Strategic Management Journal, Vol. 18:2, 85–96 (1997)

FORM OF CONTROL: A CRITICAL DETERMINANT OF ACQUISITION PERFORMANCE AND CEO REWARDS

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Based on two research streams, we investigate whether acquiring firms' form of control might be associated differently with CEO rewards or excess returns. We theoretically reason that in manager-controlled corporations acquisitions may be detrimental to the interests of shareholders and CEO rewards might be based on nonperformance criteria. In owner-manager-controlled and owner-controlled firms acquisitions may benefit the stockholders. While CEO rewards of owner-controlled firms may be based on performance criteria, however, executive rewards of owner-manager-controlled firms may be based on both performance and nonperformance factors. The findings indicate that for manager-controlled firms acquisition announcements result in negative excess returns to shareholders. For owner-controlled and owner-manager-controlled firms such announcements result in positive excess returns. The findings also suggest that increases in corporate size due to acquisitions are significantly and positively associated with CEO rewards of manager-controlled and owner-manager-controlled firms. For owner-controlled firms, excess returns are significantly and positively associated with CEO rewards. © 1997 by John Wiley & Sons, Ltd.

We have witnessed the undoing of many of the acquisitions of the 1960s, 1970s and the 1980s which were made in the name of improved efficiency. Clearly this suggests earlier acquisitions may not have contributed to the enhancement of shareholder wealth, which begs the question, 'why were they made?' More specifically, we might question whether these acquisitions were made for the benefit of shareholders or the CEOs. The related literature contains studies which examine in depth the agency issues related to chief executive rewards (Baker, Jensen, and Murphy, 1988; Gomez-Mejia and Balkin, 1992; Hambrick and Finkelstein, 1995; Hart and Holmstrom, 1987; Jensen and Murphy, 1990; Kroll, Wright, and Theerathorn, 1993; Lawler, 1971; Medoff and Abraham, 1980) and the efficiency of corporate acquisitions (Jensen, 1988; Jensen and Ruback, 1983; Lubatkin, 1987; Martin and McConnell, 1991; Morck, Shleifer, and Vishny, 1988, 1990; Roll, 1986). In this study, we examine whether acquisitions are driven by the interests of shareholders or CEOs. We also explore whether acquisition outcomes are related to senior executive rewards.

Key words: control form; acquisition performance; CEO rewards

CCC 0143–2095/97/020085–12

Received 27 December 1993
Final revision received 19 December 1995

Two research streams are central to the rationale of our paper. First, a number of scholars have explained that the linkage between managerial rewards and managerial performance is at best problematic (Hambrick and Finkelstein, 1995; Lawler, 1971; Medoff and Abraham, 1980; Tosi and Gomez-Mejia, 1994). In fact, based on the results of their empirical study, Jensen and Murphy have concluded that 'the compensation of top executives is virtually independent of performance. On average, corporate America pays its most important leaders like bureaucrats' (1990: 138). Second, select scholars have argued that senior executives may acquire businesses for their own self-interests rather than those of the stockholders (Agrawal and Mandelker, 1987; Amihud and Lev, 1981; Marris, 1964; Morck *et al*., 1990). Indeed, if CEO rewards are frequently independent of economic performance (Jensen and Murphy, 1990), we may be left with the specter of managers of publicly held firms possibly enlarging the size of their enterprises through acquisitions to increase their own rewards rather than to enhance firm value.

In our work, we juxtapose the two streams of research and examine them as they may be moderated by the form of corporate control. Our contention is that in this way we may shed further light on the related theories as opposed to an examination of each stream independently. Our approach is consistent with the definition of corporate control and its implication. That is, if corporate control is the power to determine the management of firm resources (Jensen and Ruback, 1983), then who controls that power may entail different impacts for CEO rewards or the performance of acquisitions.

