Family Involvement, Inside Debt, and Geographic Distance of Acquisitions: Evidence from the U.S.

By

Sihan Qi

A Thesis submitted to the Faculty of Graduate Studies of

The University of Manitoba

in partial fulfillment of the requirements of the degree of

MASTER OF SCIENCE

Department of Business Administration

Faculty of Management

University of Manitoba

Winnipeg

Abstract

This study investigates the joint effects of family involvement and CEO's inside debt on firm's decisions on acquisitions, especially on the geographical distance between the acquirer and target. The empirical findings indicate that family firm tends not to choose long-distance acquisitions for the sake of preservation of its socio-emotional wealth, and that family firm is less likely to set debt-like compensation in CEO's incentive compensation package. More interestingly, while firms offering more inside debt to their CEOs tend to acquire targets far from their headquarters in general, this effect is weakened by family involvement.

Keywords: family involvement, inside debt, acquisitions, geographical distance

Acknowledgement

First, I would like to express my deep appreciation and gratitude to my advisor, Dr. Zhenyu Wu, who has offered patient advice and guidance throughout the entire process of my thesis, and helped me all the way through the master program. Working with Professor. Wu has been an absolute pleasure. His compassion and knowledge is such an inspiration to me. It has been a wonderful experience working with him. I would also like to thank my committee members, Dr. Steven Zheng, Dr. Victor Cui, and as well Dr. Depeng Jiang for all their guidance and suggestions to this project.

In a similar vein, I would like to thank Jialong Li, Yulin Shi, Yefeng Wang, Yuan Wang and Zulfiquer Haider for the contributions that each of them made during my research as they collected the request data for my research and offered advice. Especially, I would like to thank my closest friend Xiaoping Song who makes my life and academic career sprinkled in this three years study in University of Manitoba.

Finally, I would like to thank the support and encourage from my parents, grandfather and my fiancé. They give me confidence to face all the challenges and motivate me to be a better one.

Table of contents

Abstract……..…….…I

Acknowledgement……...…...II

List of tables……..…...IV

CHAPTER ONE: INTRODUCTION…….……..……1

CHAPTER TWO: THEORETICAL FRAMEWORK AND HYPOTHESES ……..3

2.1 Family Business and Long Distance M&As ……...3

2.2 CEOs Inside Debt in Family Firms ……...…..6

2.3 CEO Inside Debt and Long-Distance M&As ……..…8

CHAPTER THREE: METHODOLOGY……10

3.1 Data ……...10

3.2 Variable …….…….……...11

3.3 Model …….....……..13

CHAPTER FOUR: EMPIRICAL RESULTS AND DISCUSSION……..…….13

CHAPTER FIVE: ROBUSTNESS CHECK……...……16

5.1 Endogeneity ……..…16

5.2 Selection Bias ……..…..…17

5.3 Outliers …….……..…18

CHAPTER SIX: CONCLUSION ……..…….18

References……21

List of tables

Table 1 Variable definitions……...……..25

Table 2 Distribution of acquisition deals according to years and industries…….....….26

