

Non-linear association between managerial ownership and acquisition premium

Abstract

Previous research shows that the acquisition premium decreases with acquiring firm managerial ownership and increases with target firm managerial ownership. To provide new empirical evidence on the incentive alignment and entrenchment impacts of managerial equity ownership, we investigate whether there is a curvilinear association between acquiring (target) firm managerial ownership and premium. Our analyses show that both acquiring and target firm managerial ownership have a non-linear association with the acquisition premium. Acquirer executive ownership is negatively associated with acquisition premium when they own less than 9% equity, but this association is positive after this turning point. These results suggest that an increase in acquiring firm managers' equity ownership reduces premium payments; but when they achieve a controlling equity stake, then they may be able to pay high premiums, which may benefit them at the expense of other shareholders. This suggests that executive ownership does not directly align, but may also diverge, the interests of agents and principals.

Keywords: mergers and acquisitions; executive director's ownership; premium; non-linear association.

Introduction

It is well known that executive and non-executive directors' equity ownership play important corporate governance role by aligning the interests of directors with those of shareholders. Agency theory suggests that *acquiring (target)* firm executive directors ownership is *negatively (positively)* related to the acquisition premium. However, other theoretical views suggest that managerial control via large equity stakes may also facilitate managerial entrenchment and, therefore, the association between executive directors' ownership and the acquisition premium could be curvilinear. Supporting agency theory, some previous studies

show that *acquiring (target)* firm executive directors' ownership has a direct linear relation with the premium. For example, Barger *et al.* (2008) report that an increase in *acquiring* firm managerial ownership significantly *reduces* the premium, while Bauguess *et al.* (2009) find that an increase in *target* firm managerial ownership *increases* the premium. In contrast, other studies (e.g., Cai and Vih, 2007, Moeller, 2005) report that *acquiring (target)* firm managerial ownership is *positively (negatively)* related with the premium. At the same time, no single study reports a curvilinear association between managerial ownership and acquisition premium¹.

In making M&A decisions *acquiring* firm managers may also consider their personal benefits, in addition to shareholder value. At low levels of ownership the benefits of private control predominate and, therefore, managers may pay relatively high premiums to secure acquisitions in order to increase their control. As awarding managers with higher levels of equity ownership may align their interests with those of the shareholders, higher equity ownership may limit premium over-payments by "self-interested" managers. Supporting this view Barger *et al.* (2008) show that managers with higher equity stakes pay lower premiums. Cai and Vih (2007) find that managers with higher equity stakes become more interested in acquiring undervalued targets. Laamanen (2007) concludes that managers paying higher premiums may select targets with better growth opportunities.

On the other hand, at higher levels of insider ownership, entrenchment predominates: insider managers not controlled by non-executive directors and institutional blockholders will pay higher premium to diversify their employment and income risks. At the same time, with higher equity ownership managers may display managerial entrenchment/hubris behaviour. Therefore, they may focus on growth rather than rationalisation. They may want to focus on takeovers that diversify corporate income streams so as to hedge against threats to their managerial position. For example, Cai and Vih (2007) show that acquiring firm managers with higher equity ownership make acquisitions by offering higher premiums, especially when they have overvalued equity holdings. Consequently, as Harford and Li (2007) suggest, in most cases acquiring firm managers are better off, even if their shareholders earn negative abnormal returns post-merger.

¹ For example, using only cash-paid acquisitions sample, Barger *et al.*, (2008) find insignificant relation between quadratic managerial ownership and premium.

Similarly, theoretical views suggest that *target* firm managerial ownership is positively correlated with the premium. First, as managerial ownership may be negatively associated with firm value (Morck *et al.*, 1988), target firm managerial ownership and premium should be positively associated (because managers with high equity ownership may not have maximised firm value). Next, as the equity ownership of the managers increases their negotiation and controlling capabilities, their decision making (acceptance or rejection of the premium offers) should become similar to those of individual blockholders (who require high premiums). Supporting this view, Bauguess *et al.* (2009) find that target firm managers with increasing equity stakes pursue higher premiums for their shareholders.

