

**An Analysis of Post-Acquisition Target CEOs' Employment and Its Influences to  
Future Performance of Acquirer Firms**

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# **ABSTRACT**

## **An Analysis of Post-Acquisition Target CEOs' Employment and Its Influences to Future Performance of Acquirer Firms**

**Zhe Li**

We shed new light on two questions. The first question is why some target CEOs are hired by the acquirer firms while others would depart after the acquisitions, more exactly, what characteristics of the target firms or target CEOs themselves would make them stay in or depart from the acquirer firms. The second question is about the influence of the hired target CEOs in the post-acquisition performance of the acquirer firms.

To answer the first question, we use a logistic regression to test the variables that might influence the target CEOs' employment in the acquirer firms. We find that target CEOs are more likely to be hired by acquirer firms in the following cases: (1) the target firm has better pre-acquisition performance (2) the target CEO has stronger control over the target firm (3) the target CEO has more work experience (4) the method of payment is stock.

For the second question, we estimate a multivariate OLS regression with two dummy variables reflecting how long target CEOs work in the acquirer firm after the acquisitions, together with other pre-acquisition target/acquirer firm performance variables. Two measures of acquirer firms' performance are also used in the model: a market-based measure (buy & hold market-adjusted return) and an accounting-based measure (industry adjusted return on asset). Our findings are as following: (1) Pre-acquisition target and acquirer firms' performance (especially the target firms' performance) have more significant and positive influence on the second-year post-acquisition performance of the acquirer firms. (2) The hired target CEOs will negatively influence the first-year post-acquisition performance of the acquirer firms. (3) The target CEOs hired by acquirer firms for at least two years will significantly improve the second-year post-acquisition performance of the acquirer firms and this positive effect might continue to the third year.

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# Introduction

Mergers, acquisitions and the subsequent corporate restructuring are always frequent topics of interest in the previous studies. It is well established that mergers and acquisitions are important and popular ways of achieving corporate growth. Although the finance literature still argues about whether mergers and acquisitions enhance the wealth of acquirer firms, there is a general agreement that the shareholders of target firms earn an above-market premium after a merger and acquisition announcement (Jensen and Ruback, 1983, Roll, 1987, etc). An important long-term effect of mergers and acquisitions is the subsequent restructuring of the acquirer firm's management team. According to Ravenscraft(1987), adjusting the management team structure is a major motivation for merger and acquisition activity. Evidence clearly shows that some target executives, especially chief executive officers, continue to work in the acquirer firms, while others depart in the post-acquisition period. Given the talent and experience of a target firm CEO, his/ her decision to stay with or depart from the acquirer firm might affect the post-acquisition performance of the acquirer firm. The purpose of this thesis is to understand why some target chief executive officers continue to work in the acquirer firms, while others do not and how this post-acquisition employment phenomenon influences the future performance of the acquirer firm.

We collect data for target firms and acquirer firms of 500 largest deals, including target chief executive officers' post-acquisition employment data, target



firms and acquirer firms' financial situation data, and target chief executive officer's personal information etc. Table 1 and 2 present some interesting characteristics of our data.

In table 1, we see that the CEOs who were hired by acquirer firms for at least two years tended to come from the target firms with the highest Tobin's q were more likely to be paid in stock but to receive a lower premium. In table 2, we see that the Tobin's q of the target firms whose CEOs were hired by the acquirer firms are significantly higher than that of the target firms whose CEOs were not hired by acquirer firms and that the Tobin's q of the new firms who hired the non-hired target CEOs is also significantly higher than that of the target firms whose CEOs were not hired by acquirer firms. It is also clear that the size of the hiring acquirer firms tends to be significantly larger than that of the target firms and the size of the new firms who hired target CEOs are significantly larger than those of their former employers.

The characteristics summarized in tables 1 and 2 indicate that there are different characteristics between the hired target firms (CEOs) and non-hired target firms (CEOs). Later in the paper, we will extend our tests to more thoroughly investigate the target CEOs' employment and possible influences on the future performance of the acquirer firms. The object of this paper is to shed light on two main questions. The first question is why some target chief executive officers stay in the acquirer firms while others depart after the acquisitions, in other words, what characteristics of the target firms or target CEOs themselves influences their future employment. The second question is to examine the influence of the hired target CEOs on the

post-acquisition performance of the acquirer firms.

The rest of the paper is organized as following: the first section is the literature review. The second section presents our hypotheses and the third section shows the data and methodology. The fourth section discusses the empirical results. The final section offers a conclusion.

## Literature Review

Previous studies have examined the relationship between mergers & acquisitions and target management turnover. They generally focus on two primary questions:

- (1) Do the mergers and acquisitions cause the target firms' executives to depart at higher rates than normal after the acquisitions?
- (2) Why does this higher than normal target executives departure happen?

The idea that mergers and acquisitions can cause dramatic changes in the target management team has received extensive support in the previous literatures. Walsh (1988) examined the relationship between M&A negotiations and the subsequent target companies' top management turnover based on complete management team data of 50 acquisitions. Results indicate that targets' top management turnover rates are much higher than the normal after the acquisitions. It is clear that the more-senior executives are likely to turn over sooner than the less-senior executives. However, after controlling for the type of acquisitions (i.e. related or unrelated), the differences

are not significant. Walsh (1989) re-examined the topic based on 113 acquisitions, finding that the target's top management is most likely to experience abnormally high turnover four years after an M&A agreement reached between an unrelated target and acquirer. Krug & Aguilera (2004) explored a new area of the target's top management turnover: rather than investigating the incumbent top managers, they examined the executives hired after the acquisitions and find that the newly hired executives also depart more quickly than their counterparts who joined non-M&A companies. These results imply that acquisitions may create long-term instability in the merged firms' top executive team.

When it comes to the reasons why mergers and acquisitions cause the target firms' executives to depart at higher rates than normal, researchers have reached different conclusions. Some argue that the ultimate reason that mergers and acquisitions happen is because the incompetent management teams in the target firms lead to bad pre-acquisition performance. The acquisition is therefore a process by which more competent executives displace less competent ones. This argument implies that management change is one of the most important factors contributing the success of acquisitions. For example, Coughlan & Schmidt (1985), Weisbach (1988) and Warner et al. (1988) all demonstrate that there is an inverse relationship between a company's stock price performance and its subsequent top management turnover after acquisitions, that is, the companies that suffer from bad performance in the pre-acquisition period are more likely to experience top management turnover in the post-acquisition period. More interestingly, Hambrick & Cannella (1993) also found

that the pre-acquisition performance of the acquirer firm could additionally predict the target executives' post-acquisition turnover, in other words, target executives are more likely to depart if the pre-acquisition performance gap between targets and acquirers is large. Asquith (1983), Hasbrouck (1985) and Bartley & Boardman (1986) suggest that target managers reveal their incompetence through a series of decisions that negatively influence their companies' stock performance. According to the theory of the market for corporate control, negative market evaluation of a company's current and expected performance will accumulate until managerial incompetence is revealed, the company is acquired, and the incompetent managers are dismissed.

However, some authors have different opinions and argue that while mergers and acquisitions would cause target top management turnover at higher rates than normal, it is not necessarily because of target executives' incompetence or bad pre-acquisition performance. For example, Walsh & Ellwood (1991) investigate the relationship between a company's top management turnover after acquisition and its performance history based on a sample of target companies, their parents and a control group of companies not involved in merger and acquisition activity. They found that the top management turnover of the target firm is higher than normal in the two years following the acquisition. However, they did not find any relationship between target top management turnover after acquisitions and their previous performance. In addition, Walsh & Ellwood (1991) also find that the first-year top management turnover in the targets is associated with the relatively poor parent company performance, while the second-year top management turnover rates are

associated with relatively good parent company performance. Agrawal & Jaffe (2003) also cast doubt on the previous belief that takeovers are primarily motivated by the desire to improve poor performance of target firms. They re-examine this inefficient management hypothesis and find little evidence that target firms performed poorly before acquisitions. Pfeffer (1981) argues that the partial reason some target executives depart is because something has gone wrong with the deal and the executives are not satisfied. Castanias & Helfat (1991) suggest that some top executives from target firms may have unique and firm-specific talents and skills that provide them with un-replaceable advantages in the new firms. Ghosh & Ruland (1998) investigated the relationship between the target executives' intention to stay in the new firm after the acquisition and method of payment for corporate acquisitions. They find that when the method of payment is stock rather than cash, managers of target firms are more likely to retain their jobs in the new firm. Krug & Nigh (1998) investigate the top management turnover issue in the international context by examining U.S. manufacturing firms acquired by foreign multinationals. Their results indicate that post-acquisition top management turnover is positively related to the level of international integration in the target industry and the cultural distance between the U.S. target and the home country of the acquirer. Krug & Nigh (2001) also find that executive's personal benefits (compensation, opportunities for promotion, etc) in the new firms also influences their decision to stay or depart.

The chief executive officer, as a key executive in the top management team, has a crucial role in the issue of management turnover and the success of an acquisition.

Allen et al (1979), Salancik & Pfeffer (1980), Kelly (1980), James & Soref (1981) Weisbach (1995) all find that CEO succession is a one of the most important and frequently used strategies to turn around poor performance. Kesner & Dalton (1994) find that poor performance prior to CEO succession leads to greater turnover afterward. Kennedy & Limmack (1996) explore the relationship between stock returns and CEO turnover of target companies and find a significant increase in CEO turnover for the two years after the takeover. Additionally, a target company which changed their CEO in the two years subsequent to an acquisition usually experienced a lower return in the pre-acquisition period than other target firms. However, when the deal type is controlled (hostile or friendly), no significant relationship between target return and CEO turnover could be found. Hartzell & Yermack (2004) examine the benefits received by target chief executives in completed mergers and acquisitions and find that target CEOs who receive cash payments are less likely to become an executive of the acquiring company.

## **Hypotheses**

### **Target CEO's post-acquisition employment test**

For our first research question, we will estimate a target CEO employment model and test the variables that are expected to influence the probability of target CEOs' employment in the acquirer firms. We have the following five hypotheses for

the employment test.

### **Target firm's pre-acquisition performance**

Theory suggests that target executives are more likely to turn over after the acquisition if the target firm has a worse pre-acquisition performance. For instance, the concept of market for corporate control indicates that more competent executive team tends replace less competent team. This has also been confirmed by the literature (Manne, 1965; Jensen and Meckling, 1976; Jensen, 1988; etc.). In our employment model, we have variable QR and SIZER to measure the pre-acquisition performance of the target firms. Tobin's q (Q) is a measure of a firm's performance and growth potential, and target firms with higher Tobin's q might be more attractive to the acquirer firms. Additionally, higher target Tobin's q is also a sign of better target CEO management skills. Q ratio (QR) is a ratio of target Tobin's q to the acquirer Tobin's q. We expect that the larger the q ratio (the larger the target q compared to the acquirer q), the more likely that the target CEO would be hired by the acquirer firm. Hiring these target CEOs might be beneficial to the future performance of the acquirer firms. Firm size (SIZE), value of the total asset of a firm, is also a reflection of historical firm performance. Larger firm size may reflect better management and greater complexity in operation of a firm. Size ratio (SIZER) is a ratio of target firm size to the acquirer firm size. We expect that the larger the size ratio, the more attractive the target CEO is to the acquirer firm due to increased integration challenges. As a result,

offering this target CEO a management position in the acquirer firm might not only smooth the target integration, but also benefit the future performance of the acquirer firm. As mentioned above, we expect that the better the pre-acquisition performance (higher QR and SIZER) of the target firms, the more likely that the target CEO will be hired by the acquirer firm after the acquisition.

*Hypothesis 1: The pre-acquisition performance of the target firms will be positively related to target CEO's post-acquisition employment in acquirer firms.*

### **Target CEO's control over the target firm**

From the perspective of the acquirer firm, hiring a target CEO who has greater control over the target firm might make the integration process much easier. We measure the target CEO's control over the target firm from three aspects, namely compensation (CEOD), position (BOSS) and stock ownership (INSOWN). CEO-dominance (CEOD) reflects the gap between the CEO's assessment of his own worth to the firm and his assessment of the other executives' worth. According to Chemmanur et al. (2007), a strong-willed and dominating CEO may severely diminish possible contributions from subordinate executives, but may also improve the cohesion of the executive team. As a result, offering a position for the dominating target CEO in the acquirer firm might attract the target CEO to act more for the interest of the acquirer firm and consequently smooth the target integration. CEO&



Chairman (BOSS) is to control for CEO/Chairman of the board duality. Although Yermack (1997) and Rechner & Dalton (1991) show that firms which separate the roles of CEO and chairman of the board outperform those with combined roles of CEO and chairman, in our case, we expect that acquirer firms would prefer to hire the target CEOs who are also chairman of the board because to hire an individual who is the leader of both the target executive team and the target board will make the post-deal integration more effective. CEO usually has more stock ownership than other executive officers and M&A negotiation, in a way, is a negotiation between the large stockholders of the two firms. In this case, we expect that target CEOs with larger stock ownership (INSOWN) are more likely to be hired by acquirer firms, because offering the target CEO, who is also a large target stock holder, a job in the acquirer firm might make the deal negotiation much easier. As discussed above, we expect that the stronger the target CEO's control (higher CEOD, BOSS, and INSOWN) over the target firm, the more likely that he will be hired by the acquirer firm after the acquisition.