Table 3 Summary statistics and variable correlations……..27

Table 4 Descriptive statistics of the subsamples……..28

Table 5 Family firms and CEO inside debt vs. long-distant M&As……...……29

Table 6 CEO inside debt and long-distant M&As……...…….....30

Table 7 CEO inside debt and long-distant M&As in subsamples……31

Table 8 Family firms and CEO inside debt……..32

CHAPTER ONE: INTRODUCTION

Majority of studies aiming to explore the relation of managerial compensation and firm risk-taking behavior primarily focus on the equity-based bonus and stock option. However, several recent studies (Phan, 2014; Sundaram and Yermack, 2007; Wei and Yermack, 2011) indicate that managerial inside debt in the forms of deferred compensation and pension obligation owned by the company takes up a large portion of their total compensation and should also provide the managers incentive to run the firm on behalf of outside creditors since the inside debt is unsecured and unfunded (Phan, 2014). Thus, CEOs with more inside debt may prefer less risky investment to avoid the bankruptcy risk. For instance, Phan (2014) observe that firms with higher level of managerial inside debt are less likely to invest in risky projects such as mergers and acquisitions. Family firms are perceived to behave differently from their non-family counterparts as family can exert its influence on firm management and governance to realize its own goal such as long-term survival (Le Breton-Miller and Miller, 2006) and socio-emotional wealth preservation (Chrisman and Patel, 2012; Gómez-Mejía, Haynes, Núñez-Nickel and Monyano-Fuentes, 2007; Gomez-Mejia, Makri and Larraza-Kintana, 2010). As a result, family firm is less likely to pursue risky investment and the family involvement might substitute the CEO inside debt to restrict firm risk-taking behavior. To the best of our knowledge, however, there is almost no study so far investigating how the CEO inside debt affects firm risk-taking behavior in family firm.

In this study, we examine the influence of CEO inside debt on corporate long-distance acquisition and investigate whether the effect will be different in family and non-family firms. Rather than focusing on the likelihood of acquisition which is viewed as a risky corporate investment, we investigate the geographic distance between acquirer and target in acquisition. On one hand, a longer geographic distance is positively related to the information asymmetry and less flow of “soft information” (Knyazeva and Knyazeva, 2012; Landier et al., 2009;

Petersen, 2004), resulting in more obstacles in target firm valuation and post-acquisition integration (Coff, 1999; Cuypers et al., 2016; Reuer and Ragozzino, 2012; Reuer, Tong and Wu, 2012). On the other hand, long distance can bring the diversification benefits due to a broader customer base, local profitable market and information sharing (Deng and Elyasiani, 2008; Meslier et al., 2016). By using a sample of 1,980 acquisition announcements made by S&P500 firms in the U.S., we find that CEOs with more inside debt chase acquisitions that are farther to their headquarters since an acquisition itself already introduces extra risks to firm and geographic diversification can alleviate the risk concern, which is in alignment with the interests of external creditors. However, family firms are not willing to go for long-distance acquisition even CEOs have more inside debt as long-distance acquisition may impose hazard to family socio-emotional wealth (SEW). In addition, CEOs in family firms are less likely to receive the private gain originated from the greater information asymmetry between acquirer and target with longer geographic distance. For instance, CEOs can bid a higher price or choose the suboptimal target to ensure the success of acquisition and increase the firm size, which is directly linked to their compensation. In the meantime, however, monitoring in family firm is expected to be more intensive and efficient; this restricts the CEOs potential opportunistic behavior that benefits CEOs at the expense of the shareholders.

Findings of this study are expected to contribute to the literature in the following respects. First, we are among the first to explore the family firm attitude towards the geographic distance in acquisition and provide additional evidence that preservation of socio-emotional wealth (SEW) is priority for family firm to make strategic choice although it endangers firm performance and benefits of other stakeholders. Second, we extend the family management literature by examining the influence of CEO's inside debt on corporate risk-taking behavior in family firms. Our findings suggest that setting inside debt as part of compensation package might not be efficient in family firm to alter the CEOs incentive since

family still plays a dominate role in firm operation and influences the firm management team to realize the family goal. Therefore, this research adds to the corporate finance literature in the lenses of SEW of family firms by shedding light on the impacts of family goals, as well as by identifying a new path of debt-like CEO compensation through which family involvement impacts firm's decision on acquisition. Third, practitioners may benefit from this study because it pinpoints the moderating roles played by family involvement in the effects of CEO compensation on firm's risk-taking behaviors.

The remainder of the paper proceeds as follows: Section 2 reviews the related literature and proposes three hypotheses, and Section 3 provides the description of our sample, variables and models. The empirical findings from regression analysis are presented in Section 4, followed by Section 5 in which we report the results of robustness check by controlling the endogeneity, selection bias and outliers. Finally, Section 6 concludes the research and suggests future research directions.