At the same time, other studies report either no relation (Bargeron *et al.*, 2017) or a negative relation between target firm managerial ownership and acquisition premiums (Moeller 2005)². One explanation for this is that target firm managers with large ownership may negotiate side payments for themselves, instead of high premiums for the shareholders. Supporting this view, Hartzell *et al.* (2004) report that target firm managers negotiate better cash payments for themselves, rather than higher premiums for all the shareholders. Qiu *et al.* (2004) show a negative relation between target CEO retention and premiums. Cai and Vijn (2007) find that target firm managers with large equity stakes use M&A opportunities to cash out their illiquid equity holdings and, therefore, they approve low premiums.

To provide new empirical evidence on the incentive alignment and entrenchment impacts of managerial equity ownership, we investigate whether there is a curvilinear association between *acquiring (target)* firm managerial ownership and premium.

Research methods and data

We use a sample of 376 UK domestic takeovers completed during 1990-2010. Transaction data, including announcement dates, completion dates, premiums and other deal characteristics, were obtained from the *Thomson Reuters* database. These data were merged with accounting and finance data retrieved from *Datastream* while data for the corporate

² One explanation for this is that target firm managers with large equity stakes may already have enhanced the market value of their firm and, therefore, they may agree to lower premiums. In other words, when managers own large equity stakes, their firm may generate higher profits and, therefore, there may be less opportunity for efficiency/profitability improvements. Thus, target firm managers' ownership and premium could be negatively associated.

governance variables were hand-collected from the companies' annual reports, downloaded from *Filings Expert* database.

To analyse the collected data we use the ordinary least squares (OLS) regression method. As the dependent variables of these regressions we use two measures of the acquisition premium: the 21 trading day (one month) premium and the 42 trading day (two months) premium. The *21 (42) day premium* is computed as the percentage difference between the purchase price and the market price of the target firm shares 21 (42) days before the first announcement of the takeover, divided by the latter price. The 21 days premium is obtained from *Thomson Reuters*. We compute the 42 days premium using the final share price offered by the acquiring firm and the share price of the target firm 42 days before the M&A announcement date.

Our main independent variables are the equity ownership (in %) of executive and non-executive directors in both acquiring and target firms at the end of the last pre-takeover fiscal year. We also use several corporate governance variables of both acquiring and target firms, such as board independence, CEO/Chair duality and external large shareholders' ownership (i.e. institutional and individual block-holders' ownership) as the main control variables. M&A decisions could be better when boards include higher levels of outside (independent) directors and when an independent non-executive director is a Chairman of the board. For example, higher proportions of non-executives on the board and separation of the CEO and Chair roles, should limit managerial discretion (for example, to pay high premiums). Divisions of responsibility within the board of directors may complicate predictions, taking into account the fact that takeovers are usually initiated and mounted by the CEO. High premiums may be especially associated with high ownership stakes by other members of the board, given that ownership provides an incentive to control the CEO's actions to protect their wealth. The CEO-duality, by contrast, may be driven by additional incentives such as a desire for glory. They may therefore be less assiduous in seeking-out high quality takeovers. Board independence is measured as the proportion of non-executive directors is the number of non-executive directors on the board divided by total board size. The average proportion is 0.26. CEO duality is measured with a dummy variable that takes 1 when the CEO and chairperson of the board are held by the same person and 0 when the positions are separated.

Concentrations of shareholder ownership outside the firm should also control managerial discretion (Bauguess *et al.*, 2009) and therefore the size of takeover premiums. For example,

acquiring firm blockholders may be negatively associated with premium, as they may limit managerial over-payments. At the same time, they may require from managers to undertake only synergetic M&A deals that may require higher premiums. Similarly, when target firm external blockholders closely monitor managers' performance during pre-takeover periods, premium could be lower. However, it is not clear whether all institutional blockholders effectively monitor managerial decision making around M&A deals. Some institutional investors may have their own agency problems and, therefore, they may not be effectively control managers' activities. At the same time, target blockholders, especially individual blockholders, may require higher premiums. These views imply that both target and acquirer external blockholders may have negative or positive associations with premiums. Therefore, we also use external individual shareholders and institutional investors who owning 3% of the equity or more at the end of the fiscal year before the takeover completion. On average, individual shareholders hold 3.62 (3.60)%, whilst institutional investors hold 27.43 (29.15)% of the acquirer (target) respectively just before the takeover.