Although our work is motivated by the presumption of agency conflicts, we should nevertheless point out that a number of scholars have argued that the interests of senior executives are served when they enhance shareholder wealth. That is, top managers may be selfishly driven by the influence of capital market signals (Easterbrook, 1984; Rozeff, 1982), pressures from managerial labor markets (Fama, 1980) or the threat of hostile takeovers (Martin and McConnell, 1991) to enhance firm value. Moreover, many managers and CEOs are good stewards and will formulate and implement strategies that not only increase their rewards, but also enhance the wealth of shareholders.

FORM OF CONTROL

In this section, we discuss the related literature on corporate acquisitions and CEO rewards, bringing them together in the context of three forms of corporate control. That is, some firms are manager-controlled, with diffused ownership. The managers of these firms may be abusive as their control is unlikely to be challenged by diffused stockholders. Other firms may be owner-controlled. Such firms have a significant shareholder who closely monitors the strategies of top managers, thereby limiting the ability of the top executives to engage in abusive behavior. Yet other firms may be controlled by owner-managers. These individuals have significant financial investments in their organizations. Further elaborations on these forms of control are made subsequently. In this study, significant owners or owner-managers are defined as those with at least 5 percent of their firm's stock. Below, we address the related literature on corporate acquisitions as well as the determinants of managerial rewards. We examine these theories as they may be impacted by the three forms of corporate control. Based on this examination, our hypotheses are developed and offered.

Manager-controlled firms

In the traditional theory of the firm, it is presumed that organizations are managed in the best interests of their owners (Marris, 1964). However, the congruency of interests between top executives and shareholders has been challenged throughout the years (Amihud and Lev, 1981; Baumol, 1967; Berle and Means, 1932; Fruhan, 1984; Tosi and Gomez-Mejia, 1989). According to agency theory, managers may pursue a variety of personal interests at the expense of shareholders (Blackburn, Lang, and Johnson, 1990; Jensen and Meckling, 1976; Kamin and Ronen, 1978; Mueller, 1969). In particular, top managers may undertake acquisitions in order to increase their rewards (Hoskisson and Johnson, 1992; Morck *et al*., 1988, 1990; Simon, 1957).

Moreover, top managers may even acquire businesses that will earn returns less than the cost of capital in order to heighten their rewards through the subsequent management of progressively larger organizations with greater revenues

(Baker *et al*., 1988; Hayes and Abernathy, 1980. Morck *et al*., 1990). Although some studies have reported that returns (rather than revenues) are associated with CEO rewards (e.g., Lewellen and Huntsman, 1970), other studies have reinforced the positive size/rewards association (Gomez-Mejia, Tosi, and Hinkin, 1987; Kroll, Simmons, and Wright, 1990; McEachern, 1975; Tosi and Gomez-Mejia, 1989).

Since acquisitions result in larger firm sizes, we may expect that acquisitions of manager-controlled organizations will result in increases in CEO compensation. Indeed, a mere increase in the size of an organization may be anticipated to heighten executive rewards rather than performance-based criteria. Yet, if nonperformance criteria motivate managerial strategy, why are these managers not discharged? The reason such executives are not seriously confronted with the prospect of being unemployed is because the diffused shareholders of the enterprises they manage are passive investors (McConnell and Servaes, 1990; Walsh and Seward, 1990).

Especially because manager-controlled firms may be characterized by diffused passive stockholders, the probability that the quality of acquisitions would affect CEO rewards might be low. In this setting, then, we expect increases in sales rather than excess returns from acquisition announcements to affect CEO rewards. For the purpose of our study, quality of acquisitions is assessed in terms of cumulative abnormal returns (CARs) as measured by the event-study method (Brown and Warner, 1985). The event methodology is appropriate as it reflects the future financial ramification of an event as opposed to accounting methods which are primarily reflective of the quality of past investment decisions (Hoskisson *et al*., 1993).

Thus, while we anticipate nonperformance factors (e.g., increases in size or revenues) to positively influence CEO rewards in manager-controlled firms, we do not expect performance-based criteria (e.g., excess returns) to be associated with executive rewards in such firms. Consequently, the following hypothesis is offered:

Hypothesis 1: For manager-controlled firms, increases in rewards will be associated with greater firm size (sales), due to an acquisition.