CHAPTER TWO: THEORETICAL FRAMEWORK AND HYPOTHESES

2.1 Family Business and Long Distance M&As

It is well documented that family involvement has great impact on corporate merger and acquisition activities in terms of firm valuation, post-acquisition performance and managerial compensation (De Cesari et al., 2016; Granata and Chirico, 2010; Miller et al., 2010; Shim and Okamuro, 2011). However, family firms themselves are found to have lower propensity for acquisitions due to their desire for less business risk (Boellis et al., 2016; Miller et al., 2010). In addition, if the acquisitions are cross-border, the unfamiliar business, cultural and legal environment could introduce more country specific risks and create difficulties for family acquirers to integrate after acquisition. Even the acquirer and the target are in the same country; the geographic distance between two parties can also be unfavorable to the

acquirer as greater information asymmetry takes more time and efforts to deal with acquisition process (Bick et al., 2017). Thus, this section is intended to explore and explain the family firms' attitude towards the long-distance M&As with both traditional agency theory and behavior agency theory.

Agency theory perspective

Traditional agency theory predicts that the CEOs are able to behave opportunistically at the expense of the shareholders. When firm has dispersed ownership structure, the numerous owners lack the incentive and power to monitor their managers. Acquisition is one of the tools that reward the managers at the expense of owner since CEO's compensation can be substantially increased by running a larger firm as result of acquisition (Kroll et al., 1990; Miller et al., 2010; Wright et al., 2002). Thus, to ensure the success of acquisition, managers may select a suboptimal target that does not maximize the synergy benefits or even overpay for the target through free cash flow (Miller et al., 2010). The potential agency cost can be even larger when there is longer geographic distance between acquirer and target. Geographic distance reduces the inflow of "soft information" (Bick et al., 2017; Landier et al., 2009) and generates greater information asymmetry, making the acquirer harder to evaluate the target companies and which in turn making it more difficult for owners to monitor and assess the managers performance during the acquisition process and creating more potentials for managerial private gains. However, in the presence of family involvement in the acquirer firms, better monitoring from family owners is anticipated. In addition, family control and influence on management decision-making can effectively inhibit the managerial opportunistic behavior, especially when family members are actively involved in firm management and governance. Therefore, CEOs in non-family firm are more likely to engage in long-distance acquisition to increase their compensation, as the greater information asymmetry impede the owners for effective monitoring and evaluation (Duru and Reeb,

2002). In contrast, CEOs in family firm experiencing intensive and effective monitoring from family owners are in favor of proximate target with less efforts and time input.

Behavior agency theory perspective

Although the inference of agency theory may also apply to firms with other types of concentrated ownership (block holders) in terms of agency cost and monitoring, family concern of "socio-emotional wealth" preservation (Gomez-Mejia et al., 2007) can also and even keep the acquirer away from long-distance acquisition. Socio-emotional wealth (SEW) is related to the family controlling position in its company and includes the non-financial wealth such as enjoyment of family influence and family reputation (Berrone et al., 2012). Preserving family SEW is the priority for family firm when it makes strategic choice even though the action may lead to financial loss or firm risk increasing (Berrone et al., 2012; Gómez-Mejía, Haynes, Núñez-Nickel and Monyano-Fuentes, 2007; Gomez-Mejia, Makri and Larraza-Kintana, 2010). Gomez-Mejia et al. (2007) provide empirical evidence by reporting that family-owned olive oil mills will not join the cooperatives although co-op can largely reduce their individual risks. Rather, they will keep decision making right within the family and choose to be independent. Likewise, long-distance acquisition may impose hazard to family SEW even though geography diversification in acquisition may reduce the firm risk. First, longer distance creates obstacles for family governance and monitoring in its target company after acquisition. Especially, when family acquirer have to keep or assign non-family members to replace the existing management team in target firm, weakening the family influence over the new business unit. Geographic distance is associated with culture difference and brings the barrier for acquirer to access the soft information (Bick et al., 2017), exerting more challenges for integration after acquisition. As a consequence, unsuccessful integration might undermine the close relationships with other stakeholders or even harm the firm performance and reputation (Miller et al., 2009, 2010). Besides, long-distance

acquisition requires more time and efforts to complete the deal and post-acquisition integration, distracting the manager's attention on firm core business and incurring additional indirect cost. Thus, we propose:

Hypothesis 1a: Compared to their non-family counterparts, targets acquired by family firms are more geographically distant from the latter.