We also control for both acquirer and acquired firm characteristics. As acquirers' premium offers could be high when target firm underperformance is high, as a control variable we use *Return on Sales* (ROS), adjusted with industry median of this variable. As high leverage levels may limit premium payments, we control for *Debt*, defined as the ratio of total debt to total assets. Additionally, merging firms' share price performance may also impact on premium. In this regard, we use 200 trading days market-adjusted buy-and-hold returns for the acquired firm shareholders, as in Barger *et al.* (2017).

Finally, we also control for the M&A deal characteristics, such as the relative size of the merging firms, the takeover mode (hostile or friendly) and the payment type (equity or cash), competitive bidders and the acquirer toehold in the acquired firm. *Relative size* is measured with the ratio of target total sales to acquirer total sales in the year immediately prior to takeover. The ratio shows that the median acquirer is about three times larger than the median acquired firm. Related acquisitions are defined as those acquisitions where both acquired and acquirer firms are in the same industry. *Hostile acquisitions* are defined on the basis of whether an initial bid was rejected by the target firm management and coded 1, and 0 otherwise. The sample includes 67 transactions classified as hostile transactions. *All-equity payment* is a dummy variable that takes 1 for pure stock paid deals and 0 otherwise. Previous research also shows that the number of competing bidders is positively associated with the premium and shareholder gains. We therefore control for this with a dummy variable

Competing bidders. Table 1 provides the variable definitions and Table 2 provides the descriptive analysis.

Results

Table 3 reports the OLS regression results. Model 1 (3) shows that *Acquirer executive ownership* is not a direct determinant of the premium. Model 2 (4), which includes the quadratic form of *Acquirer executive ownership*, shows that the coefficient of this baseline variable is negative, while the coefficient of the square of this variable is positive and significant. This curvilinear association suggests that acquiring firm managers pay higher premiums when they have very small equity ownership (i.e. when they are weak) and when they have larger (i.e. when they have strong controlling capabilities) equity stakes.

One explanation for this non-linear association is that when acquiring firm managers have very low levels of equity ownership they may pay high premiums, because their interests may not be fully aligned with those of shareholders. In such cases, managers may seek firm growth and may overpay for acquisitions in order to increase their power. As higher managerial equity ownership strengthens the alignment of managers' and shareholders' interests, managers with increasing shareholdings may pay lower premiums. Thus, the negative coefficient of the baseline variable indicates that when acquiring firm executive equity ownership increases, then they start to pay lower premiums.

However, the positive coefficient on squared *Acquirer executive ownership* indicates that after a turning point an increase in managerial equity ownership leads to higher premiums. Analysing the regression results we find that 9% of equity ownership is the turning point in the relationship between *Acquirer executive ownership* and premium. This suggests that managers with larger equity ownership may become entrenched and, therefore, they may pay very high premiums. In other words, executive directors who own around 9% equity pay the lowest premiums for their acquisitions. But when their ownership is larger than this point of equity, then they may again start to pay higher premiums. An alternative view is that acquiring firm managers with very higher equity stakes may also pay higher premiums for synergetic acquisitions³.

³ In such cases acquiring firm managers may have controlling stakes and they may make synergetic acquisitions, which may require higher premiums. For example, target firms' resources may be difficult for the market to

In sum, premium payment decisions made by the executive directors depend on their equity ownership size. For example, when they have very small equity stake, then they may pay higher premiums. Similarly, when they have substantially bigger ownership than the optimal managerial ownership point, then they may also pay high premiums (1) because of their hubris or over-confidence behaviour or (2) because of their capabilities to acquire more synergetic targets which have lower share prices⁴.

Similarly, the regression results also show that the association between *target* firm executive director ownership and premiums is curvilinear. Model 1 (3) indicates that *Target executive ownership* is negatively associated with the M&A premium. This result suggests that target firm managers with large equity ownership may have already optimised their firm value before the M&A announcement and, therefore, they agree with lower premiums.

