
2018	640	4.55	719,953.50				
2019	515	3.67	380,086.20				
2020	733	5.21	609,078.80				
2021	73	0.52	59,750.97				
<b>Total</b>	<b>14,052</b>	<b>100</b>	<b>7,627,284.77</b>		<b>Total</b>	<b>14,052</b>	<b>100</b>
							<b>7,627,284.77</b>

**Table 2: Descriptive Statistics**

This table reports the descriptive statistics for variables used in the study under the following panels: (A) director qualifications; (B) governance variables; (C) firm characteristics; (D) bid characteristics; and (E) market reaction. Variable definitions are given in Appendix A.

<b>Variable</b>	<b>Mean</b>	<b>Median</b>	<b>Std Dev</b>	<b>Minimum</b>	<b>Maximum</b>
<b>Panel A: Director qualification variables</b>					
<i>QUALINDEX</i> – Raw	24.9888	23.0000	12.0316	0.0000	201.0000
<i>QUALINDEX</i> – Standardised	0.2492	0.2300	0.1118	0.0000	0.9999
<b>Panel B: Governance characteristics</b>					
<i>BDSIZE</i>	8.7265	8.0000	2.5050	1.0000	26.0000
<i>CEODUAL</i>	0.5017	1.0000	0.5000	0.0000	1.0000
<i>PIND</i>	0.7350	0.7000	0.3335	0.0000	5.4444
<b>Panel C: Firm characteristics</b>					
<i>SIZE</i> (US\$bn)	11.1837	1.4235	45.2021	0.0011	1,638.2360
<i>LEVERAGE</i>	0.2481	0.2224	0.2080	0.0000	1.0000
<i>CASH</i>	0.1660	0.0868	0.1896	0.0003	0.8664
<i>GROWTH</i>	0.2445	0.1160	0.6050	-0.5336	7.6158
<i>ROA</i>	0.0409	0.0446	0.1258	-1.2021	0.4633
<i>TOBINQ</i>	2.1233	1.6394	1.5397	0.7640	13.1400
<i>FIRMAGE</i>	18.0834	12.5096	17.8145	0.0027	95.0849
<b>Panel D: Bid characteristics</b>					
<i>PRIVATE/SUBSIDIARY</i>	0.8527	1.0000	0.3545	0.0000	1.0000
<i>PUBLIC</i>	0.1473	0.0000	0.3527	0.0000	1.0000
<i>FOREIGN</i>	0.1923	0.0000	0.3941	0.0000	1.0000
<i>ALLCASH</i>	0.5215	1.0000	0.4996	0.0000	1.0000
<i>ALLSTOCK</i>	0.0571	0.0000	0.2320	0.0000	1.0000
<i>RELATED</i>	0.5407	1.0000	0.4984	0.0000	1.0000
<i>UNRELATED</i>	0.4593	0.0000	0.4984	0.0000	1.0000
<i>HIGHTECH</i>	0.3827	0.0000	0.4861	0.0000	1.0000
<i>RELSIZE</i>	0.2597	0.0564	1.9505	0.0000	93.6505
<i>HOSTILE</i>	0.0036	0.0000	0.0595	0.0000	1.0000
<i>SERIAL</i>	0.2799	0.0000	0.4490	0.0000	1.0000
<b>Panel E: Market reaction</b>					
<i>3DCAR</i>	0.0020	0.0002	0.0359	-0.3952	0.4664
<i>\$CAR</i> (US\$mil)	13.1894	0.3747	1,441.2780	-131,976.4000	42,054.5800
+ve <i>3DCAR</i>	0.5680	1.0000	0.4954	0.0000	1.0000

**Table 3: Director Qualifications and Abnormal Returns to Acquirers**

This table reports regression estimates for Equation (2) when the dependent variable is three-day cumulative abnormal return (CAR) (Column 1), dollar value abnormal return (Column 2) or a categorical variable which takes the value of 1 if the three-day cumulative abnormal return is positive (Column 3). The standard errors are reported in parentheses, while superscript \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% levels, respectively. Variable definitions are given in Appendix A.