In general, family firms are perceived to be long term oriented and strive to minimize their business risk without SEW loss (Chrisman and Patel, 2012; Le Breton-Miller and Miller, 2006). The risk aversion is even stronger when family members are actively engaged in firm management, as they are less likely to exit the firm for new job. Family involvement in top management can better exert family influence over the company and realize the family goal (SEW preservation) through its own participation. However, agency cost can be largely reduced by appointing family members in top management team as family will face less information asymmetry for firm operation and restrict the potential managerial opportunistic behavior. Thus, CEOs in firms with family involvement in management are not in favor of distant acquisition, which requires large amount of time and efforts input for great information asymmetry because they may not be able to extract private gain from acquisition. Instead, they will choose the target with shorter geographic distance to avoid any risk and loss related to information asymmetry.

Hypothesis 1b: Among family firms, targets acquired by firms with family involvement in top management team are geographically distant from the latter.

2.2 CEOs Inside Debt in Family Firms

Equity-based compensation such as stock option or warrant is designed to alleviate potential agency cost and to motivate managers to maximize shareholder wealth. As a result, managers have incentives to pursue risky projects that jeopardize the outside creditor's benefit. The "risk-shifting" problem reflects the potential agency cost of debt. Jensen and

Meckling (1976) note that CEOs may have "debt-like compensation" components, such as deferred compensation and pension, in their salary package. As such "inside-debt" holdings of CEOs are generally unsecured, they are exposed to a default risk similar to that faced by creditors. Thus, CEOs with large portion of debt in their compensation are expected to manage the firm on behalf of debt holder, resulting in less asset substitution and payout problems. Phan (2014) point out that CEO's inside debt holdings lower firm's risk. Fang, and Gong (2014) even find that bond yield spread is reduced if CEO has inside debt. When CEO's inside debt value outweighs that of his equity holdings, CEO is more likely to manage the firm in the interest of debt holders and transfer the value from equity to debt (Wei and Yermack, 2011).

Family firms aiming at longevity prefer less risky strategies that ensure firms' long-term survival instead of profit maximization (Le Breton-Miller and Miller, 2006; Morck and Yeung, 2003). Indeed, Family firms are found to care more about their long-term relationship with their stakeholders including customers and creditors and are motivated to avoid the managerial behavior that benefits the shareholders at the expense of other stakeholders (Bingham et al., 2011; Brickson 2005, 2007). Dyer and Whetten (2006) claim that family firms can be viewed as an extension of their families, as a result they are likely to care corporate social responsibility to please their stakeholders. Therefore, family firms are not necessary to set inside debt in managerial compensation package to align the CEO's interest with those of outside creditors. Rather, family can exert its influence on firm management and substitute the CEO's inside debt to avoid the corporate risky investment and facilitate its long-term existence, which is consistent with the goal of external debt holders. Hence, our second hypothesis is described as follow:

Hypothesis 2a: Compared with their non-family counterparts, family firms have less

inside debt as compensation.

When family member plays a more important role such as management or governance in the firm, family is more efficient to exercise the family power and maintain its influence to protect family SEW (Gomez-Mejia et al., 2007). Meanwhile, the family tie makes family members working in the firm less likely to quit the company for other job opportunities and more likely to have aligned interest with its family which focuses on long-term survival through pursuing less risky projects. Thus, family members are motivated to influence the CEOs for their family interests and endure the good relationship with all the stakeholders. As a result, "risk shift" problems are less likely to be observed when family member takes the management position. So we may expect even less inside debt in CEOs' compensation to alleviate the agency conflict between shareholders and debt holders when family is actively involved in firm management.