*Hypothesis 2: The target CEO's control over the target firm will be positively related to target CEO's post-acquisition employment in the acquirer firm.*

### **Target CEO's work experience**

When hiring an employee, the employer usually prefers one with more work

experience, especially experience from the same industry, because this hands-on experience would enable the candidates to step into their new role and working environment quickly and benefit the firms' future performance. We measure the target CEO's work experience from three perspectives: the number of years the target CEO worked in the target firms (TENURE); whether the target firm and acquirer firm are from the same industry (SIC); and the target CEO's age (AGE). A target CEO with a longer tenure in the target firm will be more familiar with the management and operations of the target firm. The Standard Industrial Classification (SIC) is used to measure whether a target firm is from the same industry as the acquirer firm. When a firm recruits new executive officers, they usually prefer candidates with work experience in the same industry, because this related management experience may benefit the firms' future performance. Target CEO with older age usually has more work experiences, which may also be beneficial to the acquirer firm's future performance. As indicated above, we expect that target CEOs with more relevant work experience (higher TENURE, SIC, and AGE) will be more likely to be hired by acquirer firms after the acquisition.

*Hypothesis 3: The target CEO's pre-acquisition work experience will be positively related to target CEO's post-acquisition employment in acquirer firms.*

### **Target CEO's loyalty to target shareholders**

A target CEO who is more loyal to the target shareholders may act more in the interest of the target shareholders when negotiating with acquirer firms, for instance, bargaining for a higher premium for target shareholders, and consequently these loyal target CEOs might be dismissed from the acquirer firm after the acquisition. This can be seen from the non-hired group in table 1, which shows that the non-hired group of target CEO is associated with a higher premium. In addition to the variable PREMIUM\*, we also use the variable TENURE to measure the target CEO's loyalty to target shareholders, because the target CEOs might be more loyal to the target shareholders if they work in target firms for more years. As mentioned above, we expect that a target CEO will be less likely to be hired by the acquirer firm after the acquisition if the target CEO is more loyal (higher PREMIUM\* and TENURE) and acts more in the interests of the target shareholders.

*Hypothesis 4: The target CEO's loyalty to target shareholders will be negatively related to target CEO's post-acquisition employment in acquirer firms.*

### **Method of payment**

According to Ghosh & Ruland (1998) and Hartzell & Yermack (2004), target CEOs who receive stock payments are more likely to become executives of the acquirer companies. Generally speaking, there are three methods of payment (100% stock, 100% cash, and mixed payments) that the acquirer firms would use. We control

for the effects of payments on the target CEOs future employment in the acquirer firms by variable PAYMENT, namely mostly stock payment. Following the findings of Ghosh & Ruland (1998) and Hartzell & Yermack (2004), we also expect that target CEOs who receive mostly- stock payment (higher PAYMENT) would be more likely to become executives of the acquirer company.

*Hypothesis 5: The target CEO who receives more stock payment will be positively related to target CEO's post-acquisition employment in acquirer firms.*

### **Post-acquisition acquirer firms' performance test**

Among the 216 hired target CEOs, 61 were hired for one year or less, and the remaining were hired for at least two years. For the second question, we will estimate the acquirer firm performance model and examine the influence of the hired target CEOs to the post-acquisition (three years) performance of the acquirer firms. We have the following two hypotheses for performance test.

#### **First year post-acquisition performance of the acquirer firms**

For the 216 hired target CEOs (both hired one year and hired two years), considering that they will need time to step into the new roles and working environment of the new firms before they demonstrate their excellent capabilities, we

expect that the hired target CEOs (both EMPLOYMENT<sub>1</sub> and EMPLOYMENT<sub>2</sub>) will not be able to influence the acquirer firms' performance in the first year.

*Hypothesis 1: For both hired one year target CEOs and hired two years target CEOs, their employment will not be significantly related to the first year post-acquisition performance of the acquirer firms.*

### **Second year post-acquisition performance of the acquirer firms**

From table 1, we can see that the hired two years group has the highest average Tobin's q, indicating that those target firms perform better than other firms and, therefore, these target CEOs might have outstanding capabilities. As a result, we expect that they (EMPLOYMENT<sub>2</sub>) will start to show their outstanding capabilities and improve the second year post-acquisition performance of the acquirer firms.

*Hypothesis 2: For the hired two years target CEOs, their employment will be positively related to the second year post-acquisition performance of the acquirer firms.*

As discussed above, the five hypotheses for employment test and two hypotheses for performance test and the expected signs for independent variables are summarized in table 3.

# Data

The data used in this study comes from several different sources. The list of completed mergers and acquisitions between 1995 and 2005 is from the Securities Data Corporation's database (SDC). We only keep the completed and friendly deals with public target firms (U.S. only) and acquirer firms excluding financial firms and utility firms (all firms with SIC between 6000 and 6999, 4900 and 4949, respectively) from our sample. This results in 1500 mergers and acquisitions. Within these 1500 mergers and acquisitions, we only choose the 487 with the largest target enterprise values (from \$381 million to \$181622 million) as our final sample<sup>1</sup>. Table 4 presents a summary of the different industries of target firms and acquirer firms in our sample. In SDC database, we also collect data for the method of payment that target firms' shareholders received (PAYMENT), percentage of target shares owned by acquirer at announcement, offer price premium as percentage of 4-week trading price (PREMIUM).

We collect the target CEOs<sup>2</sup>, continued employment data from U.S. Securities and Exchange Commission database<sup>3</sup> (SEC) and the Bloomberg Business-week database<sup>4</sup>. We compare the list of executives of target firms one year before the deal

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<sup>1</sup> This largest target enterprise value criterion could be a bias of our sample.

<sup>2</sup> Originally, we want to examine the post-acquisition employment of the several top executives (including CEO) of these 500 target firms. These top executives come from the following positions: chief executive officer, chief financial officer, chief operating officer, and chief technology officer, which we believe are the most important positions of a firm. However, after collecting the data, we find that compared to the number of chief executive officers (221) who were hired by the post-acquisition acquirer firms, the numbers of executives from other three positions are very small (10 from chief financial officer, 18 from chief operating officer, and 2 from chief technology officer). As a result, it would be very hard to capture a reliable influence of these executives to the post-acquisition performances of the acquirer firms due to their limited numbers of continued employments. In this case, we decide to only focus on the role of chief executive officer.

<sup>3</sup> Website: [www.sec.gov](http://www.sec.gov).

<sup>4</sup> Website: [www.businessweek.com](http://www.businessweek.com).

effective date and the list of executives of acquirer firms one year after the deal effective date provided in the company's proxy statement (DEF 14A) or annual report (10-K), and if a target CEO appears, we record it as one case of a target CEO's continued employment in the acquirer firm (EMPLOYMENT). We also check the CEO's employment history information from the Bloomberg Business-week database, if available. The reason we check both SEC and Bloomberg Business-week database is that sometimes a target CEO is hired in the acquirer firm for less than one year, and SEC database does not record this information, but Bloomberg Business-week database does. Therefore, by checking both sources we can ensure that our employment data is as complete as possible.

We find that 221 target CEOs were hired by acquirer firms and the remaining 279 target CEOs were not hired by acquirer firms in the post-acquisition period. However, among these 221 hired CEOs, five of the acquirer firms owned more than 50% percent of the target firms' stock before the deal announcement. Moreover, we find that these target firms were the acquirer firms' partially-owned subsidiaries and these target CEOs had already worked in the acquirer firms before the deal announcements. In this case, we believe that these five targets and acquirers are not the cases we need, so we remove them from our sample. The same thing happened to eight target CEOs of the remaining 279 target CEOs who were not hired by acquirer firms. Among the remaining 216 hired target CEOs, we separate them into two subgroups: CEOs who left the acquirer firms within one year and CEOs who worked for the acquirer firms for at least two years. The reason for this is because we believe

that target CEOs who were hired by acquirer firms for one year or less are not likely to affect the future performance of the acquirer firms significantly. In addition, we believe that there may be some unique reasons for them to be hired by the acquirer firms for only a brief period.

We also collect data for CEO age (AGE), target CEOs' education background (EDU), target CEOs' salary and bonus for CEO-dominance(CEOD), CEO & chairman of the board (BOSS), number of years target CEOs worked in target firms (TENURE), target CEOs' beneficial ownership (INSOWN) from U.S. Securities and Exchange Commission database and Bloomberg Business-week database, if available. Besides the data collected above, balance sheet data, income statement data, and cash flow data, for calculating pre-acquisition performance variables return on asset (ROE), sales growth (GROWTH), firm liquidity (LIQUIDITY), firm leverage (LEVERAGE), firm size (SIZE), and Tobin's q (Q) are also collected from Compustat Database. Variable names prefixed by "T" and "A" refer to target and acquirer data, respectively. The monthly stock returns and market returns data for calculating post-acquisition acquirer firms' buy & hold market-adjusted returns are collected from Center for Research in Security Prices database (CRSP). Data for the executive positions of the hired CEOs in the acquirer firms and executive positions of the non-hired CEOs in the new firms are also collected from Factiva database and Bloomberg Business-week database, if available. Table 5 presents summary statistics of all independent variables included in the tests later. Explanations for all the variables are presented in the appendix.



# Methodology

## Target CEO's post-acquisition employment test

Within our sample of 487 CEOs from target firms, 216 CEOs were hired by the acquirer firms and 251 CEOs were hired in other firms, while the remaining 20 CEOs retired after the acquisitions. We want to examine the factors that may influence the acquirer firms' decision to hire or dismiss the target CEOs.

There are 11 variables<sup>5</sup> that we believe would influence the target CEOs' post-acquisition employment. We will use a logistic model to test the effects of these variables on the target CEOs' continued employment in the acquirer firms. The model is as following:

$$EMPLOYMENT = \frac{1}{1 + \exp[-(\beta_0 + \beta_1 CEOD + \beta_2 BOSS + \beta_3 TENURE + \beta_4 INSOWN + \beta_5 PAYMENT + \beta_6 QR + \beta_7 SIZE + \beta_8 EDU + \beta_9 SIC + \beta_{10} AGE + \beta_{11} PREMIUM)]}$$

However, in our model above, the PREMIUM could relate to CEOD, TENURE, INSOWN, QR, and PAYMENT; while PAYMENT could also relate to CEOD, TENURE, INSOWN, QR, and PREMIUM. As a result, we want to eliminate the effects of PREMIUM and PAYMENT on EMPLOYMENT that are already been explained by the five variables above from the model. To do this, we first test the model PREMIUM and model PAYMENT as following to get the predicted values

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5. In addition to the 10 variables (CEOD, BOSS, TENURE, INSOWN, PAYMENT, QR, SIZE, SIC, AGE, PREMIUM) included in the hypotheses, variable EDU is also added into the employment model to control for the effect that target CEO's MBA degree on his post-acquisition employment in the acquirer firm.

$PREMIUM_{pred}$  and  $PAYMENT_{pred}$  for  $PREMIUM$  and  $PAYMENT$ , respectively.

$$PREMIUM = \beta_0 + \beta_1 CEOD + \beta_2 TENURE + \beta_3 INSOWN + \beta_4 PAYMENT + \beta_5 QR + \varepsilon$$

$$PAYMENT = \frac{1}{1 + \exp[-(\beta_0 + \beta_1 CEOD + \beta_2 TENURE + \beta_3 INSOWN + \beta_4 PREMIUM + \beta_5 QR)]}$$

Then we get the residual values  $PREMIUM^*$  from the difference between  $PREMIUM$  and  $PREMIUM_{pred}$ , and  $PAYMENT^*$  from the difference between  $PAYMENT$  and  $PAYMENT_{pred}$ .

$$PREMIUM^* = PREMIUM - PREMIUM_{pred}$$

$$PAYMENT^* = PAYMENT - PAYMENT_{pred}$$

By substituting  $PREMIUM$  and  $PAYMENT$  with  $PREMIUM^*$  and  $PAYMENT^*$  in the logistic model  $EMPLOYMENT$ , we will get a new logistic model as following:

$$EMPLOYMENT = \frac{1}{1 + \exp[-(\beta_0 + \beta_1 CEOD + \beta_2 BOSS + \beta_3 TENURE + \beta_4 INSOWN + \beta_5 PAYMENT^* + \beta_6 QR + \beta_7 SIZE + \beta_8 EDU + \beta_9 SIC + \beta_{10} AGE + \beta_{11} PREMIUM^*)]}$$

### **Post-acquisition acquirer firms' performance test**

To study the relationship between targets CEOs' post-acquisition employment in acquirer firms and the post-acquisition performance of the acquirer firms, we will use two performance measures for the acquirer firms, which are buy & hold market-adjusted return (BHMAR) and industry-adjusted return on asset (IAROA).