	<b>3DCAR</b>	<b>\$CAR</b>	<b>Logit: 3DCAR</b>
	(1)	(2)	(3)
Constant	0.0102*	6.9028***	-0.3375
	(0.07)	(0.00)	(0.20)
<i>QUALINDEX</i>	0.0157***	0.0277***	1.6477***
	(0.00)	(0.00)	(0.00)
<i>BDSIZE</i>	0.0002	-0.0000	0.0125
	(0.38)	(0.94)	(0.23)
<i>CEODUAL</i>	-0.0008	-0.0006	0.0296
	(0.30)	(0.42)	(0.41)
<i>PIND</i>	0.0028**	0.0044***	0.2325***
	(0.01)	(0.00)	(0.00)
<i>SIZE</i>	-0.0016***	0.0020***	-0.0756***
	(0.00)	(0.00)	(0.00)
<i>LEV</i>	0.0016	0.0019	0.1542
	(0.47)	(0.37)	(0.14)
<i>CASH</i>	-0.0011	-0.0041*	0.0353
	(0.65)	(0.10)	(0.77)
<i>GROWTH</i>	-0.0003	0.0002	-0.0349
	(0.67)	(0.73)	(0.25)
<i>ROA</i>	-0.0094***	-0.0021	0.3333**
	(0.00)	(0.49)	(0.03)
<i>TOBINOQ</i>	0.0002	-0.0005*	0.0027
	(0.50)	(0.09)	(0.86)
<i>FIRMAGE</i>	0.0003	-0.0006*	0.0435***
	(0.43)	(0.07)	(0.01)
<i>PRIVATE/SUBSIDIARY</i>	0.0007	-0.0006	0.0885**
	(0.33)	(0.45)	(0.02)
<i>ALLCASH</i>	0.0010	-0.0006	0.0653*
	(0.20)	(0.46)	(0.08)
<i>ALLSTOCK</i>	-0.0115***	-0.0084***	-0.2826***
	(0.00)	(0.00)	(0.00)
<i>UNRELATED</i>	-0.0010	-0.0025***	-0.0205
	(0.23)	(0.00)	(0.60)
<i>RELSIZE</i>	0.0033***	-0.0000	0.0234
	(0.00)	(1.00)	(0.47)
<i>HIGHTECH</i>	-0.0004	-0.0010	-0.0510
	(0.69)	(0.38)	(0.34)
<i>FOREIGN</i>	-0.0030***	-0.0025***	-0.1048**
	(0.00)	(0.01)	(0.02)
<i>HOSTILE</i>	-0.0059	0.0019	-0.1408
	(0.33)	(0.75)	(0.63)
<i>SERIAL</i>	-0.0017**	-0.0065***	0.0304
	(0.05)	(0.00)	(0.46)
Year/Industry FE	Yes	Yes	Yes
<i>R</i> <sup>2</sup> /Pseudo-adjusted <i>R</i> <sup>2</sup>	0.0316	0.0466	0.0221
<i>F</i> -statistic/Chi <sup>2</sup>	5.11	7.67	424.97
Prob: <i>F</i> -statistic/Chi <sup>2</sup>	0.0000	0.0000	0.0000
N	14,052	14,052	14,052

**Table 4: Director Qualifications and Acquisition Efficiency**

This table reports regression estimates for Equation (2) when the dependent variable is bid premium paid (Column 1), days taken to complete the deal (Column 2) or a categorical variable which takes the value of 1 if the deal is successfully completed (Column 3). The standard errors are reported in parentheses, while superscript \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% levels, respectively. Variable definitions are given in Appendix A.