Model 2 (4) shows that the coefficient on *Target executive ownership* becomes positive, while the coefficient on the squared variable is negative and significant. Further analyses show that 7% equity ownership is the turning point in the relationship between *Target executive ownership* and premium. This result suggests that the association between ownership and premium is significant only when target firm managers have large (more than 7%) equity ownership. In other words, the M&A premiums could be low or high when target firm managers have small equity ownership (lower than 7%), but when they own more than 7% of equity, an increase in their ownership leads to lower premiums. Target managers may agree for such low premiums based on the followings: (1) high market value of the target firm and (2) managers' preferences for cashing out their equity holdings (Cai and Vijn, 2007).

The results show that *Target individual ownership* and *Acquirer CEO/Chair duality* are also significant determinants of premium, suggesting that individuals' preferences play a role in

value and, therefore, acquirers with good decision makers may pay justifiable high premiums (Laamanen, 2007). Similarly, Cai and Vijn (2007) also conclude that acquirers with higher managerial ownership are more likely to acquire undervalued targets. This suggests that managers with higher equity ownership may select those targets with higher growth potential and higher synergetic gains.

⁴ In other words: (1) executive directors with control stakes may also make high premium acquisitions, as such acquisitions may generate private benefits for them at the expense of other shareholders; (2) executive directors with control stakes may make more synergetic acquisitions or may acquire undervalued firms that require higher premiums (Laamanen 2007). When acquiring firm managers own large equity stakes, their interests may be aligned with shareholders' and therefore they may merge firms with those firms with good synergetic potentials or those target firms that are undervalued because of poor performance (low share prices) by target managers.

determining the premium⁵. The results also show that a rising *Acquirer ROS* is one of the main drivers of the high premiums, while a higher *Target ROS*, higher *Target debt* and higher *Target 200days pre-bid abnormal returns* lead to a lower premium. Among the M&A deal characteristics, *Relative size*, *All-equity payments*, *Hostile acquisitions* and *Competitive bidders* are significant determinants of acquisition premiums.

To check the robustness of the above empirical findings we run similar regression models using a sub-sample of M&As that excludes those transactions with negative premiums. We find that in 36 M&A transactions *21 day premiums* are negative and in 44 M&A transactions *42 day premiums* are negative. The results of these regressions (reported in Table 4) confirm that both acquiring firms and target firms managerial ownership have a non-linear association with the acquisition premium. This suggests that executive ownership does not directly align, but may also diverge, the interests of agents and principals.

Conclusion

Previous studies provide mixed evidence on the linear association between acquiring (target) firm managerial ownership and M&A premium. Our results reveal that this association is non-linear. Specifically, *Acquirer executive ownership* is negatively associated with acquisition premium when they own less than 9% equity, but this association is positive after this turning point. These results suggest that an increase in acquiring firm managers' equity ownership reduces premium payments; but when they achieve a controlling equity stake, then they may be able to pay high premiums, which may benefit them at the expense of other shareholders. However, at the same time, as suggested by Laamanen (2007), acquiring firm managers with large equity stakes may make "good" acquisitions with higher levels of the expected post-merger synergies and, therefore, they may pay high premiums.

Similarly, *Target executive ownership* is not significantly associated with premium, when they own lower than 7% equity stake, but this association becomes negative and significant after this turning point. Thus, target firm managers' equity ownership aligns their interests with those of shareholders: an increase in their ownership encourages them to work to maximise their market value and therefore, they agree with lower premiums. However, in

⁵ Supporting this view, Acquirer individual ownership is positively associated with premium, suggesting that external individual blockholders only approve "good" acquisitions. Similarly, Acquirer institutional blockholders also approve those acquisitions with higher premium payments.

M&A transactions target firm managers may use such large equity stakes to benefit at the expense of widely dispersed shareholders. Overall, we conclude that both acquiring and acquired firms' executive directors' equity ownerships have curvilinear association with the size of premiums.

In sum, our results do not support agency theory predictions on the positive association between managerial equity ownership and managerial decision making. Instead, our results provide some support to the behaviour perspective on management decision-making: managers with wealth tied up in their firms are driven by loss-aversion and, therefore, decision-making is weighted towards the avoidance of loss rather than the achievement of shareholder gains. This suggests that when managers have higher equity ownership then they are more likely to approve less risky projects, even if they generate lower shareholder value.