Following Loughran and Ritter (1996), we calculate the buy and hold market-adjusted return of acquirer firms for three consecutive years after the acquisitions. Buy and hold market-adjusted returns are calculated as following:

For the first year:

$$BHMAR_{iT} = \prod_{t=1}^{12} (1 + r_{t,i}) - \prod_{t=1}^{12} (1 + r_{t,m})$$

For the second year:

$$BHMAR_{iT} = \prod_{t=13}^{24} (1 + r_{t,i}) - \prod_{t=13}^{24} (1 + r_{t,m})$$

For the third year:

$$BHMAR_{iT} = \prod_{t=25}^{36} (1 + r_{t,i}) - \prod_{t=25}^{36} (1 + r_{t,m})$$

where

$BHMAR_{iT}$  = buy and hold market-adjusted return for acquirer firm i in event year T (T=1, 2, 3).

$r_{t,i}$  = stock return for acquirer firm i in event month t.

$r_{t,m}$  = market return in event month t.

Return on asset is defined as the ratio of net income to total asset of a firm. We calculate the industry-adjusted return on asset of a acquirer firm by return on asset of that firm less the average return on asset of all the firms from the same industry (the

same 4 digit SIC) as the acquirer firm for three consecutive years subsequent to the acquisitions. Industry adjusted return on asset is calculated as following:

$$IARO A_{it} = RO A_{it} - ARO A_{it} (t = 1, 2, 3)$$

where

$IARO A_{it}$  = industry abnormal return on asset for acquirer firm i in year t.

$RO A_{it}$  = return on asset for acquirer firm i in year t.

$ARO A_{it}$  = average return on asset for industry I in year t.

Besides the two dummy variables ( $EMPLOYMENT_1$  and  $EMPLOYMENT_2$ ) reflecting the number of years the targets CEO worked in the acquirer firms, we control for other pre-acquisition target and acquirer performance variables which relate to the acquirer firms' future performance. These variables are ROE (return on equity), GRWTH (sales growth), LIQUIDITY (firm liquidity), LEVERAGE (firm leverage), SIZE (firm size), and Q (Tobin's q) in terms of both target and acquirer. The multivariate models for buy and hold market-adjusted returns (BHMAR) and industry-adjusted returns on asset (IAROA) are as following:

$$BHMAR = \beta_0 + \beta_1 AROE + \beta_2 TROE + \beta_3 AGROWTH + \beta_4 TGROWTH + \beta_5 ALIQUIDITY + \beta_6 TLIQUIDITY + \beta_7 ALEVERAGE + \beta_8 TLEVERAGE + \beta_9 ASIZE + \beta_{10} TSIZE + \beta_{11} AQ + \beta_{12} TQ + \beta_{13} EMPLOYMENT + \varepsilon$$

$$IAROA = \beta_0 + \beta_1 AROE + \beta_2 TROE + \beta_3 AGROWTH + \beta_4 TGROWTH + \beta_5 ALIQUIDITY + \beta_6 TLIQUIDITY + \beta_7 ALEVERAGE + \beta_8 TLEVERAGE + \beta_9 ASIZE + \beta_{10} TSIZE + \beta_{11} AQ + \beta_{12} TQ + \beta_{13} EMPLOYMENT + \varepsilon$$

and the variables prefixed with “A” are for acquirer firms and “T” are for target firms.

## Empirical Results

### Logistic regression for employment test

To examine the factors influencing the target CEOs’ continued employment in the acquirer, a logistic model will be tested. Table 6 presents the correlations between these 11 independent variables. Table 7 presents the results for the logistic regression. The residuals against each variable are normal and randomly distributed. As we discuss in the methodology section, table 7 panel A presents the results for PREMIUM, PAYMENT, PAYMENT\_STOCK and PAYMENT\_CASH<sup>6</sup> used to obtain the residual values for variable PREMIUM and PAYMENT. For model PREMIUM, QR is negatively related (B=-6.2681, p<0.01) with PREMIUM, implying that when target firms have a relatively higher Tobin’s q compared with that of the acquirer firms, the target firms tend to accept smaller premiums. This is an interesting finding because larger QR means target firm has relatively more potential to grow, which we would expect to give the target firm an advantage in negotiating a higher

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<sup>6</sup> In literature, method of payment is usually defined as 100% stock (PAYMENT\_STOCK) or 100% cash (PAYMENT\_CASH), while the way we define it is mostly stock (PAYMENT). In order to check if the different definitions would result in significantly different results, we also introduce PAYMENT\_STOCK and PAYMENT\_CASH here, but PAYMENT\_STOCK and PAYMENT\_CASH will not be included in the logistic regression shown in panel B.

premium from acquirer firms. However, the result here suggests that target firms did not take this advantage. If we go back to table 1, we can see that non-hired group whose mean and median target Tobin's q (2.76 and 1.74) are much smaller than those of the hired two years group (3.51 and 2.21) and hired one year group (3.32 and 1.96), while the mean and median premium of the non-hired group (47.44% and 40.88%) are the largest compared with those of the other three groups. This implies that CEOs of the non-hired group did a very good job in negotiating with the acquirer firms because they sell their worse-performing firms (lower Tobin's q) for higher prices (larger premium). The relation between premium and target Tobin's q in table 1 is consistent with the relation between premium and target Tobin's q found in PREMIUM model of table 7 panel A. For model PAYMENT and PAYMENT\_STOCK, CEOD is positively related ( $B=0.6156$ ,  $p<0.01$  and  $B=0.8337$ ,  $p<0.1$ ), implying that dominating target CEOs are more likely to receive stock payment instead of other payments. In addition, QR is positively related to payment ( $B=0.1629$ ,  $p<0.1$ ) and PAYMENT\_STOCK ( $B=0.0229$ ,  $p>0.1$ ), although not significant for the PAYMENT\_STOCK, implying that the higher the target Tobin's q, the more likely that the target firms would receive stock payment and this finding is consistent with the finding in table 1, which also shows a positive relationship between PAYMENT/PAYMENT\_STOCK and TQ.

The result in model PAYMENT\_CASH implies that target firms who receive cash payment are associated with lower Tobin's q. From the PREMIUM and PAYMENT tests in panel A, we obtain the residual values PREMIUM\* and

PAYMENT\* for variable PREMIUM and PAYMENT, respectively. After we obtain the residual values for variables PREMIUM and PAYMENT, we substitute PREMIUM and PAYMENT with PREMIUM\* and PAYMENT\* in the logistic model EMPLOYMENT to remove the effects on EMPLOYMENT that have already been explained by the variable CEOD, TENURE, INSOWN, QR, PAYMENT (PREMIUM).

Table 7 panel B presents the results of the multivariate employment test. From the results, as we hypothesize, QR is positively and significantly related to EMPLOYMENT, implying that acquirer firms tend to hire the CEOs from the target firms with higher Tobin's q relative to acquirer firms. A target firm with higher Tobin's q means more potential to grow and reflects better pre-acquisition performance as well as CEO management skills, making the target firm and target CEO more attractive to the acquirer firm. This could also be seen from table 2 panel A, where the Non-hired group has a target Tobin's q (mean: 2.76, median: 1.74) that is much smaller than those of the Hired group (mean: 3.41, median: 1.96). There is also a positive and significant relation ( $B=2.0392$ ,  $p<0.001$ ) between SIZER and EMPLOYMENT, implying that the larger the target firm is relative to the acquirer, the more likely that the target CEO would be hired by the acquirer firm. Larger target firm size could also reflect better pre-acquisition target performance and CEO management skills, which would be more attractive to the acquirer firm. The positive relations between EMPLOYMENT and QR, EMPLOYMENT and SIZER are consistent with our hypothesis 1, indicating that the pre-acquisition performance of

the target firms is positively related to target CEO's post-acquisition employment in acquirer firms.

Variable BOSS is positively related ( $B=0.5045$ ,  $p<0.05$ ) with EMPLOYMENT, which means that target CEOs who are also chairman of the board are more likely to be hired by acquirer firms. It makes sense because offering a position to the target CEO and Chairman, who is the leader of both firm management and the board might make the negotiation of the deal proceed more smoothly. Although Yermack (1997) and Rechner & Dalton (1991) have shown that firms which separate the roles of CEO and chairman of the board outperform those with combined roles of CEO and chairman, in our case, acquirer firms prefer to hire target CEOs who are also chairman of the target board. CEOD ( $B=0.1312$ ,  $p=0.12$ ) and INSOWN ( $B=1.5209$ ,  $p=0.89$ ) are also positively related to EMPLOYMENT, although not significant, indicating that more dominant target CEOs and target CEOs with larger beneficial ownership are more likely to be hired by acquirer firms. As discussed in our hypothesis 2, larger BOSS, CEOD, and INSOWN values indicate stronger target CEO control over the target firm and the findings in our employment test for BOSS, CEOD, INSOWN are consistent with our hypothesis 2, that is, the target CEO's control over the target firm is positively related to target CEO's post-acquisition employment in acquirer firms.

TENURE is positively related ( $B=0.0217$ ,  $p<0.1$ ) with EMPLOYMENT, that is to say, the longer that target CEOs worked in the target firms, the more likely they would subsequently be hired by the acquirer firms. Longer time of services in the target firms would make target CEOs more familiar with the management and operation of



the firm, and hiring these experienced CEOs in the post-acquisition acquirer firms (firms that combined with target firms) might benefit the future performance of the merged firms. Variable AGE is positively and significantly related ( $B=0.0355$ ,  $p<0.05$ ) to EMPLOYMENT, indicating that the older the target CEO, the more likely that this CEO would be hired by the acquirer firm. Older target CEOs usually have more work experience in the target firms or other firms, which gives them an advantage compared to younger CEOs. However, another possible reason that might explain why older CEOs are more likely to be hired is that older CEOs might be less ambitious than the younger ones, in other words, maybe they would rather stay in the acquirer firm with a less important position (for example, advisor or consultant) than a more important position which might threaten the acquirer CEO's position. SIC is also positively, but not significantly, related ( $B=0.2553$ ,  $p>0.1$ ) to EMPLOYMENT, indicating that target CEOs with more work experience in the same industries as the acquirer firms are more likely to be hired by acquirer firms. As we mentioned in hypothesis 3, larger TENURE, AGE, and SIC values indicate more work experience of the target CEOs, and the findings here for TENURE, AGE, and SIC are consistent with our hypothesis 3, which hypothesizes that the target CEO's pre-acquisition work experience will be positively related to target CEO's post-acquisition employment in acquirer firms.

PREMIUM\* is positively related ( $B=0.0028$ ,  $p>0.1$ ) to EMPLOYMENT, implying that target CEO who obtained an unexpectedly high premium for their target shareholders might be hired by acquirer firms, but the result is not significant. This

could be interpreted from two perspectives. First, some target CEOs obtained a higher premium because the target firms perform relatively well before acquisition, in other words, they deserve a higher premium. This could be seen from the hired two years group in table 1, whose TQ and PREMIUM are both higher. As a result, the acquirer firms would still like to hire these well-performed target CEOs, even they have to offer a higher premium. Second, some target CEOs obtained a higher premium for worse performing target firms, in this case, the acquirer firms might dismiss these target CEOs from the future positions. This can also be seen from the non-hired group in table 1, whose TQ values are lower, but obtain a higher premium. In our hypothesis 4, we expect that both PREMIUM\* and TENURE will be negatively related to EMPLOYMENT. However, in addition to PREMIUM\*, we find TENURE also positively relates to EMPLOYMENT, although only at 10% significant level. Longer tenure could mean more work experience, but might also indicate more loyalty to the target shareholders, and this might be why some target CEOs with longer tenure were not hired by acquirer firms. As discussed above, our test results for PREMIUM\* and TENURE could not fully support our hypothesis 4, which hypothesize that target CEO's loyalty to target shareholders will be negatively related to target CEO's post-acquisition employment in acquirer firms.

Lastly, PAYMENT\* (B=0.6098, p<0.01) positively and significantly relates to EMPLOYMENT, indicating that target CEOs who receive stock payment are more likely to be hired by the acquirer firms. This finding is consistent with what we showed in table 1 for PAYMENT, the values of the Hired one year group and Hired

two years group are much higher than those of the Non-hired group and Retired group, implying that acquirer firms are more likely to hire target CEOs who receive stock payment. Our finding is also consistent with the findings of Ghosh & Ruland (1998) and Hartzell & Yermack (2004). As a result, the finding for PAYMENT supports our hypothesis 5, that is, the target CEO who receives more stock payment will be positively related to target CEO's post-acquisition employment in acquirer firms.

In addition to the tests of the five hypotheses above, we also include variable EDU into our employment model to control the effects of target CEO's MBA degree on his future employment in the acquirer firm. However, variable EDU has a negative coefficient ( $B=-0.1018$ ,  $p=0.14$ ), that is, negatively relates to EMPLOYMENT. This might not imply that MBA degree has opposite effects on the target CEOs' employment in acquirer firms, but it shows that whether target CEO has an MBA degree or not is not the acquirer firm's top concern.