The above hypothesis is based on the presumption that abusive senior executives may acquire non-value-maximizing targets with limited concern for losing their jobs (Morck *et al*., 1990; Walsh and Seward, 1990) because such acquisitions may be personally beneficial to them. If acquisitions are motivated by the self-serving predisposition of senior executives rather than for financial benefits, axiomatically, the effect of an acqusition announcement on corporate value should be negative. That is, we may anticipate negative excess returns to accrue to manager-controlled firms announcing acquisitions, as reflected below:

Hypothesis 2: Acquisitions announced by manager-controlled firms will be associated with negative excess returns accruing to their shareholders.

Owner-controlled firms

As noted earlier, owner-controlled firms are characterized by the presence of a significant external shareholder. The presence of such a stockholder may inhibit selfishly driven managerial strategies (McConnell and Servaes, 1990; Shleifer and Vishny, 1986; Tosi and Gomez-Mejia, 1989). That is, in this situation managers may be unwilling to adopt unprofitable strategies for fear of losing their employment (James and Soref, 1981; Kroll *et al*., 1993). Moreover, because they may be lacking in substantial influence (Fama and Jensen, 1983; Gibbs, 1993), profitable acquisitions may increase their managerial rewards rather than nonperformance criteria, such as increases in firm size.

In this context, we anticipate that acquisitions which merely enhance revenues or the size of the organization may not influence CEO compensation. Alternatively, we anticipate that worthy acquisitions may increase managerial compensation. More specifically, in such organizations we might expect that acquisition announcements with positive excess returns may directly influence CEO rewards. Thus, the next hypothesis is offered:

Hypothesis 3: For owner-controlled firms, increases in managerial rewards will be associated with positive excess returns accruing to their shareholders.

The discussion of owner-controlled organizations suggests that the presence of a major shareholder may inhibit detrimental corporate strategies (Kroll

et al., 1990; Tosi and Gomez-Mejia, 1989). Consequently, in owner-controlled firms, acquisitions may be primarily motivated by their potential financial benefits for stockholders. The premise that large external equity holders promote the interests of owners is intuitively appealing. Such investors can hold substantial equity; consequently, it is in their best interests to actively encourage valuable corporate strategies. In this situation, we anticipate that acquisition announcements by owner-controlled firms will be associated with positive excess returns. In order to test this question, the next hypothesis is provided:

Hypothesis 4: Acquisitions announced by owner-controlled firms will be associated with positive excess returns accruing to their shareholders.

Owner-manager-controlled firms

Owner-manager-controlled firms, or corporations with significant owners as CEOs, may have more complex forces at work in terms of an agency problem. As owners, the top managers of such firms may be motivated to undertake acquisitions that benefit the shareholders (Morck *et al*., 1990). However, as managers, these individuals may have abusive tendencies (Amihud, Lev, and Travlos, 1990; Jensen and Meckling, 1976; Jensen and Murphy, 1990; McConnell and Servaes, 1990).

For these firms, increases in size may influence the compensation of top managers (Baker *et al*., 1988; Simon, 1957). That is because in such firms senior executives may boost their own rewards, based on nonperformance criteria, with limited concern for being discharged (Shleifer and Vishny, 1986; Walsh and Seward, 1990). In order to explore this issue, the following hypothesis is offered:

Hypothesis 5: For owner-manager-controlled firms, increases in rewards will be associated with greater firm size (sales), due to an acquisition.

As a major owner of their firms, we would not expect owner-managers to be as abusive as the top executives of manager-controlled firms. Moreover, Jensen and Murphy (1990) point out that by controlling a significant percentage of total corporate equity, senior managers experience a direct and powerful feedback effect from changes in market value. Therefore, we expect owner-managers will make worthy acquisitions.

Hypothesis 6: Acquisitions announced by owner-manager-controlled firms will be associated with positive excess returns accruing to their shareholders.