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Table 1 Variable definitions

Variable	Definition
<i>Premium</i>	The percentage difference between the purchase price and the target firm share price 21 (42) trading days before the initial takeover announcement date, divided by the target firm share price 21 (42) trading days before the initial takeover announcement date.
Main independent variables	
<i>Acquirer (Target) Executive ownership</i>	The total number of shares owned by the acquirer's (target) executive directors, including the CEO, and their immediate family members, expressed as a percentage of the acquirer's (target) total number of shares in issue at the end of accounting year immediately prior to takeover completion year.
<i>Acquirer (Target) Non-Executive ownership</i>	The total number of shares owned by the acquirer's (target) non-executive directors and their immediate family members, expressed as a percentage of the acquirer's (target) total number of shares in issue at the end of accounting year immediately prior to takeover.
Other corporate governance variables	
<i>Acquirer (Target) Institutional ownership</i>	The total percentage of ownership in the acquirer (target) held by all institutional shareholders owning more than 3 per cent of ordinary shares in the year before the takeover.
<i>Acquirer (Target) Individual ownership</i>	The total percentage of ownership in the acquirer (target) held by all individual shareholders, owning more than 3 per cent of ordinary shares in the year before the takeover.
<i>Acquirer (Target) CEO/Chairman duality</i>	Equals 1 if the CEO of the acquiring (target) firm is also its Chairman, 0 otherwise.
<i>Acquirer (Target) Board independence</i>	The ratio of non-executive directors to the total number of board members.
Firm characteristics	
<i>Acquirer (Target) ROS</i>	Return on Sales, defined as Earnings Before Interest, Taxes and Depreciation (EBITDA) divided by the total annual sales, minus the respective industry median ROS.
<i>Acquirer (Target) Debt</i>	The ratio of the acquirer's total debt to its total assets at the end of the accounting year immediately prior to takeover.
Deal characteristics	
<i>Target relative size</i>	The ratio of the acquired firm's employment to that of the acquiring firm during the pre-takeover financial year. Log transformed.
<i>Target prior-bid abnormal returns</i>	Buy-hold-abnormal returns on the target shares during the 200 trading days prior to the premium window.
<i>All-equity payment (0,1)</i>	Equals 1 if an acquisition was financed entirely by equity exchanges, 0 otherwise.
<i>Hostile (0,1)</i>	Equals 1 if an acquisition is in the form of a hostile takeover, with the initial bid was rejected by the target firm management, 0 otherwise.

<i>Related acquisitions (0,1)</i>	Equals 1 if both acquired and acquiring firms are in the same industry as measured by the Datastream Industrial Classification Benchmark Level Four, 0 otherwise.
<i>Competing bidders (0,1)</i>	Equals 1 if more than one bidding firm was involved in the deal, 0 otherwise.
<i>Toehold</i>	The percentage ownership of the acquiring firm in the target firm on the acquisition announcement date.

Sources: *Thomson Reuters*, *Datastream* and company annual reports.

Table 2 Descriptive statistics

	Mean	Median	Minimum	Maximum	Std. dev.
Premium 21 trading days	35.88	33.99	-83.90	194.29	35.63
Premium 42 trading days	38.21	34.72	-91.02	252.94	40.71
Acquirer executive ownership	5.57	0.86	0	68.20	10.43
Target executive ownership	8.53	1.97	0	82.60	13.91
Acquirer non-executive ownership	1.53	0.09	0	48.23	4.56
Target non-executive ownership	2.93	0.25	0	63.13	6.97
Acquirer institutional ownership	27.43	25.89	0	95.70	19.18
Acquirer individual ownership	3.62	0	0	79.51	9.61
Target institutional ownership	29.15	29.22	0	87.74	20.00
Target individual ownership	3.60	0	0	52.78	7.97
Acquirer CEO/Chair duality	0.26	0	0	1	0.44
Acquirer board independence	0.46	0.5	0	0.83	0.14
Target CEO/Chair duality	0.26	0	0	1	0.44
Target board independence	0.44	0.44	0	1	0.15
Acquirer ROS (industry adjusted)	0.00	0.02	-4.74	2.07	0.48
Acquirer debt	0.36	0.17	0	9.95	0.83
Target ROS (industry adjusted)	-0.64	-0.01	-43.47	0.71	4.11
Target debt	0.42	0.15	0	12.87	1.05
Target relative size	-1.32	-1.1	-7.20	3.2	1.69
Target 200 days prior-bid abnormal returns	-0.12	-0.16	-0.99	2.62	0.42
All-equity payment	0.30	0	0	1	0.46
Hostile acquisitions	0.18	0	0	1	0.38
Related acquisitions	0.62	1	0	1	0.49
Competing bidders	0.09	0	0	1	0.28
Acquiring firm toehold in the target firm	3.06	0	0	53	8.43