### **Influences of the target CEO's employment to the acquirer firm's performance**

To study the relationship between targets CEOs' continued employment in acquirer firms and the post-acquisition performance of the merged firms, a multivariate model that contains six variables (ROE, GROWTH, LIQUIDITY, LEVERAGE, SIZE and Q) measuring pre-acquisition performance of the target firms and acquirer firms and two variables ( $EMPLOYMENT_1$  and  $EMPLOYMENT_2$ ) measuring target CEO's employment in acquirer firms will be tested. Table 8 presents

correlations between the independent variables. Table 9 shows the test results for buy and hold market-adjusted return (BHMAR) and industry-adjusted return on asset (IAROA) for three years after the acquisitions. The residuals against each variable are normal and randomly distributed.

For the ROE, first-year AROE is positively and significantly related to both BHMAR ( $B=0.2523$ ,  $p<0.1$ ) and IAROA ( $B=0.3621$ ,  $p<0.01$ ), and first-year TROE is also positively related to both BHMAR ( $B=0.0633$ ,  $p>0.1$ ) and IAROA ( $B=0.0523$ ,  $p>0.1$ ), but not significantly. The second-year AROE is positively and significantly related to both BHMAR ( $B=0.3431$ ,  $p<0.05$ ) and IAROA ( $B=0.2411$ ,  $p<0.05$ ), and the same for second-year TROE, which is positively related to BHMAR ( $B=0.1533$ ,  $p<0.1$ ) and IAROA ( $B=0.0027$ ,  $p>0.1$ ), although not significant for the second-year IAROA. When it comes to the third year, AROE is negatively related to both BHMAR ( $B=-0.2242$ ,  $p>0.1$ ) and IAROA ( $B=-0.1274$ ,  $p>0.1$ ), although neither is significant. TROE is positively related to BHMAR ( $B=0.0971$ ,  $p>0.1$ ) and negatively related to IAROA ( $B=-0.1144$ ,  $p>0.1$ ). In summary, for both pre-acquisition target and acquirer firm return on equity (TROE and AROE), they have positive influence on the first and second year post-acquisition performance of the acquirer firm and the influence is more significant in the second year. When it comes to the third year, pre-acquisition AROE and TROE have more negative influences, but none is significant.

As for GROWTH, the first-year AGROWTH is significantly and negatively related to BHMAR ( $B=-0.0942$ ,  $p<0.1$ ) and IAROA ( $B=-0.0642$ ,  $p<0.05$ ), while the

first-year TGROWTH is positively related to BHMAR ( $B=0.0221$ ,  $p>0.1$ ) and IAROA ( $B=0.0114$ ,  $p>0.1$ ), although not significantly. The second-year AGROWTH is significantly and negatively related to both BHMAR ( $B=-0.122$ ,  $p<0.1$ ) and IAROA ( $B=-0.0874$ ,  $p<0.05$ ), while TGROWTH positively relates to BHMAR ( $B=0.0821$ ,  $p<0.1$ ) and IAROA ( $B=0.0357$ ,  $p>0.1$ ). When it comes to the third year, AGROWTH becomes positively related to both BHMAR ( $B=0.1164$ ,  $p<0.05$ ) and IAROA ( $B=0.0523$ ,  $p>0.1$ ), while TGROWTH becomes negatively related to BHMAR ( $B=-0.0422$ ,  $p>0.1$ ) and IAROA ( $B=-0.0414$ ,  $p>0.1$ ). In summary, for pre-acquisition sales growth (GROWTH), sales growth of the acquirer firms (AGROWTH) has significantly and consistently negative effects on the first and second year post-acquisition acquirer firm performance, indicating that the lower the acquirer firm's pre-acquisition sales growth rate, the better the post-acquisition acquirer firm performs in the first and second year. Sales growth of target firms (TGROWTH) has consistently positive effects on the first and second year post-acquisition acquirer firm performance, implying that the higher the target firm's pre-acquisition sales growth rate, the better the post-acquisition acquirer firm performs in the first and second year. However, when it comes to the third year, the effects for both AGROWTH and TGROWTH reverse.

When it comes to LIQUIDITY, for the first year, ALIQUIDITY is positively related to BHMAR ( $B=0.1422$ ,  $p>0.1$ ) and negatively related ( $B=-0.0524$ ,  $p>0.1$ ) with IAROA, but either of them is significant, TLIQUIDITY negatively relates to BHMAR ( $B=-0.2923$ ,  $p<0.1$ ) at 10% significant level, but positively relates to IAROA

( $B=0.0557$ ,  $p>0.1$ ). For the second year, ALIQUIDITY is positively related to BHMAR ( $B=0.1433$ ,  $p>0.1$ ) and IAROA ( $B=0.0714$ ,  $p>0.1$ ), while TLIQUIDITY is also positively related to both BHMAR ( $B=0.2841$ ,  $p<0.1$ ) and IAROA ( $B=0.0174$ ,  $p>0.1$ ). When it comes to the third year, ALIQUIDITY becomes negatively related to BHMAR ( $B=-0.331$ ,  $p<0.1$ ) and positively related to IAROA ( $B=0.3152$ ,  $p>0.1$ ), while TLIQUIDITY becomes positively related to BHMAR ( $B=0.1142$ ,  $p>0.1$ ) and negatively related to IAROA ( $B=-0.3345$ ,  $p>0.1$ ). In summary, there is no consistent effect on the first-year and third-year post-acquisition acquirer firm performance for both ALIQUIDITY and TLIQUIDITY. Only in the second year, there is a positive effect on the post-acquisition acquirer firm performance for both ALIQUIDITY and TLIQUIDITY, indicating that the higher the pre-acquisition acquirer and target firm liquidity, the better the post-acquisition acquirer firm performs in the second year.

As for LEVERAGE, ALEVERAGE is consistently and negatively related to BHMAR ( $B=-0.1132$ ,  $p>0.1$ ;  $B=-0.2152$ ,  $p<0.1$ ;  $B=-0.1844$ ,  $p>0.1$ ; respectively) and IAROA ( $B=-0.2654$ ,  $p<0.01$ ;  $B=-0.1427$ ,  $p>0.1$ ;  $B=-0.5751$ ,  $p<0.1$ ; respectively) for three consecutive years. The same for TLEVERAGE, it is also consistently and negatively related to BHMAR ( $B=-0.2331$ ,  $p<0.05$ ;  $B=-0.1531$ ,  $p>0.1$ ; respectively) and IAROA ( $B=-0.1247$ ,  $p<0.05$ ;  $B=-0.0379$ ,  $p>0.1$ ; respectively) for the first two years, while in the third year, it is positively related to BHMAR ( $B=-0.0981$ ,  $p>0.1$ ), but not significant and negatively related to IAROA ( $B=-0.3745$ ,  $p<0.1$ ). In summary, the relations between LEVERAGE and BHMAR, LEVERAGE and IAROA are consistent in the first two years, that is, the lower the pre-acquisition target and

acquirer firm's leverage, the better the post-acquisition acquirer firm performs in the first year and second year. In the third year, the relation between TLEVERAGE and BHMAR reverses.

ASIZE positively relates to BHMAR ( $B=0.0741$ ,  $p<0.05$ ;  $B=0.0021$ ,  $p>0.1$ ; respectively) and IAROA ( $B=0.0257$ ,  $p>0.1$ ;  $B=0.0112$ ,  $p>0.1$ ; respectively) for the first-year and second-year post-acquisition period, while in the third year, ASIZE is negatively related to BHMAR ( $B=-0.0694$ ,  $p>0.1$ ) and IAROA ( $B=-0.0017$ ,  $p>0.1$ ). As for TSIZE, it positively relates to BHMAR ( $B=0.0444$ ,  $p>0.1$ ;  $B=0.0072$ ,  $p>0.1$ ;  $B=0.1855$ ,  $p<0.01$ ; respectively) for the three consecutive years and also positive relates to IAROA ( $B=0.0042$ ,  $p>0.1$ ) for the second year. However, TSIZE is negatively related to IROA ( $B=-0.0357$ ,  $p>0.1$ ;  $B=-0.1441$ ,  $p>0.1$ ; respectively) for the first year and third year. In summary, for both ASIZE and TSIZE, there is a consistent and positive relation with the second-year BHMAR and IAROA, indicating that the larger the pre-acquisition acquirer and target firm size, the better the post-acquisition acquirer firm performs in the second year. However, for TSIZE, there is no consistent relation for the first year and third year.

As for the Q, in the first year, both AQ ( $B=-0.0054$ ,  $p>0.1$ ) and TQ ( $B=-0.0081$ ,  $p>0.1$ ) are negatively related to BHMAR, while both AQ ( $B=0.0034$ ,  $p>0.1$ ) and TQ ( $B=0.0001$ ,  $p>0.1$ ) are positively related to IAROA. In the second year, AQ is negatively related to both BHMAR ( $B=-0.0223$ ,  $p<0.1$ ) and IAROA ( $B=-0.0064$ ,  $p>0.1$ ), while TQ is significantly and positively related to both BHMAR ( $B=0.0221$ ,  $p<0.1$ ) and IAROA ( $B=0.0138$ ,  $p<0.1$ ). When it comes to the third year, AQ

negatively relates to BHMAR ( $B=-0.0031$ ,  $p>0.1$ ), but positively relates to IAROA ( $B=0.0288$ ,  $p<0.1$ ), while TQ is consistent with the second year and positively related to both BHMAR ( $B=0.0187$ ,  $p<0.1$ ) and IAROA ( $B=0.0315$ ,  $p<0.1$ ). In summary, only in the second year, there is a consistent relation for AQ and TQ, that is, the lower the pre-acquisition acquirer firm's Tobin's q and the higher the pre-acquisition target firm's Tobin's q, the better the post-acquisition acquirer firm performs. However, for the first year and the third year, there is no consistent relation for them.

For the target CEOs who were hired by acquirer firms ( $EMPLOYMENT_1$  and  $EMPLOYMENT_2$ ), in the first year, both  $EMPLOYMENT_1$  and  $EMPLOYMENT_2$  are negatively related to BHMAR ( $B=-0.0301$ ,  $p>0.1$ ;  $B=-0.1129$ ,  $p<0.05$ ; respectively) and IAROA ( $B=-0.0227$ ,  $p>0.1$ ;  $B=-0.0186$ ,  $p>0.1$ ; respectively), indicating that the hired target CEOs (both those hired one year and two years), did not improve the first-year post-acquisition performance of the acquirer firms, and this finding also supports our hypothesis 1 of the performance test. In the second year,  $EMPLOYMENT_1$  is negatively related to BHMAR ( $B=-0.0928$ ,  $p<0.1$ ) and IAROA ( $B=-0.0777$ ,  $p>0.1$ ), while  $EMPLOYMENT_2$  is positively and significantly related to BHMAR ( $B=0.1727$ ,  $p<0.05$ ) and IAROA ( $B=0.1696$ ,  $p<0.1$ ). This indicates that hired two years target CEOs significantly improve the second year post-acquisition performance of the acquirer firm and this is also consistent with our hypothesis 2 of performance test. In the third year,  $EMPLOYMENT_1$  is positively related to BHMAR ( $B=0.0339$ ,  $p>0.1$ ), but negatively related to IAROA ( $B=-0.0971$ ,  $p>0.1$ ), and  $EMPLOYMENT_2$  still positively relates to BHMAR ( $B=0.1241$ ,  $p>0.1$ ) and IAROA



( $B=0.0073$ ,  $p>0.1$ ), implying that the positive effects of the hired two years target CEOs on the second year post-acquisition performance of the acquirer firms might continue to the third year.

More interestingly, we find that signs of the coefficients of each variable are consistent for the second year when comparing BHMAR with IAROA, while the signs for the first year and third year are quite different and inconsistent comparing BHMAR with IAORA. This finding suggests that the pre-acquisition target and acquirer performance have a more consistent influence on the second-year post-acquisition performance of the merged firm.

In addition to the multivariate tests presented in table 9, we also conduct the test with target variables and acquirer variables separately to see if the results change significantly. Table 10 summarizes the multivariate tests for BHMAR and IAROA by target variables and acquirer variables separately. The residuals against each variable are normal and randomly distributed.

In table 10, for the tests with acquirer variables under BHMAR and IAROA, in the first year, AQ is negatively related ( $B=0.01$ ,  $p>0.1$ ) to BHMAR, while positively and significantly related ( $B=0.0054$ ,  $p<0.1$ ) to IAROA. The coefficient signs for other variables do not change for both BHMAR and IAROA. In the second year, the results are consistent and there is no change in the coefficient signs for all the acquirer variables. However, when it comes to the third year, the coefficient sign of ALEVERAGE, which is positive under BHMAR ( $B=0.0725$ ,  $p>0.1$ ), becomes negative under IAROA ( $B=-0.7076$ ,  $p<0.01$ ). Additionally, variable AQ, which is

negatively related to BHMAR ( $B=-0.005$ ,  $p>0.1$ ), becomes positively related to IAROA ( $B=0.0386$ ,  $p<0.01$ ). Once again, changes in the coefficient signs of the acquirer variables are observed in the first year and third year when comparing BHMAR with IAROA, while the coefficient signs for the second year are the most consistent. For the tests with target variables under BHMAR and IAROA, in the first year, the variables TLIQUIDITY and TQ are negatively related to BHMAR ( $B=-0.3391$ ,  $p<0.05$ ;  $B=-0.0094$ ,  $p>0.1$ ; respectively), while positively related to IROA ( $B=0.0158$ ,  $p>0.1$ ;  $B=-0.0016$ ,  $p>0.1$ ; respectively). Moreover, variables TROE and TSIZE, who are positively related to BHMAR ( $B=0.0543$ ,  $p>0.1$ ;  $B=0.0814$ ,  $p>0.1$ ; respectively), become negatively related to IAROA ( $B=-0.0381$ ,  $p>0.1$ ;  $B=-0.0263$ ,  $p>0.1$ ; respectively). In the second year, the same as the tests with acquirer variables, there is no changes in the variables' coefficient signs. When it comes to the third year, once again, changes in the coefficient signs of the variables are observed. The variables TROE, TLIQUIDITY, TLEVERAGE, and TSIZE which are positively related to BHMAR, all become negatively related to IAROA. In summary, as for the target variables, changes in the coefficient signs in the first year and third year are observed when comparing BHMAR with IAROA, and as with the test of acquirer variables, the coefficient signs for the target variables are consistent in the second year for both BHMAR and IAROA.