	<b>BIDPREM</b>	<b>DAYSTAKEN</b>	<b>COMPLETED</b>
	(1)	(2)	(3)
Constant	0.6425 (0.16)	1.1675*** (0.00)	1.3344*** (0.00)
<i>QUALINDEX</i>	-0.5501** (0.05)	-0.4629** (0.02)	0.8263** (0.03)
<i>BDSIZE</i>	-0.0214 (0.11)	0.0364*** (0.00)	0.0081 (0.65)
<i>CEODUAL</i>	0.0239 (0.62)	-0.0424 (0.20)	-0.1162* (0.06)
<i>PIND</i>	-0.0535 (0.44)	0.1757*** (0.00)	0.1177 (0.22)
<i>SIZE</i>	0.0476*** (0.01)	0.2328*** (0.00)	0.0137 (0.55)
<i>LEV</i>	-0.2007 (0.16)	-0.0941 (0.33)	-0.4115** (0.01)
<i>CASH</i>	0.0754 (0.63)	0.3039*** (0.01)	-0.3316 (0.11)
<i>GROWTH</i>	0.0186 (0.63)	-0.0243 (0.39)	-0.0185 (0.70)
<i>ROA</i>	-0.4824* (0.06)	-0.4022*** (0.01)	0.3985* (0.07)
<i>TOBINOQ</i>	0.0033 (0.86)	-0.0364*** (0.01)	-0.0298 (0.23)
<i>FIRMAGE</i>	0.0350 (0.13)	-0.0110 (0.47)	-0.0041 (0.88)
<i>PRIVATE/SUBSIDIARY</i>	-0.7800*** (0.00)	-0.9780*** (0.00)	0.4563*** (0.00)
<i>ALLCASH</i>	-0.0528 (0.29)	-0.2033*** (0.00)	0.1327** (0.04)
<i>ALLSTOCK</i>	0.5769*** (0.00)	0.8770*** (0.00)	-0.2393* (0.05)
<i>UNRELATED</i>	-0.0070 (0.89)	-0.3872*** (0.00)	0.0984 (0.14)
<i>RELSIZE</i>	0.3620*** (0.00)	0.1928*** (0.00)	-0.0168 (0.40)
<i>HIGHTECH</i>	0.3199*** (0.00)	0.1073** (0.03)	0.1918** (0.04)
<i>FOREIGN</i>	-0.2629*** (0.00)	-0.2020*** (0.00)	-0.3559*** (0.00)
<i>HOSTILE</i>	0.9163*** (0.01)	1.2404*** (0.00)	-2.4614*** (0.00)
<i>SERIAL</i>	-0.4514*** (0.00)	-0.3850*** (0.00)	-0.1425** (0.04)
Year/Industry FE	Yes	Yes	Yes
<i>R</i> <sup>2</sup> /Pseudo-adjusted <i>R</i> <sup>2</sup>	0.1157	0.2693	0.0676
<i>F</i> -statistic/Chi <sup>2</sup>	13.23	52.16	602.85
Prob: <i>F</i> -statistic/Chi <sup>2</sup>	0.0000	0.0000	0.0000
N	9,092	12,681	13,970

**Table 5: Director Qualifications and Acquirers' Long-run Performance**

This table reports regression estimates for Equation (2) when the dependent variable is average change in return on assets (ROA) (Column 1), average change in Tobin's Q (Column 2), equally weighted monthly return (Column 3) or value-weighted monthly return (Column 4). The standard errors are reported in parentheses, while superscript \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% levels, respectively. Variables are defined in Appendix A.