METHODOLOGY

Samples

A list of firms completing major acquisitions during the 1982–91 period was obtained from various issues of the Almanac editions of *Mergers and Acquisitions.* A major acquisition is defined here as one that increased the sales of the acquiring firm by at least 10 percent, as suggested by earlier research (Dekop and Mahoney, 1982; Tosi and Gomez-Mejia, 1989). The relative size of the acquisition is important as only a major acquisition is likely to impact firm contingencies (Franks, Harris, and Titman, 1991). Because we designed this study to use the event methodology, the announcement date of an acquisition must be available from the *Wall Stress Journal Index*.

Only acquisitions occurring in the 1982–91 period were included, as antitrust enforcement and the governmental regulatory climate were relatively constant during the Reagan–Bush years. The list primarily consisted of mining and manufacturing firms with their four-digit industry classifications ranging from 1000 to 4999. Ownership data were taken from various editions of the *Spectrum Five* reports, which are quarterly compilations of SEC filings made by major shareholders of publicly traded firms.

The sample consisted of firms which had not made major acquisitions during the 2 years prior to and following the acquisition announcements examined in this study. This criterion was used to insure that outcomes associated with the acquisition announcements were not influenced by factors related to other acquisitions. Additionally, the list of sample firms was restricted to those which had had the same CEOs for at least 2 years prior to as well as 2 years following their major acquisition announcements. This was to insure that CEO compensation changes were not due to turnover.

As board of director ownership data were also needed (for our control variable), only those firms

were included for which such data were available in proxies (Disclosures Incorporated's Annual Proxy Statement Service). Additionally, all of the firms' CEOs, as part of their rewards packages, had stock options in their firms. For reasons discussed later, no attempt was made to place a value on the options. In order to control for the potential confounding effects of including CEOs with and without options, the few firms without CEO options were excluded from the sample.

A number of authors have suggested that significant control of a firm is achieved when a shareholder gains control of at least 5 percent of the outstanding shares (Gomez-Mejia *et al*., 1987; Herman, 1981; Morck *et al*., 1990; Salancik and Pfeffer, 1980; Tosi and Gomez-Mejia, 1989). Five percent ownership is also the point at which the SEC has determined that shareholders' stakes are of such significance as to justify requiring public disclosure. The form of firm control was evaluated for each firm in the quarter of the acquisition announcement.

Given the above stipulations, a total of 209 firms were included in the sample. The sample firms were categorized into three groups. One group consisted of firms with diffused external shareholder ownership. This group is referred to as manager-controlled firms. A second group was composed of firms having a significant external shareholder owning at least 5 percent of the outstanding stock. We recognized this group as owner-controlled firms. A third group, referred to as owner-manager-controlled firms, consisted of organizations with senior executives who had at least 5 percent ownership but with diffused external stockholders. These executives held the position of CEO, president, chairman of the board, or some combination of the three. Firms which had a combination of both a significant nonmanaging owner and an owner-manager were excluded from the sample due to the obvious difficulty in categorizing such firms. Of the total sample of 209 firms, 68 were classified as manager-controlled, 95 were classified as owner-controlled, and 46 were classified as owner-manager-controlled.

Variables included in the study

In this section, the variables utilized in the analysis are specified. Following other studies (Ciscel and Carroll, 1980; Dekop and Mahoney, 1982; Tosi and Gomez-Mejia, 1989), firm size was measured via total sales. The relative merits of acquisitions were assessed using cumulative abnormal returns (CARs) (Brown and Warner, 1985). Cumulative abnormal returns were estimated for three periods surrounding the announcement of each acquisition: −1 to 0 days, −3 to +3 days, and −5 to +5 days. The event date (day 0) was defined as the day prior to an appearance for the first time of the acquisition announcement in the *Wall Street Journal*.