Comparing the results in table 9 with table 10, we find that in both tables, the

coefficient signs of each variable are quite consistent for the second year, while the coefficient signs of the variables for the first year and third year are quite different and inconsistent when comparing BHMAR with IAORA. This finding implies that the pre-acquisition target and acquirer firms' performance have more consistent influence on the second-year post-acquisition performance of the merged firm. Additionally, in the second year, comparing with the acquirer variables, the target variables under both BHMAR and IAROA in table 10 are more significant than the target variables under BHMAR and IAROA in table 9, which suggests that the pre-acquisition performance of the target firms has a more significant influence on the second-year post-acquisition performances of the merged firm. Moreover, in both tables 7 and 8, some important characteristics of EMPLOYMENT<sub>1</sub> and EMPLOYMENT<sub>2</sub> can be observed. We find that EMPLOYMENT<sub>1</sub> and EMPLOYMENT<sub>2</sub> have negative influences on the first-year post-acquisition performance of the merged firm (for both BHMAR and IAROA), implying that target CEOs hired by acquirer firms could not improve the performance of the acquirer firms in the first year. This may be because that one year is too short for the positive effects of the hired target CEOs to show up. When it comes to the second year, there is a significant and positive influence on the BHMAR and IAROA caused by EMPLOYMENT<sub>2</sub>, indicating that the hired-two years target CEOs' talents and experiences significantly improve the acquirer firms' performance in the second year. This positive effect on the merged firms' performance might continue to the third year.

To investigate the effects of the hired target CEOs on the post-acquisition performance of the acquirer firms, we separate our sample into three subgroups: hired one year, hired two years, and non-hired group. Under each group, we calculate the average performance (both BHMAR and IAROA) of each group for four years, namely, the year that the acquisition takes place (0 year) and three consecutive years after the effective year (1<sup>st</sup> year, 2<sup>nd</sup> year, and 3<sup>rd</sup> year). Table 11 summarizes the average returns in each year under each subgroup in terms of BHMAR and IAROA. Following the average returns showed in table 11, figure 1 shows the plot of average returns for BHMAR while figure 2 shows the plot of average returns for IAROA.

Some interesting consistencies between figure 1 and figure2 can be observed. In figure 1, the average BHMAR for the hired one year group goes down from year 0 to year 1, and continues to decline to 2<sup>nd</sup> year before it rises up in 3<sup>rd</sup> year. The same as hired one year group, the average BHMAR for the non-hired group declines from year 0 to year 2 before rising in 3<sup>rd</sup> year. However, the average BHMAR for the hired two years group only goes down for one year (from 0 year to 1<sup>st</sup> year) and rises from 1<sup>st</sup> year to 2<sup>nd</sup> year and keeps going up in 3<sup>rd</sup> year. Moreover, figure 2 shows the same trends for these three subgroups. The average IAROA for the hired one year group goes down from 0 year to 1<sup>st</sup> year, and then keeps going down to 2<sup>nd</sup> year before it goes up in 3<sup>rd</sup> year. The same as hired one year group, the average IAROA for the non-hired group goes down from 0 year to 1<sup>st</sup> year, and then goes down in the 2<sup>nd</sup> year before goes up in 3<sup>rd</sup> year. The same as hired two years group of average BHMAR, the average IAROA for the hired two years group only goes down for one year (from

0 year to 1<sup>st</sup> year) and goes up from 1<sup>st</sup> year to 2<sup>nd</sup> year and keeps going up in 3<sup>rd</sup> year.

In summary, the consistencies between figure 1 and figure 2 shows that compared to the hired one year group (target CEOs hired by acquirer firms for one year or less) and non-hired group (target CEOs not hired by acquirer firms), the hired two years group (target CEOs hired by acquirer firms for at least two years) improve the second-year post-acquisition performances of the acquirer firms. This finding is consistent with the results in table 9 and table 10, which also indicate that EMPLOYMENT<sub>2</sub> has a positive and significant influence on the second-year BHMAR and IAROA. Also, when it comes to the third year, the hired two years group has the highest average BHMAR (0.05) and IAROA (0.32), followed by the non-hired group with an average BHMAR (-0.01) and IAROA (0.26), while the hired-one year group has the lowest average BHMAR (-0.03) and IAROA (0.24), indicating that the acquirer firms who hired target CEOs for at least two years have the best average post-acquisition performance until at least the third year.

# Conclusion

The object of this paper is to shed light on two main questions: why some target CEOs are hired by the acquirer firm while others depart after the acquisitions? And what is the influence of the target CEOs on the post-acquisition performance of the merged firm?

To answer the first question, we use a logistic model to test the variables that would influence the target CEOs' employment in the acquirer firms. We have the following five hypotheses: (1) the pre-acquisition performance of the target firms will be positively related to target CEO's post-acquisition employment in acquirer firms; (2) the target CEO's control over the target firm will be positively related to target CEO's post-acquisition employment in the acquirer firm; (3) the target CEO's pre-acquisition work experience will be positively related to target CEO's post-acquisition employment in the acquirer firm; (4) the target CEO's loyalty to target shareholders will be negatively related to target CEO's post-acquisition employment in the acquirer firm; (5) a stock payment will be positively related to the target CEO's post-acquisition employment in the acquirer firm. Our tests support the hypotheses (1) (2) (3) (5), while the hypothesis (4) can not be fully supported. Our conclusions for the first question are that the target CEO is more likely to be hired by the acquirer firm if (1) the target firm has a better pre-acquisition performance (2) the target CEO has a stronger control over that target firm (3) the target CEO has more work experiences (4) the target CEO receives more stock payment.

To answer the second question, we estimate a multivariate model of post-acquisition performance as a function of two target CEO employment dummy variables, EMPLOYMENT<sub>1</sub> (target CEOs hired by acquirer firms for maximum one year) and EMPLOYMENT<sub>2</sub> (target CEOs hired by acquirer firms for at least two years), and control for pre-acquisition target/acquirer performance. Two measures of acquirer firms' performance are used in the model, namely a market-based criterion (buy & hold market-adjusted return) and an accounting-based criterion (industry adjusted return on asset). The main conclusions are as following. (1) Pre-acquisition target and acquirer firms' performance (especially the target firms' performance) have a more significant and positive influence on the second-year post-acquisition performance of the merged firms. (2) The hired target CEOs negatively influence the first-year post-acquisition performance of the acquirer firms. (3) The target CEOs hired by acquirer firms for at least two years significantly improve the second-year post-acquisition performance of the merged firms and this positive effect might continue to the third year.

The findings of this paper suggest a number of interesting questions for future research. As we see in table 7 panel A, CEOD is positively related to PAYMENT and PAYMENT\_STOCK, while negatively related to PAYMENT\_CASH, indicating that a dominating target CEO prefers stock payment to cash payment. However, in panel B, we find that target CEOs who prefer stock payment are more likely to be hired, while the dominating target CEO (who also prefer stock payment ) are not. So it is interesting to find out why those dominating target CEOs did not get hired by acquirer

firms. Is this because they prefer stock payment not for getting hired by acquirer firms, but for other purposes, like tax saving? Another interesting area is the target CEOs of the hired groups. We separate them into two subgroups, namely hired one year group and hired two years group. For the hired one year target CEOs, it is interesting to find more on why they got hired for only such a short time, is it really because to hire them just for the purpose of smoothing the acquisition or are there other reasons? For the hired two years target CEOs, we find that they improve the second-year and third-year post-acquisition performances of the merged firms, but it is not clear how they could improve the acquirer firms' performances. Future research could start from the CEO qualities (for example, previous work experiences) of these hired two years CEOs, and find their special talents that would help improve the acquirer firms' performance. Besides, as mentioned in data part, we only choose 500 deals with the largest target enterprise values as our sample, and this could be a bias of our paper, future research should avoid this bias and balance the large value deals with small value deals.



# Appendix

## List of tables

**Table 1**  
Summary of target tobin's q, deal payment, premium and CEOs' employment positions.

N	Hired one year		Hired two years		Non-hired		Retired	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
TQ	3.32	1.96	3.51	2.21	2.76	1.74	1.93	1.73
PAYMENT	0.79	1	0.81	1	0.72	1	0.44	0
PAYMENT STOCK	0.57	1	0.59	1	0.48	0	0.21	0
PAYMENT CASH	0.1	0	0.09	0	0.13	0	0.11	0
PREMIUM	37.15%	27.98%	46.13%	37.23%	47.44%	40.88%	33.88%	29.63%
NEW POSITIONS	<u>Top executives</u>	<u>Others</u>	<u>Top executives</u>	<u>Others</u>	<u>Top executives</u>	<u>Others</u>		
	73%	27%	70%	30%	67%	33%		

<sup>a</sup> There should be 160 target CEOs in the "Hired two years" group (hired by acquirer firms for at least two years after the acquisitions). However, we find that five of the acquirer firms owned more than 50% percent of the target firms' stock before the deal announcement, and these target CEOs had already worked in the acquirer firms before the deal announcements. As these cases do not reflect a potential reorganization of the acquirer management team, we eliminate them from the sample.

<sup>b</sup> There should be 259 target CEOs in the "Non-hired" group (not hired by acquirer firms after the acquisitions). Due to the same reason as the five targets and acquirers removed from the "Hired two years" group, we remove 8 targets and acquirers here from our sample.

Variable definitions:

PAYMENT= dummy variable that measures the percentage of different payment methods (stock payment, cash payment, other payments) the acquirer firm used to target firm, which equals to one if the percentage of stock payment is the largest, and zero otherwise.

PAYMENT\_STOCK= another dummy variable that measures the payment method, which equals to one if the payment is 100% stock, and zero otherwise.

PAYMENT\_CASH= another dummy variable that measures the payment method, which equals to one if the payment is 100% cash, and zero otherwise.

PREMIUM= offer price premium as percentage of 4-week trading price.

TQ= Tobin's q for target firm.

NEW POSITIONS= target CEOs' job positions in the acquirer firms (for the groups "Hired one year" and "Hired two years") and in the new firms (for subgroup "Non-hired"). New positions are divided into two categories: top executives (important positions like CEO, chairman of the board, president, and chief operating officers, etc.) and others (less important positions like advisor and consultant, etc.)

Table 2  
Panel A: Summary of target firms' q ratio & firm size and new firms' q ratio & firm size

	Hired <sup>a</sup>			Non-hired		
	N	Mean	Median	N	Mean	Median
TQ	216	3.41	1.96	251	2.76	1.74
TSIZE	216	2.79	2.77	251	2.78	2.69
Q <sub>new firm</sub>	216	3.81	2.41	110 <sup>b</sup>	3.71	2.37
SIZE <sub>new firm</sub>	216	3.32	3.36	110	3.24	3.35

Panel B: Mean-difference and median-difference tests.

	Mean-difference		Median-difference	
	DF	t-value	DF	t-value
TQ <sub>hired</sub> -TQ <sub>non-hired</sub>	216	2.3**	216	2.23**
TQ <sub>hired</sub> -Q <sub>hired</sub>	216	-0.75	216	-0.39
TQ <sub>non-hired</sub> -Q <sub>non-hired</sub>	110	-1.82*	110	-1.63**
Q <sub>hired</sub> -Q <sub>non-hired</sub>	110	0.25	110	0.26
TSIZE <sub>hired</sub> -TSIZE <sub>non-hired</sub>	216	0.02	216	0.05
TSIZE <sub>hired</sub> -SIZE <sub>hired</sub>	216	-8.39***	216	-7.59***
TSIZE <sub>non-hired</sub> -SIZE <sub>non-hired</sub>	110	-4.37***	110	-4.33***
SIZE <sub>hired</sub> -SIZE <sub>non-hired</sub>	110	0.04	110	-1.92**

\* 10% significant level  
\*\* 5% significant level  
\*\*\* 1% significant level

<sup>a</sup> Group "Hired" here is the combination of the group "Hired one year" and group "Hired two years" from table 1.

<sup>b</sup> There are 251 target CEOs who were not hired by the acquirer firms and got jobs in other firms. However, only 110 of them got jobs in public firms (which we can get data to calculate Tobin's q and firm sizes for these firms). Other 141 target CEOs got jobs in private organizations or started their own new business.