	<i>AVGCHROA</i> (Year +1 to Year +3)	<i>AVGCHTOBINQ</i> (Year +1 to Year +3)	<i>AVGRET(EW)</i> (month +1 to month +36)	<i>AVGRET(VW)</i> (month +1 to month +36)
	(1)	(2)	(3)	(4)
Constant	-0.0128*	-0.1833	-0.4665**	0.0018
	(0.09)	(0.16)	(0.01)	(0.99)
<i>QUALINDEX</i>	0.0153**	0.1134	0.3709***	0.2243***
	(0.01)	(0.27)	(0.00)	(0.01)
<i>BDSIZE</i>	0.0002	0.0019	0.0185***	0.0155***
	(0.50)	(0.70)	(0.00)	(0.00)
<i>CEODUAL</i>	0.0007	0.0056	0.0252*	0.0057
	(0.46)	(0.75)	(0.10)	(0.67)
<i>PIND</i>	-0.0020	-0.0387	-0.0724***	-0.0609***
	(0.19)	(0.15)	(0.00)	(0.00)
<i>SIZE</i>	0.0014***	0.0088	-0.0158***	-0.0080
	(0.00)	(0.18)	(0.01)	(0.12)
<i>LEV</i>	0.0081***	0.1572***	-0.0299	-0.0555
	(0.01)	(0.00)	(0.50)	(0.15)
<i>CASH</i>	-0.0068**	-0.0148	0.1353***	0.0478
	(0.05)	(0.81)	(0.01)	(0.29)
<i>GROWTH</i>	0.0059***	-0.2226***	-0.1152***	-0.0959***
	(0.00)	(0.00)	(0.00)	(0.00)
<i>ROA</i>	-0.0749***	-0.8058***	-0.3749***	-0.2654***
	(0.00)	(0.00)	(0.00)	(0.00)
<i>TOBINQ</i>	0.0016***	-0.2048***	-0.0973***	-0.0736***
	(0.00)	(0.00)	(0.00)	(0.00)
<i>FIRMAGE</i>	-0.0008*	0.0665***	0.0087	0.0084
	(0.08)	(0.00)	(0.26)	(0.22)
<i>PRIVATE/SUBSIDIARY</i>	-0.0005	0.0356**	-0.0142	-0.0051
	(0.61)	(0.05)	(0.41)	(0.73)
<i>ALLCASH</i>	0.0014	0.0742***	0.0240	0.0322**
	(0.19)	(0.00)	(0.15)	(0.03)
<i>ALLSTOCK</i>	-0.0089***	-0.1689***	-0.0163	-0.0294
	(0.00)	(0.00)	(0.60)	(0.29)
<i>UNRELATED</i>	-0.0025**	-0.0168	-0.0075	-0.0079
	(0.02)	(0.37)	(0.65)	(0.58)
<i>RELSIZE</i>	-0.0044***	-0.0216**	0.0426***	0.0271***
	(0.00)	(0.02)	(0.00)	(0.00)
<i>HIGHTECH</i>	0.0013	0.0177	0.0407*	0.0248
	(0.40)	(0.50)	(0.07)	(0.21)
<i>FOREIGN</i>	0.0001	0.0298	0.0027	-0.0204
	(0.94)	(0.18)	(0.89)	(0.24)
<i>HOSTILE</i>	0.0092	0.0747	-0.0594	-0.0333
	(0.26)	(0.59)	(0.55)	(0.70)
<i>SERIAL</i>	-0.0004	0.0312	-0.0214	-0.0089
	(0.71)	(0.12)	(0.28)	(0.61)
Year/Industry FE	Yes	Yes	Yes	Yes
<i>R</i> <sup>2</sup>	0.0882	0.2199	0.0989	0.1406
<i>F</i> -statistic	14.90	41.19	10.31	15.24
Prob> <i>F</i> -statistic	0.0000	0.0000	0.0000	0.0000
N	13,784	13,090	8,444	8,377

**Table 6: Director Qualifications, Bid Characteristics and Abnormal Returns**

This table reports regression estimates for Equation (2) when firms in the sample are split into two groups under each of the following bid characteristics: (i) organisational form of the target (private versus public targets, in Columns 1 and 2); (ii) method of payment (cash only versus stock only deals, in Columns 3 and 4); (iii) relatedness (related versus unrelated targets, in Columns 5 and 6); and (iv) jurisdiction of the target (domestic versus foreign targets, in Columns 7 and 8). The standard errors are reported in parentheses, while superscript \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% levels, respectively. Variable definitions are given in Appendix A.