Table 3 OLS regressions of executive directors' ownership on acquisition premiums

	21 trading days Premium		42 trading days Premium	
	Model 1	Model 2	Model 3	Model 4
Acquirer executive ownership	0.076	-0.065	0.097	-0.088
Target executive ownership	-0.156**	-0.022	-0.146**	-0.002
Squared acquirer executive ownership		0.165*		0.213**
Squared target executive ownership		-0.191**		-0.201***
Acquirer non-executive ownership	0.037	0.03	0.035	0.029
Target non-executive ownership	0.046	0.05	0.013	0.019
Acquirer institutional ownership	0	0.02	0.044	0.068
Acquirer individual ownership	0.016	0.016	0.053	0.055
Target institutional ownership	-0.055	-0.052	-0.064	-0.058
Target individual ownership	0.164***	0.166***	0.166***	0.169***
Acquirer CEO/Chair duality	-0.132***	-0.141***	-0.113**	-0.120**
Acquirer board independence	0.031	0.017	0.043	0.023
Target CEO/Chair duality	0.119**	0.110*	0.07	0.062
Target board independence	-0.140**	-0.147**	-0.079	-0.085
Acquirer ROS (industry adjusted)	0.154***	0.157***	0.177***	0.181***
Acquirer debt	-0.027	-0.01	-0.031	-0.013
Target ROS (industry adjusted)	-0.111***	-0.110***	-0.084*	-0.084*
Target debt	-0.201***	-0.196***	-0.238***	-0.235***
Target relative size	-0.089*	-0.063	-0.200***	-0.170***
Target 200 days prior-bid abnormal returns	-0.170***	-0.165***	-0.201***	-0.198***
All-equity payment	-0.176***	-0.183***	-0.096*	-0.103**
Hostile acquisitions	0.096*	0.104**	0.067	0.075
Related acquisitions	0.014	0.004	-0.025	-0.034
Competing bidders	0.147***	0.149***	0.133**	0.135***
Acquirer toehold in target	-0.005	0.007	-0.01	0.002
Constant	**	***	***	***
F-stat	4.923***	5.227***	5.259***	5.910***
Adjusted R-square	0.282	0.31	0.286	0.32
Number of observations	367	366	368	367

Table 4 OLS regressions of executive directors' ownership on premiums, excluding M&A observations with negative premium