Variable definitions:

TQ= Tobin's q for target firm.

TSIZE= target firm size.

Q<sub>new firm</sub>= Tobin's q of acquirer firms under the group "Hired" and Tobin's q of new firms that hired non-hired CEOs under the group "Non-hired"

SIZE<sub>new firm</sub>= firm sizes of acquirer firms under the group "Hired" and firm sizes of new firms that hired non-hired CEOs under the group "Non-hired"

Q<sub>hired</sub>= Q<sub>new firm</sub> under the group "Hired", that is, Tobin's q of acquirer firms that hired the target CEOs.

Q<sub>non-hired</sub>= Q<sub>new firm</sub> under the group "Non-hired", that is, Tobin's q ratio of new firms that hired the non-hired target CEOs

SIZE<sub>hired</sub>= SIZE<sub>new firm</sub> under the group "Hired", that is, firm sizes of acquirer firms that hired the target CEOs.

SIZE<sub>non-hired</sub>= SIZE<sub>new firm</sub> under the group "Non-hired", that is, firm sizes of new firms that hired non-hired CEOs

**Table 3: Hypotheses and expected signs for independent variables.**

<b>Hypothesis</b>	<b>Variable(s)</b>	<b>Expected Sign</b>
<b>Employment Test</b>		
<b>1. Performance hypothesis</b>	<b>QR SIZER</b>	<b>+</b>
<b>2. Controlling power hypothesis</b>	<b>CEOD BOSS INSOWN</b>	<b>+</b>
<b>3. Experience hypothesis</b>	<b>TENSURE SIC AGE</b>	<b>+</b>
<b>4. Loyalty hypothesis</b>	<b>PREMIUM TENURE</b>	<b>-</b>
<b>5. Payment hypothesis</b>	<b>PAYMENT</b>	<b>+</b>
<b>Performance Test</b>		
<b>1. First year hypothesis</b>	<b>EMPLOYMENT<sub>1</sub> EMPLOYMENT<sub>2</sub></b>	<b>?</b>
<b>2. Second year hypothesis</b>	<b>EMPLOYMENT<sub>2</sub></b>	<b>+</b>

Variable definitions:

QR= the ratio of target Tobin's q to the acquirer Tobin's q.

SIZER= the ratio of target firm's book value of asset to the acquirer firm's book value of asset.

CEOD= the ratio of target firm's CEO salary and bonus in the year preceding mergers and acquisitions to the average salary and bonus of other executives.

BOSS= dummy variable equals to one if a target firm's CEO is also a Chairman of its board in the year preceding mergers and acquisitions, and zero otherwise.

INSOWN= percentage of common shares of the target firm that the target chief executive officers owned preceding mergers and acquisitions.

TENURE= number of years the target chief executive officers worked in the target firm preceding mergers and acquisitions.

SIC= dummy variable which equals to one if the target firm and acquirer firm are from the same industry (the same 4 digit SIC code), and zero otherwise.

AGE= age of target chief executive officers preceding mergers and acquisitions.

PREMIUM= offer price premium as percentage of the price 4 weeks before the deal announcement.

PAYMENT= dummy variable that measures the different payment methods and equals to one if the percentage of stock payment is the largest, and zero otherwise

EMPLOYMENT<sub>1</sub>= dummy variable which equals to one if a target CEO continually employed in the acquirer firm after the acquisition for only one year or less, and zero otherwise.

EMPLOYMENT<sub>2</sub>= dummy variable which equals to one if a target CEO continually employed in the acquirer firm after the acquisition for at least two years, and zero otherwise.

**Table 4: Summary of the target industries and acquirer industries.**

Year	Target Industry			Acquirer Industry		
	Manufacturing	IT	Others	Manufacturing	IT	Others
1995	1	0	13	1	0	13
1996	6	6	15	4	4	19
1997	15	6	37	16	6	36
1998	21	8	36	21	8	36
1999	33	16	36	31	14	40
2000	37	27	30	34	23	37
2001	16	8	27	16	7	28
2002	7	4	16	6	4	17
2003	4	7	14	7	4	14
2004	8	2	16	4	4	18
2005	3	4	8	3	3	9

Table 5: Summary statistics of independent variables

	Observations	Minimum	Mean	Median	Maximum	Standard Deviation
CEOD	481	0.13	0.51	0.45	3.05	0.33
BOSS	483	0	0.68	1	1	0.47
TENURE	481	1	10.63	8	56	8.56
INSOWN	476	0	0.04	0.06	0.55	0.07
PAYMENT	455	0	0.69	1	1	0.46
OR	484	0.07	1.11	0.85	13.24	1.01
SIZER	478	0.29	0.81	0.81	1.85	0.18
EDU	478	0	0.19	0	1	0.39
SIC	487	0	0.47	0	1	0.49
AGE	439	30	53.38	53	83	7.91
PREMIUM	487	-15.29	46.11	38.12	684.31	40.51
PAYMENT STOCK	455	0	0.48	0	1	0.5
PAYMENT CASH	455	0	0.13	0	1	0.33
AROE	480	-0.17	0.13	0.14	0.37	0.12
TROE	441	-0.58	0.05	0.11	0.42	0.23
AGROWTH	480	-0.15	0.32	0.16	1.74	0.45
TGROWTH	477	-0.19	0.33	0.15	1.95	0.51
ALIQUIDITY	480	-0.37	-0.13	-0.14	0.21	0.15
TLIQUIDITY	436	-0.38	-0.11	-0.13	0.23	0.16
ALEVERAGE	480	0.15	0.52	0.55	0.82	0.19
TLEVERAGE	439	0.14	0.51	0.53	0.94	0.23
ASIZE	480	0.92	3.48	3.49	5.61	0.71
TSIZE	471	0.71	2.77	2.72	5.33	0.62
AQ	480	0.56	3.51	2.21	17.92	3.55
TQ	476	0.94	3.01	1.81	11.64	2.79
EMPLOYMENT <sub>1</sub>	487	0	0.12	0	1	0.33
EMPLOYMENT <sub>2</sub>	487	0	0.32	0	1	0.46

Variable definitions:

CEOD= CEO dominance, the ratio of target firm's CEO salary and bonus in the year preceding mergers and acquisitions to the average salary and bonus of other executives

BOSS= dummy variable equals to one if a target firm's CEO is also a Chairman of its board in the year preceding mergers and acquisitions, and zero otherwise.

TENURE= the number of years the target CEOs worked in the target firms before the effective of the deal.

INSOWN= the percentage of common shares of the target firm that the target CEO owned one year before the effective of the deal.

PAYMENT= dummy variable equals to one if the percentage of stock payment is the largest, and zero otherwise.

QR= a ratio of target Tobin's q to the acquirer Tobin's q

SIZER= a ratio of target firm size to the acquirer firm size.

EDU= dummy variable which is equal to one if a CEO has an MBA degree, and zero otherwise.

SIC= dummy variable equals to one if the target firm and acquirer firm are from the same industry (the same 4 digit SIC code),

and zero otherwise.

AGE= CEO age is the age of a target CEO one year before the effective of the acquisition.

PREMIUM= offer price premium as percentage of the price 4 weeks prior to deal announcement..

PAYMENT\_STOCK= dummy variable which equals to one if the payment is 100% stock, and zero otherwise.

PAYMENT\_CASH= dummy variable which equals to one if the payment is 100% cash, and zero otherwise.

AROE= return on equity for acquirer firms

TROE= return on equity for target firms

AGROWTH= annual rate of change in the firm's net sales for acquirer firms

TGROWTH= annual rate of change in the firm's net sales for target firms.

ALIQUIDITY= the ratio of the net liquid assets of a firm to its total asset for acquirer firms.

TLIQUIDITY= the ratio of the net liquid assets of a firm to its total asset for target firms.

ALEVERAGE= the ratio of total debt to total asset of a firm for acquirer firms.

TLEVERAGE= the ratio of total debt to total asset of a firm for target firms.

ASIZE= the logarithm value of the book value of asset of acquirer firm.

T SIZE= the logarithm value of the book value of asset of target firm.

AQ= Tobin's q for acquirer firms

TQ= Tobin's q for target firms

EMPLOYMENT<sub>1</sub>= dummy variable which equals one if a target CEO continually employed in the acquirer firm after the acquisition for only one year or less, and zero otherwise.

EMPLOYMENT<sub>2</sub>= dummy variable which equals one if a target CEO continually employed in the acquirer firm after the acquisition for at least two years, and zero otherwise.

Table 6: Correlations between independent variables

	CEOD	BOSS	TENURE	INSOWN	PAYMENT	QR	SIZER	EDU	SIC	AGE	PREMIUM	PAYMENT_STOCK	PAYMENT_CASH
CEOD	1												
BOSS	0.11	1											
TENURE	-0.01	0.17	1										
INSOWN	0.21	0.15	0.09	1									
PAYMENT	0.09	0.02	0.03	0.04	1								
QR	0.01	-0.04	-0.06	0.04	0.09	1							
SIZER	0.11	0.13	0.09	-0.08	0.15	0.22	1						
EDU	-0.02	-0.02	-0.07	-0.05	0.02	-0.06	0.04	1					
SIC	0.01	-0.02	-0.01	-0.01	0.15	0.04	0.19	-0.04	1				
AGE	0.01	0.22	0.39	-0.07	0.19	0.12	0.11	-0.03	-0.04	1			
PREMIUM	-0.06	-0.01	-0.03	0.01	0.03	-0.07	-0.17	-0.05	-0.13	-0.04	1		
PAYMENT_STOCK	0.11	0.05	0.11	0.07	0.63	0.01	0.05	-0.03	0.04	0.02	0.08	1	
PAYMENT_CASH	-0.003	-0.02	-0.01	-0.03	-0.58	-0.09	-0.11	0.01	-0.15	-0.03	0.02	-0.37	1

Variable definitions:

CEOD= CEO dominance, the ratio of target firm's CEO salary and bonus in the year preceding mergers and acquisitions to the average salary and bonus of other executives

BOSS= dummy variable equals one if a target firm's CEO is also Chairman of its board in the year preceding mergers and acquisitions, and zero otherwise.

TENURE= the number of years the target CEO worked in the target firm before the effective date of the deal.

INSOWN= the percentage of common shares of the target firm that the target CEO owned one year before the effective date of the deal.

PAYMENT= dummy variable equals to one if the percentage of stock payment is the largest, and zero otherwise.

QR= a ratio of target Tobin's q to the acquirer Tobin's q

SIZER= a ratio of target firm size to the acquirer firm size.

EDU= dummy variable which is equal to one if the target CEO has an MBA degree, and zero otherwise.

SIC= dummy variable equals to one if the target firm and acquirer firm are from the same industry (the same 4 digit SIC code), and zero otherwise.

AGE= CEO age is the age of a target CEO one year before the effective of the acquisition.

PREMIUM= offer price premium as percentage of the price 4 weeks prior to deal announcement.

PAYMENT\_STOCK= dummy variable which equals one if the payment is 100% stock, and zero otherwise.

PAYMENT\_CASH= dummy variable which equals one if the payment is 100% cash, and zero otherwise.

Table 7  
Panel A: Summary of the tests for variables PREMIUM and PAYMENT (STOCK/ CASH)

	Explanatory variables in the models						N	
	INTERCEPT	CEOD	TENURE	INSOWN	PREMIUM	QR		PAYMENT
PREMIUM	57.8201*** (9.98)	-10.2476 (-1.07)	-0.1577 (-0.7)	9.0787 (0.42)		-6.2681*** (-2.78)	-1.3186 (-0.33)	455
PAYMENT	-1.3294*** (17.06)	0.6156** (4.07)	0.0059 (0.64)	1.6631 (1.31)	-0.0009 (0.74)	0.1629* (1.68)		476
PAYMENT_STOCK	-0.454 (1.94)	0.8337* (1.72)	0.0264 (0.38)	2.4477** (3.66)	0.0017 (0.39)	0.0229 (0.03)		476
PAYMENT_CASH	-2.7053*** (37.24)	-0.4439 (1.24)	-0.0014 (0.01)	-0.8446 (0.31)	0.0042 (0.28)	-0.3128** (4.35)		476

Panel B: Summary of the multivariate test for EMPLOYMENT

	Explanatory variables in the models												N
	INTERCEPT	CEOD	BOSS	TENURE	INSOWN	QR	PREMIUM*	SIZER	EDU	SIC	AGE <sup>2</sup>	PAYMENT*	
EMPLOYMENT	-1.7107* (2.71)	0.1312 (0.12)	0.5045** (3.88)	0.0217* (3.23)	1.5209 (0.89)	0.3862*** (7.53)	0.0028 (0.92)	2.0392*** (8.09)	-0.1018 (0.14)	0.2553 (1.39)	0.0355** (4.9302)	0.6098*** (6.68)	439

\* 10% significant level

\*\* 5% significant level

\*\*\* 1% significant level

t-values in parentheses for model PREMIUM.

wald chi-square values in parentheses for model PAYMENT, PAYMENT\_CASH, PAYMENT\_STOCK and model Employment.