**Panel A: 3DCAR**

	<b>3DCAR</b>	<b>3DCAR</b>	<b>3DCAR</b>	<b>3DCAR</b>	<b>3DCAR</b>	<b>3DCAR</b>	<b>3DCAR</b>	<b>3DCAR</b>
	<b>Private</b>	<b>Public</b>	<b>All Cash</b>	<b>All Stock</b>	<b>Related</b>	<b>Unrelated</b>	<b>Domestic</b>	<b>Foreign</b>
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Constant	0.0183*** (0.00)	-0.0226 (0.16)	0.0289** (0.01)	-0.0086 (0.76)	0.0308** (0.02)	0.0068 (0.27)	-0.0026 (0.80)	0.0172*** (0.01)
QUALINDEX	0.0153*** (0.00)	0.0213* (0.07)	0.0208*** (0.00)	0.0803*** (0.00)	0.0048 (0.60)	0.0187*** (0.00)	0.0120** (0.05)	0.0192*** (0.00)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R <sup>2</sup>	0.0373	0.1202	0.0443	0.1803	0.0490	0.0376	0.0394	0.0374
F-statistic	5.19	3.08	3.86	2.04	1.53	5.00	3.50	2.81
Prob>F-statistic	0.0000	0.0000	0.0000	0.0000	0.0012	0.0000	0.0000	0.0000
N	12,009	2,047	7,330	802	2,703	11,353	7,600	6,456

**Panel B: \$CAR**

	<b>\$CAR</b>							
	<b>Private</b>	<b>Public</b>	<b>All Cash</b>	<b>All Stock</b>	<b>Related</b>	<b>Unrelated</b>	<b>Domestic</b>	<b>Foreign</b>
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Constant	6.9035*** (0.00)	6.9067*** (0.00)	6.9100*** (0.00)	6.8879*** (0.00)	6.9261*** (0.00)	6.8976*** (0.00)	6.8917*** (0.00)	6.9087*** (0.00)
QUALINDEX	0.0271*** (0.00)	0.0350*** (0.00)	0.0409*** (0.00)	0.0544*** (0.00)	0.0307*** (0.00)	0.0264*** (0.00)	0.0187*** (0.00)	0.0380*** (0.00)
Controls	Yes							
Year/Industry FE	Yes							
R <sup>2</sup>	0.0508	0.1060	0.0552	0.1468	0.0722	0.0502	0.0546	0.0536
F-statistic	7.16	2.67	4.86	1.60	2.31	6.76	4.93	4.10
Prob>F-statistic	0.0000	0.0000	0.0000	0.0014	0.0000	0.0000	0.0000	0.0000
N	12,009	2,047	7,330	802	2,703	11,353	7,600	6,456

**Table 7: Director Qualification Types and Acquisition Outcomes**

This table reports regression estimates for Equation (2) when the explanatory variable represents one of the following qualifications: (i) graduate degree; (ii) accounting/finance experience; (iii) legal/consulting experience; (iv) management experience; (v) political experience; (vi) military experience; and (vii) academic experience. The standard errors are reported in parentheses, while superscript \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% levels, respectively. Variable definitions are given in Appendix A.

<b>Panel A: 3DCAR</b>							
<b>Variable</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>	<b>(6)</b>	<b>(7)</b>
Constant	0.0107* (0.05)	0.0099* (0.07)	0.0097* (0.08)	0.0112** (0.04)	0.0081 (0.15)	0.0080 (0.15)	0.0086 (0.12)
<i>DEGREE</i>	0.0010*** (0.00)						
<i>ACCFIN</i>		0.0012*** (0.00)					
<i>LEGALCONSUL</i>			0.0015*** (0.00)				
<i>MANAGEMENT</i>				0.0006*** (0.00)			
<i>POLITICAL</i>					0.0005 (0.81)		
<i>MILITARY</i>						-0.0022 (0.40)	
<i>ACADEMIC</i>							0.0005** (0.04)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>R</i> <sup>2</sup>	0.0326	0.0323	0.0319	0.0326	0.0307	0.0307	0.0310
<i>F</i> -statistic	5.29	5.25	5.18	5.29	4.97	4.98	5.02
Prob: <i>F</i> -statistic	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
N	14,052	14,052	14,052	14,052	14,052	14,052	14,052
<b>Panel B: BIDPREM</b>							
<b>Variable</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>	<b>(6)</b>	<b>(7)</b>
Constant	0.8266* (0.07)	0.8903** (0.05)	0.8880** (0.05)	0.7824* (0.08)	0.9817** (0.03)	0.9761** (0.03)	0.9757** (0.03)
<i>DEGREE</i>	-0.0287** (0.02)						
<i>ACCFIN</i>		-0.0295* (0.06)					
<i>LEGALCONSUL</i>			-0.0439* (0.06)				
<i>MANAGEMENT</i>				-0.0190*** (0.00)			
<i>POLITICAL</i>					0.0626 (0.60)		
<i>MILITARY</i>						0.0191 (0.88)	
<i>ACADEMIC</i>							-0.0022 (0.99)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year/Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>R</i> <sup>2</sup>	0.1158	0.1156	0.1156	0.1161	0.1153	0.1153	0.1153
<i>F</i> -statistic	13.26	13.23	13.23	13.29	13.19	13.34	13.18
Prob: <i>F</i> -statistic	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
N	9,092	9,092	9,092	9,092	9,092	9,092	9,092