Changes in top manager rewards consisted of changes in total cash payments, deferred compensation, and the annual changes in the values of CEO stockholdings, adjusted for inflation. Option values were not included owing to the imprecision and the potential inaccuracy of tools currently available for pricing options, such as the Black–Scholes Options Pricing Model (1973) (Hill and Phan, 1991). However, all sample firms' CEOs were involved in stock option programs. Total changes in inflation-adjusted rewards were measured for a 5-year period, beginning 2 years before the announcement of the acquisition and ending 2 years following the year of the announcement. The changes in CEO rewards were used in the tests of the relationship among sales, CARs, and CEO rewards.

Tests for acquisition performance differences

The estimated CARs for each acquiring firm and for each of the three time periods (−1 to 0 days, −3 to +3 days, and −5 to +5 days) were used as dependent variables in separate regression models intended to determine whether differences in firm control influence the quality of acquisitions announced by the sample firms. The event-study methodology has emerged as the dominant method for measuring the impact of various executive decisions on the market value of corporations (Caves, 1989; Walsh and Seward, 1990; Wright *et al*., 1995). Caves has argued that the event-study methodology is a 'genuine innovation—theoretically well-grounded, cheap to execute, and able to evade the problem of holding constant other factors that plague ex-post studies of mergers' effects. A better product, available at a lower price, naturally swept the intellectual marketplace' (1989: 151). This methodology, however, has its limitations which are discussed subsequently.

Dummy variables were included in the model to control for relatedness (in acquisitions) as well as to control for experience in acquisitions. More specifically, in order to control for the potential confounding effect of relatedness, a dummy variable was included in the regression equations (scored as 0, if the target did not share the acquiring firm's 2-digit SIC code, and 1, if it did). The results of research on the question of relatedness have been equivocal. Select scholars have concluded that related diversification enhances performance (Agrawal and Mandelker, 1987; Amihud and Lev, 1981; Porter, 1987; Shleifer and Vishny, 1986) while others have contended that unrelated acquisitions contribute to high performance (Chatterjee, 1986; Eckbo, 1983; Lubatkin, 1987; Walsh and Seward, 1990). Moreover, Davis and Thomas (1993) have theoretically argued and empirically found that sources of synergy may change over time. Thus, related businesses may be associated with synergy initially but might lose that synergy subsequently.

Recent research (Johnson, Hoskisson, and Hitt, 1993) suggests that firms which are experienced in acquisitions may be better acquirers. As stated previously, no acquiring firms were included in the study which had made major acquisitions in the 2 years previous to the acquisition announcement. However, firms which had made acquisitions prior to the 2 years leading to the announcement might be beneficiaries of acquisition experience. In order to control for this possibility, another dummy variable was included (coded 1 if the acquiring firm had experienced a major acquisition, and 0 if not during the fifth, fourth, or third year previous to the acquisition announcement).

Related literature also suggests higher levels of outside board member ownership may lead to greater management oversight. In the absence of large shareholders or managers who have significant ownership, we might expect greater board involvement in corporate strategy—particularly in situations where outside directors have ownership in the firm (Bacon and Brown, 1975; Kosnik, 1990; Walking and Long, 1984). In this context, outside directors may be more involved in corporate strategy as a substitute governance device. Alternatively, the presence of large shareholders or executives who hold significant ownership stakes may lessen the need for intense board involvement. In order to control for this, interactive variables (form of control and percentage ownership by outside directors) were included in the model (i.e., manager control × board ownership, owner control × board ownership, and owner-manager control × board ownership).

Relationships among size, CARs, and rewards

In order to test Hypotheses 1, 3, and 5, regression models were employed for each of the time periods for which CARs were estimated. The purpose of the models was to examine the relationships of the two independent variables (SALES and CARs) with the dependent variable, changes in CEO rewards (for the three different ownership control forms). In order to assess the interactive effect of the various ownership forms on SALES and CARs, we followed Neter, Wasserman, and Kutner (1985: 335) and used the model below:

$$\text{Change in rewards} = a + B_1(\text{SALES}) + B_2(\text{CAR}) + B_3(\text{OC}) + B_4(\text{OM}) + B_5(\text{OC} \times \text{SALES}) + B_6(\text{OC} \times \text{CAR}) + B_7(\text{OM} \times \text{SALES}) + B_8(\text{OM} \times \text{CAR}) + e$$