Variable definitions:

EMPLOYMENT= dummy variable which equals one if the target chief executive officer continually work in the acquirer firm subsequent to the acquisition, and zero otherwise.

CEOD= the ratio of target firm's CEO salary and bonus in the year preceding mergers and acquisitions to the average salary and bonus of other executives.

BOSS= dummy variable equals one if a target firm's CEO is also Chairman of its board in the year preceding mergers and acquisitions, and zero otherwise.

TENURE= number of years the target chief executive officers worked in the target firm preceding mergers and acquisitions.



INSOWN= percentage of common shares of the target firm that the target chief executives officers owned preceding mergers and acquisitions.

PREMIUM= offer price premium as percentage of 4-week trading price.

PAYMENT= dummy variable that measures the percentage of different payment methods (stock payment, cash payment, other payment s) the acquirer firm used to target firm, which equals to one if the percentage of stock payment is the largest, and zero otherwise

QR= the ratio of target Tobin's q to the acquirer Tobin's q.

SIZER= a ratio of target firm size to the acquirer firm size.

EDU= dummy variable which equals to one if the target CEO has an MBA degree, and zero otherwise.

SIC= dummy variable which equals to one if the target firm and acquirer firm are from the same industry, and zero otherwise.

<sup>a</sup> AGE= age of target chief executive officers preceding mergers and acquisitions.

At the beginning, we also include a quadratic term of AGE ( $AGE^2$ ) to capture the possible quadratic effects. However, variable  $AGE^2$  is not significant in the regression, that is to say, AGE does not have quadratic effects as we expected, so we remove  $AGE^2$  and only keep AGE.

PREMIUM\*:

$$PREMIUM^* = PREMIUM - PREMIUM_{pred}$$

where  $PREMIUM_{pred}$  are the predicted values that generated from the model PREMIUM.

PAYMENT\*:

$$PAYMENT^* = PAYMENT - PAYMENT_{pred}$$

where  $PAYMENT_{pred}$  are the predicted values that generated from the model PAYMENT .

Table 8: Correlations between independent variables

	AROE	TROE	AGROWTH	TGROWTH	ALIQUIDITY	TLIQUIDITY	ALEVERAGE	TLEVERAGE	ASIZE	TSIZE	AQ	TQ	EMPLOYMENT <sub>1</sub>	EMPLOYMENT <sub>2</sub>
AROE	1													
TROE	0.15	1												
AGROWTH	-0.27	-0.06	1											
TGROWTH	-0.14	0.11	0.38	1										
ALIQUIDITY	-0.27	-0.11	0.33	0.32	1									
TLIQUIDITY	-0.19	-0.11	0.26	0.32	0.39	1								
ALEVERAGE	0.22	0.13	-0.28	-0.3	-0.54	-0.39	1							
TLEVERAGE	0.09	0.09	-0.16	-0.2	-0.21	-0.51	0.41	1						
ASIZE	0.26	0.11	-0.39	-0.26	-0.39	-0.21	0.34	0.17	1					
TSIZE	0.12	0.16	-0.23	-0.35	-0.28	-0.35	0.37	0.4	0.45	1				
AQ	-0.02	-0.14	0.46	0.44	0.36	0.31	-0.47	-0.25	-0.29	-0.35	1			
TQ	-0.14	-0.11	0.36	0.54	0.33	0.41	-0.36	-0.3	-0.22	-0.5	0.58	1		
EMPLOYMENT <sub>1</sub>	-0.01	-0.04	0.03	0.03	-0.01	0.04	-0.02	-0.05	-0.02	0.07	0.05	0.07	1	
EMPLOYMENT <sub>2</sub>	-0.08	0.05	0.07	0.05	0.08	-0.06	-0.04	-0.01	-0.18	-0.01	0.02	0.05	-0.25	1

Variable definitions:

AROE= return on equity for acquirer firms.

TROE= return on equity for target firms.

AGROWTH= annual rate of change in the firm's net sales for acquirer firms.

TGROWTH= annual rate of change in the firm's net sales for target firms.

ALIQUIDITY= the ratio of the net liquid assets of a firm to its total asset for acquirer firms.

TLIQUIDITY= the ratio of the net liquid assets of a firm to its total asset for target firms.

ALEVERAGE=the ratio of total debt to total asset of a firm for acquirer firms.

TLEVERAGE= the ratio of total debt to total asset of a firm for target firms.

ASIZE= the logarithm value of the book value of asset of acquirer firm.

TSIZE= the logarithm value of the book value of asset of target firm.

AQ= Tobin's q for acquirer firms.

TQ= Tobin's q for target firms.

EMPLOYMENT<sub>1</sub>= dummy variable which equals one if a target CEO continually employed in the acquirer firm after the acquisition for only one year or less, and zero otherwise.

EMPLOYMENT<sub>2</sub>= dummy variable which equals one if a target CEO continually employed in the acquirer firm after the acquisition for at least two years, and zero otherwise.

Table 9: Multivariate tests results for BHMAR and IAROA

	Buy&Hold Market-Adjusted Return			Industry-Adjusted Return On Asset		
	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year
INTERCEPT	-0.2212* (-1.59)	-0.1522 (-1.03)	-0.1411 (-1.13)	0.3153*** (4.94)	0.0474 (0.35)	0.9142*** (2.9)
AROE	0.2523* (1.6)	0.3431** (2.02)	-0.2242 (-1.31)	0.3621*** (5.32)	0.2411** (1.96)	-0.1274 (-0.34)
TROE	0.0633 (0.68)	0.1533* (1.76)	0.0971 (1.07)	0.0523 (1.51)	0.0027 (0.04)	-0.1144 (0.52)
AGROWTH	-0.0942* (-1.85)	-0.122* (-1.76)	0.1164** (2.03)	-0.0602** (-2.44)	-0.0874** (-2.06)	0.0523 (0.47)
TGROWTH	0.0221 (0.41)	0.0821* (1.75)	-0.0422 (-0.8)	0.0114 (0.76)	0.0357 (0.8)	-0.0414 (-0.38)
ALIQUIDITY	0.1422 (0.86)	0.1433 (0.78)	-0.331* (-1.77)	-0.0524 (-0.68)	0.0714 (0.56)	0.3152 (0.86)
TLIQUIDITY	-0.2923* (-1.91)	0.2841* (1.76)	0.1142 (0.69)	0.0557 (0.82)	0.0174 (0.08)	-0.3345 (-1.03)
ALEVERAGE	-0.1132 (-0.81)	-0.2152* (-1.68)	-0.1844 (-1.26)	-0.2654*** (-4.57)	-0.1427 (-1.44)	-0.5751* (-1.72)
TLEVERAGE	-0.2331** (-2.3)	-0.1531 (-0.95)	0.0981 (0.84)	-0.1247** (-2.18)	-0.0379 (-0.34)	-0.3745* (-1.74)
ASIZE	0.0741** (2.01)	0.0021 (0.06)	-0.0694 (-1.57)	0.0257 (1.53)	0.0112 (0.54)	-0.0017 (-0.01)
TSIZE	0.0444 (0.37)	0.0072 (0.17)	0.1855*** (2.76)	-0.0357 (-1.6)	0.0042 (0.14)	-0.1441 (-1.16)
AQ	-0.0054 (-0.52)	-0.0223* (-1.73)	-0.0031 (-0.34)	0.0034 (0.76)	-0.0064 (-1.07)	0.0288* (1.7)
TQ	-0.0081 (-0.69)	0.0221* (1.66)	0.0187* (1.74)	0.0001 (0.03)	0.0138* (1.67)	0.0315 (1.4)
EMPLOYMENT <sub>1</sub>	-0.0301 (-0.51)	-0.0928* (2.26)	0.0339 (0.54)	-0.0227 (-1.34)	-0.0777 (-0.69)	-0.0971 (-0.72)
EMPLOYMENT <sub>2</sub>	-0.1129** (-2.58)	0.1727** (2.28)	0.1241 (0.86)	-0.0186 (-0.99)	0.1696* (1.75)	0.0073 (0.08)
Adj R-Sq	0.0795	0.0935	0.0724	0.1971	0.0736	0.0853
N	436	436	436	436	436	436

\* 10% significant level

\*\* 5% significant level

\*\*\* 1% significant level

Variable definitions:

AROE= return on equity for acquirer firms

TROE= return on equity for target firms

AGROWTH= annual rate of change in the firm's net sales for acquirer firms

TGROWTH= annual rate of change in the firm's net sales for target firms

ALIQUIDITY= the ratio of the net liquid assets of a firm to its total asset for acquirer firms

TLIQUIDITY= the ratio of the net liquid assets of a firm to its total asset for target firms

ALEVERAGE= the ratio of total debt to total asset of a firm for acquirer firms

TLEVERAGE= the ratio of total debt to total asset of a firm for target firms

ASIZE= the logarithm value of the book value of asset of acquirer firm

TSIZE= the logarithm value of the book value of asset of target firm

AQ= Tobin's q for acquirer firms

TQ= Tobin's q for target firms.

EMPLOYMENT<sub>1</sub>= dummy variable which equals to one if a target CEO continually employed in the acquirer firm after the acquisition for only one year or less, and zero otherwise.

EMPLOYMENT<sub>2</sub>= dummy variable which equals to one if a target CEO continually employed in the acquirer firm after the acquisition for at least two years, and zero otherwise.

Table 10: Multivariate tests results for BHMAR and IAROA by target and acquirer variables separately.

	Buy&Hold Market-Adjusted Return						Industry-Adjusted Return On Asset					
	Acquirer			Target			Acquirer			Target		
	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year
INTERCEPT	-0.1557 (-1.29)	-0.1428 (-1.15)	-0.0397 (-0.33)	-0.147 (-1.26)	-0.137 (-1.13)	0.2832** (2.41)	0.2808*** (5.44)	0.0657 (0.76)	0.8254** (3.14)	0.3251*** (6.04)	0.006 (0.07)	0.8697*** (3.52)
AROE	0.2564* (1.71)	0.389** (2.5)	-0.1003 (-0.61)				0.3401*** (5.32)	0.2566** (2.36)	-0.2125 (-0.66)			
TROE				0.0543 (0.64)	0.2132** (2.4)	0.0708 (0.83)				-0.0381 (-0.98)	0.0261* (1.88)	-0.1745 (-0.96)
AGROWTH	-0.1133** (-2.4)	-0.0924* (-1.83)	0.1106** (2.16)				-0.0618** (-2.98)	-0.0948*** (-2.67)	0.044 (0.41)			
TGROWTH				-0.0261 (-0.59)	0.0258* (1.94)	0.0202 (0.42)				-0.0008 (-0.04)	0.0626* (1.78)	0.0569 (0.56)
ALIQUIDITY	0.0959 (0.64)	0.2653* (1.71)	-0.0187 (-0.12)				0.008 (0.13)	0.1146 (1.06)	-0.0088 (-0.03)			
TLIQUIDITY				-0.3391** (-2.29)	0.3222** (2.08)	0.1477 (0.98)				0.0158 (0.23)	0.0389 (0.35)	-0.0218 (-0.07)
ALEVERAGE	-0.1111 (-0.92)	-0.2282* (-1.82)	0.0725 (0.59)				-0.3282*** (-6.36)	-0.123 (-1.42)	-0.7076*** (-2.71)			
TLEVERAGE				-0.2691*** (-2.71)	-0.0678* (-1.85)	0.0702 (0.7)				-0.1683*** (-3.67)	-0.0134 (-0.18)	-0.4334** (-2.07)
ASIZE	0.0566** (2.05)	0.0034 (0.11)	-0.0036 (-0.12)				0.0038 (0.3)	0.0096 (0.46)	-0.0331 (-0.53)			
TSIZE				0.0814 (0.17)	0.0177 (0.46)	0.0745** (1.99)				-0.0263 (-1.53)	0.0043 (0.15)	-0.1076 (-1.37)
AQ	-0.01 (-1.51)	-0.0059 (-0.85)	-0.005 (-0.74)				0.0054* (1.86)	-0.0025 (-0.51)	0.0386*** (2.71)			
TQ				-0.0094 (-1.02)	0.0002 (0.02)	0.0139 (1.47)				0.0016 (0.38)	0.0066* (1.94)	0.0379** (2.09)
EMPLOYMENT <sub>1</sub>	-0.0454 (-0.81)	-0.0647 (-1.12)	0.0108 (0.19)	-0.0474 (-0.8)	-0.0834 (-1.36)	0.0278 (0.45)	-0.0323 (-1.33)	-0.0891 (-0.19)	-0.0488 (-0.39)	-0.0306 (-1.23)	-0.0849 (-0.86)	-0.0558 (-0.42)
EMPLOYMENT <sub>2</sub>	-0.0907** (-2.28)	0.1755** (2.33)	0.1491* (1.88)	-0.1417** (-3.37)	0.1564** (2.61)	0.0148* (1.91)	-0.0244 (-1.41)	0.1701* (1.73)	0.0353 (0.41)	-0.0293 (-1.5)	0.1637* (1.81)	0.0307 (0.34)
Adj R-Sq	0.0613	0.077	0.0552	0.065	0.0661	0.0674	0.1761	0.0895	0.0781	0.0678	0.0731	0.0614
N	480	480	480	436	436	436	480	480	480	436	436	436

\* 10% significant level  
 \*\* 5% significant level  
 \*\*\* 1% significant level

Variable definitions:

AROE= return on equity for acquirer firms.