	21 trading days Premium		42 trading days Premium	
	Model 1	Model 2	Model 3	Model 4
Acquirer executive ownership	0.073	-0.142	0.127*	-0.144
Target executive ownership	-0.099	-0.131	-0.09	0.123
Squared acquirer executive ownership		0.234**		0.293***
Squared target executive ownership		0.034		-0.281***
Acquirer non-executive ownership	0.046	0.054	0.097	0.076
Target non-executive ownership	0.075	0.084	0.015	0.036
Acquirer institutional ownership	-0.025	-0.006	-0.005	0.035
Acquirer individual ownership	-0.082	-0.069	-0.022	-0.025
Target institutional ownership	-0.023	-0.008	-0.029	-0.012
Target individual ownership	0.181***	0.189***	0.201***	0.200***
Acquirer CEO/Chair duality	-0.142**	-0.118**	-0.111*	-0.102*
Acquirer board independence	0.064	0.037	0.06	0.039
Target CEO/Chair duality	0.076	0.088	0.085	0.05
Target board independence	-0.176***	-0.183***	-0.061	-0.092
Acquirer ROS (industry adjusted)	0.052	0.058	0.075	0.078*
Acquirer debt	-0.004	-0.009	-0.029	-0.033
Target ROS (industry adjusted)	-0.073*	-0.082**	-0.064	-0.054
Target debt	-0.029	-0.034	-0.115**	-0.089
Target relative size	-0.031	-0.026	-0.191***	-0.159***
Target 200 days prior-bid abnormal returns	-0.216***	-0.219***	-0.252***	-0.246***
All-equity payment	-0.116**	-0.104*	-0.035	-0.044
Hostile acquisitions	0.096	0.098	0.055	0.087
Related acquisitions	0	0.002	-0.05	-0.038
Competing bidders	0.135**	0.138**	0.111*	0.149**
Acquirer toehold in target	-0.001	0.005	0.004	0.022
Constant	**	**	**	***
F-stat	3.601***	3.473***	3.496***	3.689***
Adjusted R-square	0.178	0.186	0.155	0.199
Number of observations	331	331	325	325

Figure 1 The relationship between *Acquirer executive ownership* and acquisition premium, when M&A deals with negative premium are excluded from the sample

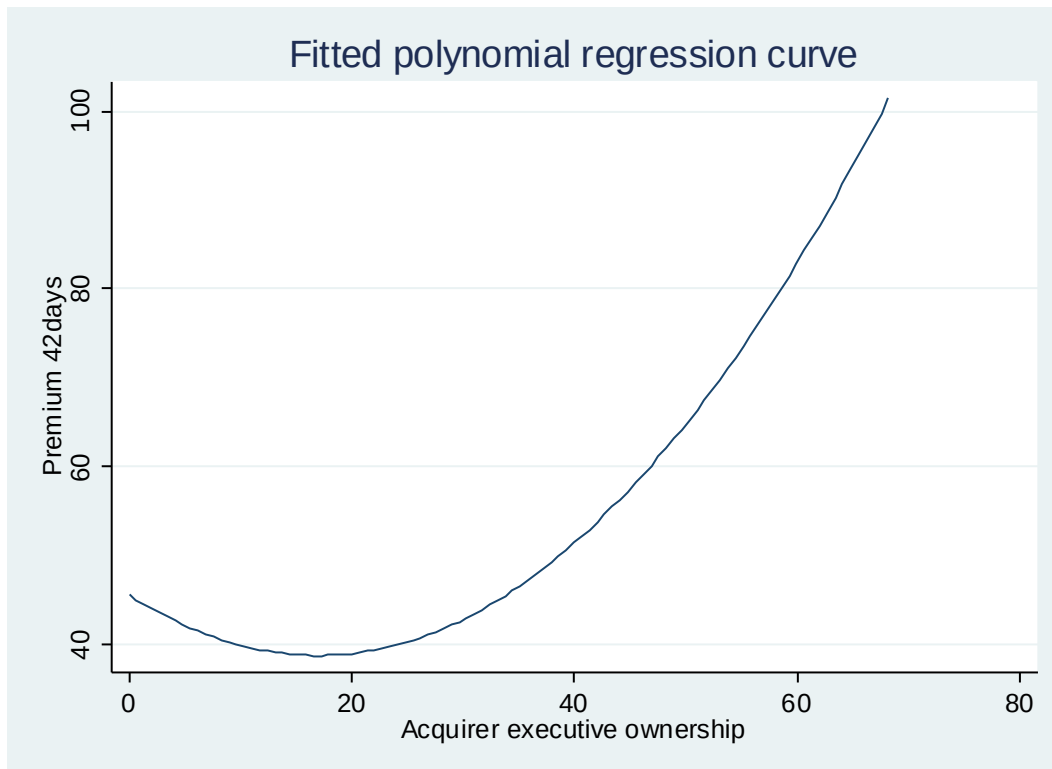


Figure 2 The relationship between *Target executive ownership* and acquisition premium, when M&A deals with negative premium are excluded from the sample