The regression coefficients for manager-controlled firms are those for the noninteractive independent variables included in the model, or in effect when the dummy variables 'OC' and 'OM' both have the value of zero; therefore the equation would be interpreted as:

$$\text{Change in rewards} = a + B_1(\text{SALES}) + B_2(\text{CAR}) + e$$

When OC is 1 and OM is 0 (the firm is owner-controlled), the equation would be interpreted as:

$$\text{Change in rewards} = (a + B_3) + (B_1 + B_5)\text{SALES} + (B_2 + B_6)\text{CAR} + e$$

when OM is 1 and OC is 0 (the firm is owner-manager-controlled), the equation would be interpreted as:

$$\text{Change in rewards} = (a + B_4) + (B_1 + B_7)\text{SALES} + (B_2 + B_8)\text{CAR} + e$$

RESULTS

The results of our analysis are presented in two parts. The first portion will present the results of

the regression models assessing the significance of differences in acquisition performance across corporate control forms. The second portion will present the results of the regression models used to assess the influence of acquisition performance and size on CEO rewards.

Acquisition performance across corporate control forms

In Table 1 correlations, means, and standard deviations for the variables used in the models are presented. The results of the three regression models assessing the relationship between control forms and CARs for the three event periods are presented in Table 2. As shown in Table 2, the results support Hypothesis 2. The impact of acquisition announcements is significant and negative for manager-controlled firms. The results are consistent across the three windows, although the crucial window is the −1 to 0 days window as capital markets quickly respond to an event which has economic ramifications. The results in Table 2 are also supportive of Hypotheses 4 and 6. Acquisitions announced by owner-controlled and owner-manager-controlled firms are associated with significant positive excess returns across the three windows.

It is interesting to note that higher levels of outside board member ownership are positively related to greater executive oversight for manager-controlled firms but not for the other forms of corporate control. Apparently, outside directors become more involved in corporate strategy in situations where they suspect agency conflicts. Alternatively, large shareholders or managers who hold significant ownership stakes may lessen the need for intense board involvement. Relatedness and experience in acquisitions do not correlate significantly with excess returns.

CEO rewards and acquisition performance/corporate size

In Table 3 correlations, means, and standard deviations for the variables included in the regression models are shown. Table 4 reports the results of the regression models examining the relationships between CARs, sales, and CEO rewards. Hypothesis 1 anticipated that CEO rewards in manager-controlled firms would be positively associated with an increase in the size of firms due to acquisitions. Hypothesis 5 also anticipated that owner-managers would benefit from the expansion of their organizations. In contrast with Hypotheses 1 and 5, Hypothesis 3 expected managers of owner-controlled firms would experience significant increases in rewards with positive excess returns accruing to their shareholders. The results are supportive of these hypotheses.

Our results suggest that when corporate governance is limited, as is the case with manager-controlled firms, acquisitions seem to be motivated for their contribution to firm expansion which tends to positively impact CEO rewards. While a larger organization due to an acquisition is not in itself detrimental, apparently when the motivation is primarily firm expansion, the quality of the acquisition is poor and therefore harmful to the interests of the shareholders. When corporate governance is more effective due to the presence of significant external stockholders or when senior managers hold significant ownership stakes, acquisitions seem to be motivated by their financial potentials.

The interests of shareholders seem to be of paramount importance in owner-controlled firms and of least importance in manager-controlled firms. Although owner-managers tend to invest in worthy acquisitions, they seem to elicit rewards not only because they seek to acquire profitable targets but also because they manage a subsequently larger organization. This suggests that owner-managers justifiably draw benefits for making worthy acquisitions as well as unjustifiably for simply expanding firm size.