## Appendix A: Definitions of Variables

**Table A1**

### Variables, acronyms and definitions

Variable	Acronym	Definition
<b>Panel A: Director qualifications</b>		
Qualification index – Raw	<i>QUALINDEX</i>	The sum of the following indicator variables: (i) legal/consulting experience; (ii) academic experience; (iii) accounting/finance experience; (iv) management experience; (v) political experience; (vi) military experience; (vii) education: undergraduate; (viii) education: graduate; and (ix) education: MBA. Each variable is assigned a value of 1 if a director possesses that particular skill/experience and 0 otherwise.
Graduate degree	<i>DEGREE</i>	Number of acquirer directors who have a graduate degree.
Accounting/finance experience	<i>ACCFIN</i>	Number of acquirer directors who have served in roles as accountant, Chief Financial Officer, Treasurer or Vice President Finance in the past.
Legal/consulting experience	<i>LEGALCONSUL</i>	Number of acquirer directors who have served in roles as consultant, lawyer, attorney or judge in the past.
Management experience	<i>MANAGEMENT</i>	Number of acquirer directors who have served in roles as CEO, Chief Financial Officer (CFO), Chief Information Officer (CIO), Chief Data Officer (CDO) or Chief Executive of any firms in the past.
Political experience	<i>POLITICAL</i>	Number of acquirer directors who have served in the political sphere in the past.
Military experience	<i>MILITARY</i>	Number of acquirer directors who have served in the military in the past.
Academic experience	<i>ACADEMIC</i>	Number of acquirer directors who have experience as an academic.
<b>Panel B: Value creation</b>		
Three-day cumulative abnormal return	<i>3DCAR</i>	Three-day cumulative abnormal return. Note: We employ the conventional event-study method (Brown and Warner, 1985) to calculate the cumulative abnormal return earned by an acquirer over a 3-day event window (from $t = -1$ to $t = +1$ ) around the announcement day ( $t = 0$ ). The firm-specific $\alpha_i$ and $\beta_i$ parameters are estimated using daily returns for acquirer $i$ and the market for a 200-day estimation period spanning $t = -252$ to $t = -53$ . The length of our estimation period follows Chang (1998), Masulis et al. (2007) and Moeller et al. (2004). We exclude the 50-day window immediately before the acquisition announcement from the estimation period as information on acquisition events is often leaked to the capital market well before the actual announcement.
Dollar value abnormal return	<i>\$CAR</i>	<i>3DCAR</i> multiplied by the market value of equity on Day $-54$ relative to the acquisition announcement day.