TROE= return on equity for target firms.

AGROWTH= annual rate of change in the firm's net sales for acquirer firms.

TGROWTH= annual rate of change in the firm's net sales for target firms.

ALIQUIDITY= the ratio of the net liquid assets of a firm to its total asset for acquirer firms.

TLIQUIDITY= the ratio of the net liquid assets of a firm to its total asset for target firms.

ALEVERAGE= the ratio of total debt to total asset of a firm for acquirer firms.

TLEVERAGE= the ratio of total debt to total asset of a firm for target firms.

ASIZE= the logarithm value of the book value of asset of acquirer firm.

TSIZE= the logarithm value of the book value of asset of target firm.

AQ= Tobin's q for acquirer firms.

TQ= Tobin's q for target firms.

EMPLOYMENT<sub>1</sub>= dummy variable which equals one if a target CEO continually employed in the acquirer firm after the acquisition for only one year or less, and zero otherwise.

EMPLOYMENT<sub>2</sub>= dummy variable which equals one if a target CEO continually employed in the acquirer firm after the acquisition for at least two years, and zero otherwise.

Table 11: Summary of the average BHMAR and IAROA for four years.

YEAR	Hired one year				Hired two years				Non-hired			
	0 year <sup>a</sup>	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	0 year	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year	0 year	1 <sup>st</sup> year	2 <sup>nd</sup> year	3 <sup>rd</sup> year
BHMAR <sub>mean</sub>	0.16	-0.12	-0.13	-0.03	0.11	-0.11	-0.08	0.05	0.23	-0.05	-0.08	-0.01
N <sub>BHMAR</sub>	60	61	58	56	150	150	148	147	271	270	268	267
IAROA <sub>mean</sub>	0.31	0.12	0.11	0.24	0.34	0.14	0.17	0.32	0.38	0.16	0.13	0.26
N <sub>IAROA</sub>	58	59	57	55	150	148	148	146	268	268	265	264

Variable definitions:

BHMAR<sub>mean</sub>= average of the BHMAR.

N<sub>BHMAR</sub>= number of observations used for calculating BHMAR<sub>mean</sub>.

IAROA<sub>mean</sub>= average of the IAROA.

N<sub>IAROA</sub>= number of observations used for calculating IAROA<sub>mean</sub>.

<sup>a</sup> 0 year= it is the year in which the acquisition is effective.

0 year BHMAR is calculated as following:

$$BHMAR_{iT} = \prod_{t=-1}^{-2} (1 + r_{t,i}) - \prod_{t=-1}^{-2} (1 + r_{t,m})$$

where

$BHMAR_{it}$  =buy & hold market-adjusted return for acquirer firm i in event year T (T=0)



$r_{t,i}$  = stock return for acquirer firm i in event month t.

$r_{t,m}$  = market return in event month t.

0 year IAROA is calculated as following:

$$IAROA_{it} = ROA_{it} - AROA_{it} (t = 0)$$

where

$IAROA_{it}$  = industry abnormal return on asset for acquirer firm i in year 0.

$ROA_{it}$  = return on asset for acquirer firm i in year 0.

$AROA_{it}$  = average return on asset for industry I in year 0.

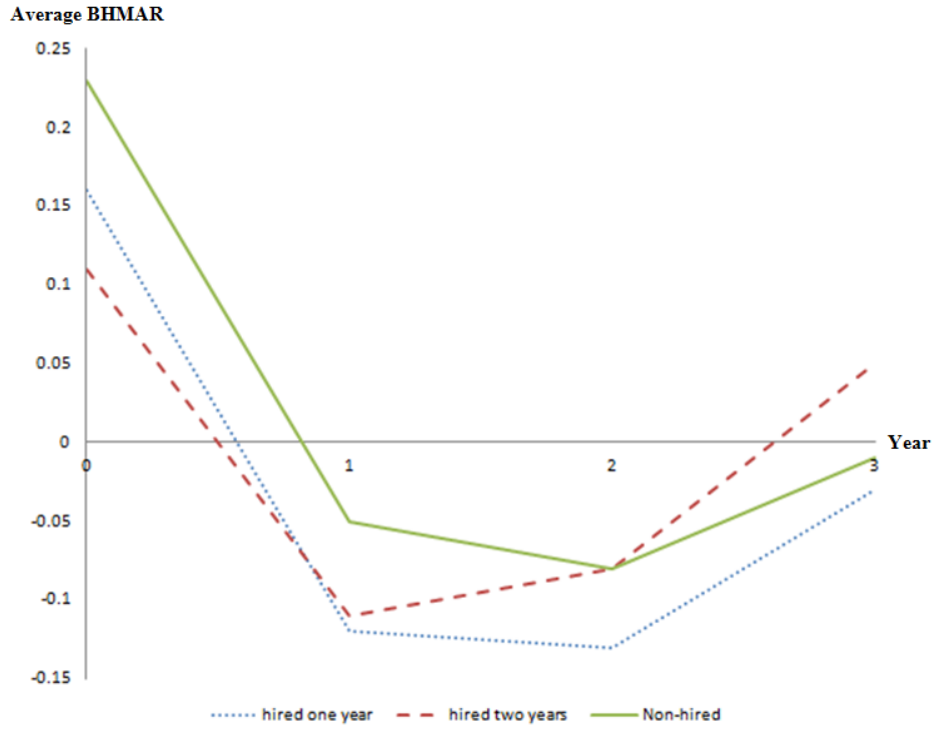


Figure 1. Average BHMAR for four years

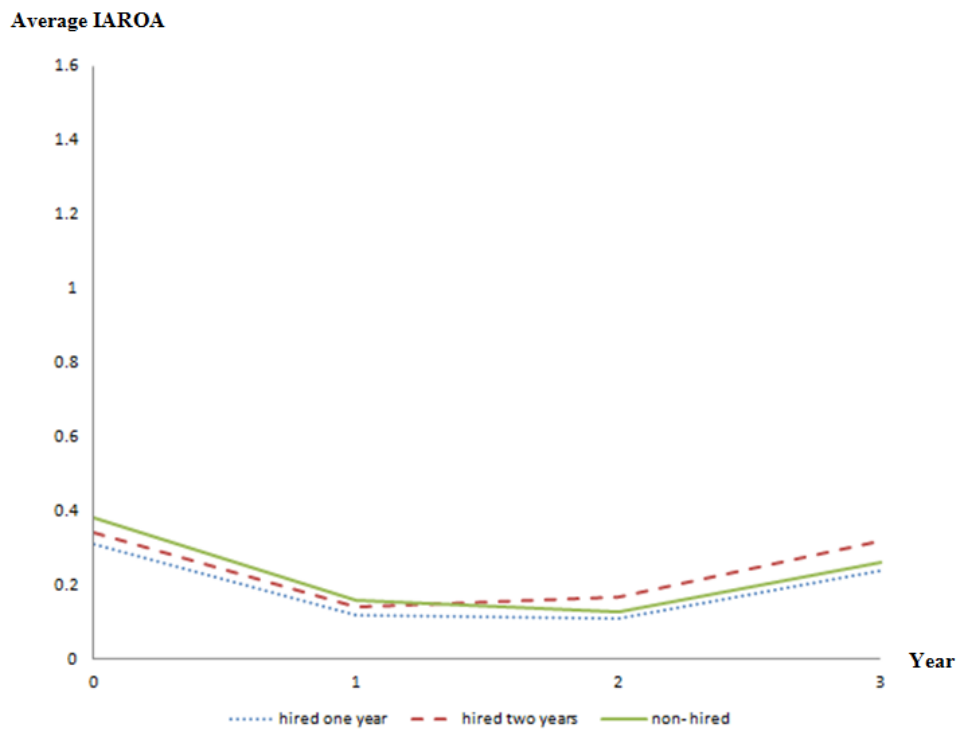


Figure 2. Average IAROA for four years

## **Employment model variables descriptions**

CEO Employment (EMPLOYMENT): This dummy variable measures the continued employment of the target CEOs in the acquirer firms. It equals one if a target CEO is employed in the merged firm after the acquisition, and zero otherwise.

CEO-dominance (CEOD): The measure of CEO-dominance is the ratio of target firm's CEO salary and bonus in the year preceding the merger to the average salary and bonus of other executives listed in the executive compensation section of the Definitive Proxy Statement (DEF 14A). CEOD is calculated one year before the deal for target CEOs.

CEO& Chairman (BOSS): The boss variable controls for CEO/Chairman of the board duality. This dummy variable equals one if a target firm's CEO is also a Chairman of its board in the year preceding the merger, and zero otherwise.

Tenure (TENURE): Tenure is defined as the number of years the target CEOs worked in the target firms before the effective date of the deal.

Insider Beneficial Ownership (INSOWN): Insider ownership is defined as the percentage of common shares of the target firm that the target CEO owned one year before the effective date of the deal.

Tobin's q (Q): According to Chevalier (2004), Tobin's q is measured by the market value of assets divided by the book value of assets. The market value of asset equals the market value of common equity plus the book value of assets less the book value of common equity. The market value of common equity is computed as the closing price per share times the number of shares outstanding of a firm. The data is from COMPUSTAT and the ratio is computed one year before the effective of the deal for both targets (TQ) and acquirers (AQ), respectively.

Q ratio (QR): Q ratio is a ratio of target Tobin's q to the acquirer Tobin's q. This variable measures the relative difference of the target q and acquirer q.

Firm size (SIZE): Size is defined as the logarithm value of the book value of asset of a firm. The size variable is measured as of one year before the effective of the deal for both targets (TSIZE) and acquirers (ASIZE), respectively.

Size ratio (SIZER): Size ratio is a ratio of target firm size to the acquirer firm size. This variable measures the relative difference of the target firm and acquirer firm size.

Education (EDU): Dummy variable education is a measure of target CEO's education background, and equals one if a CEO has an MBA degree, and zero otherwise.

Standard Industrial Classification (SIC): Dummy variable SIC measures the

difference between the target firm industry and acquirer firm industry. It equals to one if the target firm and acquirer firm are from the same industry (the same 4 digit SIC code), and zero otherwise.

CEO Age (AGE): CEO age is the age of a target CEO one year before the effective date of the acquisition.

Offer price premium as percentage of the stock price 4 weeks before the deal announcement (PREMIUM): We use this variable to measure the benefit that the target CEOs obtain for their shareholders when negotiating with the acquirer firms.

Payment Method (PAYMENT): Dummy variable PAYMENT measures the percentage of different payment methods (stock payment, cash payment, and other payments) that the acquirer firms used to target firms. It equals one if the percentage of stock payment is the largest, and zero otherwise.

Stock Payment (PAYMENT\_STOCK): Dummy variable PAYMENT\_STOCK equals one if the payment is 100% stock, and zero otherwise.

Cash Payment (PAYMENT\_CASH): Dummy variable PAYMENT\_CASH equals one if the payment is 100% cash, and zero otherwise.

## **Performance model variable descriptions**

Return on equity (ROE): Return on equity is defined as the ratio of net income to the shareholder's equity of a firm. ROE is a measure of a firm's profitability and it demonstrates the level of profit a company generates with the money invested by its shareholders. We use variable ROE as a measure of management efficiency. The data is from COMPUSTAT and the ratio is computed one year before the effective date of the deal for both target firms (TROE) and acquirer firms (AROE), respectively.

Growth (GROWTH): Growth of a firm is defined as the annual rate of change in the firm's net sales. The net sale data is from COMPUSTAT and is computed one year before the effective date of the deal for both targets (TGROWTH) and acquirers (AGROWTH), respectively. (For example, consider an acquisition effected in the year 2000. The sales data of the year 1999 and 1998 are used to compute the rate of sales change for the year 1999). The unit of measurement of the sales growth variable is percent per year.

Liquidity (LIQUIDITY): Liquidity is defined as the ratio of the net liquid assets of a firm to its total asset. The net liquid assets are computed as the cash plus the marketable securities less the current liabilities. The data is from COMPUSTAT and the ratio is computed one year before the effective date of the deal for both targets (TLIQUIDITY) and acquirers (ALIQUIDITY), respectively.

Leverage (LEVERAGE): Leverage is defined as the ratio of total debt to total assets of a firm. The total debt is computed as the total assets less the share holder's equity of a firm. The data is from COMPUSTAT and the ratio is computed one year before the effective date of the deal for both targets (TLEVERAGE) and acquirers (ALEVERAGE), respectively.

CEO Employment<sub>1</sub> (EMPLOYMENT<sub>1</sub>): This dummy variable measures the continued employment of the target CEO in the merged firm. It equals one if a target CEO is employed in the acquirer firm after the acquisition for only one year or less, and zero otherwise.

CEO Employment<sub>2</sub> (EMPLOYMENT<sub>2</sub>): This dummy variable measures the continued employment of the target CEO in the merged firm. It equals one if a target CEO is employed in the acquirer firm after the acquisition for at least two years, and zero otherwise.

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