LIMITATIONS AND DISCUSSION OF CONTRIBUTIONS

There are a number of limitations in this investigation. First, the relatively small sample size for each form of corporate control limits the extent to which the results may be generalized. Second, acquisition-related outcomes may only have validity for the period of time studied. That is, the outcomes associated with acquisitions may vary over time because of other factors, such as political-legal changes. Third, since the sample contains larger, publicly traded firms, the results may only be relevant for such firms. Fourth, although there are significant problems involved in the valuation of options (Hill and Phan, 1991; Kerr

Table 1. Descriptive statistics and correlations between variables used in regression model assessing acquisition performance

	Correlations and probability values in parentheses							
	CAR −3 to +3	CAR −5 to +5	MANAGER CONTROL	OWNER CONTROL	OWNER-MAN. CONTROL	REL. VS. UNREL. ACQUISITION	LEVEL OF BOARD OWNERSHIP	ACQUISITION EXPERIENCE
CAR −1 to 0	0.893 (0.000)	0.796 (0.000)	−0.349 (0.000)	0.325 (0.001)	0.259 (0.002)	−0.103 (0.172)	−0.077 (0.328)	0.045 (0.553)
CAR −3 to +3		0.781 (0.000)	0.299 (0.001)	0.351 (0.001)	0.342 (0.001)	−0.127 (0.185)	−0.104 (0.107)	−0.099 (0.153)
CAR −5 to +5			−0.332 (0.001)	0.375 (0.000)	0.330 (0.001)	−0.092 (0.232)	0.158 (0.068)	0.048 (0.528)
MANAGER CONTROL[a]				−0.620 (0.000)	−0.312 (0.000)	−0.096 (0.308)	0.102 (0.148)	0.038 (0.584)
OWNER CONTROL[a]					−0.495 (0.001)	−0.011 (0.888)	−0.023 (0.763)	−0.101 (0.153)
OWNER-MANAGER CONTROL[a]						0.108 (0.136)	−0.116 (0.117)	0.067 (0.336)
RELATED VS. UNRELATED ACQUISITION[a]							0.122 (0.223)	0.095 (0.174)
LEVEL OF BOARD OWNERSHIP								0.148 (0.089)

[a]These variables are dummy variables scored as either 0 or 1; significant correlations between forms of control are a function of the scoring of these variables.

	Mean	S.D.
CAR −1 to 0	0.294	0.316
CAR −3 to +3	0.526	0.490
CAR −5 to +5	0.779	0.488
BOARD CONTROL	0.0334	0.1149

Table 2. Results of regression analysis for form of control and CARs

Variables	Coefficients	*T* value	Prob. value
For CAR –1 to 0 days			
Manager control	–0.153	–2.63	0.01
Owner control	0.148	2.59	0.01
Owner-manager control	0.139	2.21	0.03
Related vs. unrelated acquisition	–0.097	1.47	0.14
Level of board control × manager control	0.119	2.43	0.01
Level of board control × owner control	–0.018	–0.90	0.37
Level of board control × owner-manager control	0.035	0.84	0.40
Earlier takeover experience	0.031	0.66	0.51
R^2 = 0.249	Durbin Watson = 2.18		*n* = 209
For CAR –3 to +3 days			
Manager control	–0.209	–2.75	0.00
Owner control	0.194	2.52	0.01
Owner-manager control	0.179	2.31	0.02
Related vs. unrelated acquisition	–0.102	1.29	0.19
Level of board control × manager control	0.197	2.36	0.02
Level of board control × owner control	–0.094	–1.19	0.23
Level of board control × owner-manager control	0.043	0.90	0.37
Earlier takeover experience	0.031	0.42	0.67
R^2 = 0.274	Durbin Watson = 2.02		*n* = 209
For CAR –5 to +5 days			
Manager control	–0.153	–2.63	0.01
Owner control	0.148	2.59	0.01
Owner-manager control	0.139	2.21	0.03
Related vs. unrelated acquisition	–0.097	1.47	0.14
Level of board control × manager control	0.119	2.43	0.01
Level of board control × owner control	–0.018	–0.90	0.37
Level of board control × owner-manager control	0.035	0.84	0.40
Earlier takeover experience	0.031	0.66	0.51
R^2 = 0.256	Durbin Watson = 1.88		*n* = 209