<b>Panel C: Acquisition efficiency</b>		
Bid premium	<i>BIDPREM</i>	For public targets: Difference between deal value and market capitalisation of the target one month before deal announcement divided by market capitalisation. For private targets: Average industry bid premium paid to public targets in a given year.
Days taken to complete the deal	<i>LOGDAYS</i>	Natural logarithm of the number of days taken to complete the deal.
Deal completion status	<i>COMPLETED</i>	Dummy variable taking the value of 1 if the deal is completed, and 0 otherwise.
<b>Panel D: Governance characteristic controls</b>		
Board size	<i>BDSIZE</i>	The total number of directors of the firm.
CEO duality	<i>CEODUAL</i>	Indicator variable that takes the value of 1 if both CEO and chair positions are held by the same person, and 0 otherwise.
Percentage of independent directors	<i>PIND</i>	The proportion of independent directors on the board.
<b>Panel E: Financial characteristic controls</b>		
Firm size	<i>SIZE</i>	The natural logarithm of the bidder's market capitalisation.
Leverage	<i>LEV</i>	Debt in current liabilities plus long-term debt divided by total assets.
Cash holdings	<i>CASH</i>	Total cash holdings divided by total assets.
Growth	<i>GROWTH</i>	The ratio of sales in the current fiscal year to sales in the last year minus one.
Return on assets	<i>ROA</i>	Income before extraordinary items divided by opening year book value of total assets.
Tobin's Q	<i>TOBINQ</i>	The market value of total assets divided by the book value of total assets. The market value of assets is calculated as the book value of total assets minus the book value of common equity plus the number of common shares outstanding times the stock price.
Firm age	<i>FIRMAGE</i>	The number of years since a firm first appeared in the CRSP database.
<b>Panel E: Bid characteristic controls</b>		
Private/subsidiary status of the target	<i>PRIVATE/SUBSIDIARY</i>	Indicator variable that takes the value of 1 if the target's status is a private firm or a subsidiary, and 0 otherwise.
Cash-financed deals	<i>ALLCASH</i>	Indicator variable that takes the value of 1 if the acquisition is 100% financed with cash, and 0 otherwise.
Stock-financed deals	<i>ALLSTOCK</i>	Indicator variable that takes the value of 1 if the acquisition is 100% financed with stock, and 0 otherwise.
Unrelated acquisitions	<i>UNRELATED</i>	Indicator variable that takes the value of 1 if the bidder and the target belong to different four-digit primary Standard Industrial Classification (SIC) codes reported by Securities Data Company (SDC), and 0 if they belong to the same SIC code.
Relative size of the deal	<i>RELSIZE</i>	Transaction value reported by SDC divided by the market value of the acquirer one month prior to the acquisition announcement.
High-tech targets	<i>HIGHTECH</i>	Indicator variable that takes the value of 1 if the bidder acquires a target that operates in a high-tech industry, and 0 otherwise.
Cross-border acquisitions	<i>FOREIGN</i>	Indicator variable that takes the value of 1 if the acquisition is a cross-border acquisition, and 0 otherwise.

Hostile bids	<i>HOSTILE</i>	Indicator variable that takes the value of 1 if the SDC classifies the bid as a hostile takeover, and 0 otherwise.
Serial bidders	<i>SERIAL</i>	Indicator variable that takes the value of 1 if the bidder acquires three or more targets in a given year, and 0 otherwise.
<b>Panel F: Long-term performance</b>		
Post-acquisition change in return on assets	<i>AVGCHGROA</i>	The average change in return on assets (ROA) reported by the acquirer during the three years following the acquisition.  Note: For this purpose, we first calculate the change in ROA of an acquirer in years $t+1$ , $t+2$ and $t+3$ where year $t = 0$ is the financial year in which the acquisition occurred. We then calculate change in ROA across the three post-acquisition years.
Post-acquisition change in Tobin's Q	<i>AVGCHGTOBINQ</i>	The average change in Tobin's Q reported by the acquirer during the three years following the acquisition.  Note: For this purpose, we first calculate the change in Tobin's Q of an acquirer in years $t+1$ , $t+2$ and $t+3$ where year $t = 0$ is the financial year in which the acquisition occurred. We then calculate change in Tobin's Q across the three post-acquisition years.
Post-acquisition equally weighted long-run return	<i>AVGRET(EW)</i>	Equally weighted monthly buy and hold return earned by the acquirer for the 36-month period following the acquisition month.
Post-acquisition value-weighted long-run return	<i>AVGRET(VW)</i>	Value-weighted monthly buy and hold return earned by the acquirer for the 36-month period following the acquisition month