Table 3. Descriptive statistics and correlations between variables used in regression model assessing CEO rewards

Variables	Means (in 000s)	S.D.	Correlations (prob. values)			
			Sales	CAR –1 to 0	CAR –3 to +3	CAR –5 to +5
Compensation	869.85	534.09	0.276 (0.088)	0.205 (0.030)	0.224 (0.028)	0.210 (0.022)
Sales	4,379,027	4,005,119		0.063 (0.328)	0.043 (0.578)	0.091 (0.146)
CAR –1 to 0	0.294	0.316				
CAR –3 to +3	0.526	0.490				
CAR –5 to +5	0.779	0.488				

Table 4. Results of regression analysis: associations of sales and CARs with CEO rewards

Coefficient	Regression	*T* value	Prob. value
CAR −1 to 0			
Sales × manager control	214.00	4.00	0.00
CARs × manager control	147.22	0.83	0.41
Sales × owner control	91.00	1.13	0.21
CARs × owner control	265.30	2.16	0.03
Sales × owner-manager control	144.50	2.07	0.04
CARs × owner-manager control	253.20	2.01	0.05
R^2 = 0.24 Durbin Watson = 1.88 n = 209			
CAR −3 to +3			
Sales × manager control	253.20	4.62	0.00
CARs × manager control	73.62	1.08	0.28
Sales × owner control	52.49	0.84	0.40
CARs × owner control	310.01	2.69	0.01
Sales × owner-manager control	152.40	2.94	0.01
CARs × owner-manager control	228.91	1.99	0.05
R^2 = 0.26 Durbin Watson = 2.03 n = 209			
CAR −5 to +5			
Sales × manager control	215.31	3.29	0.00
CARs × manager control	109.69	1.23	0.22
Sales × owner control	109.77	1.34	0.18
CARs × owner control	270.12	2.16	0.03
Sales × owner-manager control	135.60	1.89	0.04
CARs × owner-manager control	241.73	1.71	0.09
R^2 = 0.22 Durbin Watson = 1.81 n = 209			

and Bettis, 1987), the exclusion of option valuation is a limiting factor.

Fifth, this study is based on the premise that capital markets can quickly and accurately estimate the relative merits of acquisitions made by publicly traded firms (Brown and Warner, 1985; Fama, 1970). Since the event-study methodology reflects market reaction to future performance based on publicly available information, however, it is a measure of expected performance, potentially biased by information asymmetry. For instance, there is the possibility that information asymmetries may exist and synergies may be achieved from the combination of firms which are not perceived by the markets (but understood by management of the acquiring firms) (Barney, 1988). Additionally, information relevant to an event of interest may leak prior to the announcement rendering market reaction to that announcement insignificant.

Given the limitations of our study, we nevertheless believe that our work makes a number of contributions. By juxtaposing the different streams of research and theoretically and empirically examining them, as they may be moderated by the form of corporate control, we believe we have shed further light on the related theories on executive rewards and acquisition performance. That is, our contention is that by bringing together the two streams of research and analyzing their implications empirically, further insights are provided as opposed to discussing each stream independently.

To our knowledge, there have been no empirical examinations of the three different forms of corporate control we have examined regarding their acquisition outcomes as well as CEO rewards. Some studies (e.g., Hambrick and Finkelstein, 1995) have tested the determinants of managerial compensation moderated by two forms of corporate control (manager-controlled and externally controlled firms). But they have not

analyzed owner-manager-controlled firms nor have they studied the issue of acquisition outcomes.

We theoretically and empirically differentiate between size and performance and their associations with executive rewards contingent on the presence of only one form of corporate control and the absence of the other two forms of firm control. Similarly, we theoretically and empirically differentiate performance of acquisitions contingent upon the presence of only one form of corporate control (and the absence of the others).

Finally, the significance of outside board ownership in manager-controlled firms underlines the important role board members may play in such firms. This is an interesting finding as board members appear to play a significant role only in situations of prevalent agency problems.

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