Hypothesis 2b: Among family firms, firms tend to have a lower level of inside debt holdings if family members are actively involved in firm management.

2.3 CEO Inside Debt and Long-Distance M&As

Long-distance acquisition hinders acquirer to access the information of target firm, exposing acquirer to greater information asymmetry risk. It can reduce the potential gain of acquirer from acquisition activities by paying higher premium (Bick et al., 2017). The high level of information asymmetry also leads to more obstacles in post-acquisition integration and requires more managerial efforts and time, which should be input in firm core business, negatively impacting firm performance. Besides, ongoing challenge of management across longer geographic distance is also risk concern (Berry et al., 2010). However, distant acquisition can bring the geographic diversification benefits because it broadens the firm's customer base to national wide and ensure the access to local profitable market and information sharing (Deng and Elyasiani, 2008; Meslier et al., 2016). Deng and Elyasiani

(2008) report that Bank holding company with geographic diversification will have higher value and lower overall risk. Goetz et al. (2016) provide additional evidence that geographic expansion reduces the bank's exposure to idiosyncratic local risks and ultimately lowers the overall risk level. In terms of non-financial companies, Qian et al. (2010) find that only geographic diversification focusing on intra-regions that share similar culture and business environment can lead to better firm performance. Regardless of the geographic distance between bidding company and target firm, acquisition itself is risky corporate investment with uncertain net present value and exposes CEOs to a greater amount of human capital risk (financial distress or bankruptcy affects CEOs reputation in job market) since CEO could be fired (Lehn and Zhao, 2006) and the firm can even become the takeover target due to the bad performance in acquisition (Croci and Petmezas, 2015; Mitchell and Lehn, 1990). Thus, firms with intention for acquisitions might adopt the strategy that lessens the overall risk of acquisition project such as diversification. Amihud and Lev (1981) pinpoint that firm will have lower risk if acquisitions are diversifying. Phan (2014) also argue that the coinsurance effect of diversifying acquisition is beneficial to the bondholders. In addition, he finds that inside debt is positively related to diversifying acquisition. In essence, long-distance acquisition might suffer greater information asymmetry risk and harm the firm performance in acquisition and post-acquisition integration and management; However, long-distance can bring benefits from geographic diversification and reduce the firm overall risk, which is consistent with the goal of external creditors. Therefore, CEOs with more inside debt might chase the geography diversifying acquisition to alleviate firm risk concern.

As discussed earlier, long-distance acquisition may impose loss to family socio-emotional wealth (SEW) and family firm has priority to preserve its SEW even it has to make strategic choices that intensify firm business risk or harm corporate performance (Berrone et al., 2012). Gómez-Mejía et al. (2007) indicate that family-owned olive oil mills

will not diversify their risk through cooperation but tend to be independent for family control. Likewise, Gomez-Mejia et al. (2010) report that family-controlled firms usually diversify less both domestically and internationally even though the risk level can be largely reduced. Thus, to avoid the loss of socio-emotional wealth family firm may not want to take the long-distance acquisition even it can bring the geography diversification benefits. So we have the third hypothesis as follow:

Hypothesis 3: Targets acquired by firms whose CEOs have more inside debt are more geographically distant from the latter, but the positive effect is attenuated in family firm.

CHAPTER THREE: METHODOLOGY

3.1 Data

The construction of our sample started from the list of S&P 500 firms in 2003 and Business Week (2003) identifies 177 family firms among them. Based on this firm list, we collected 4,015 cases with intention of acquisition[1] in the SDC M&A database from 2003 to 2014[2]. Further, we obtained the information of CEO inside debt including accumulated pension benefits and aggregate deferred compensation from ExecuComp, which also reports the CEO holding of firm equity and stock options. Further, we manually collected the data of geographic distance between acquirers and targets on Google Map and extracted the information of family involvement in firm management from proxy statements (DEF 14A) and annual reports (10-k) disclosed by the U.S Securities and Exchange Commission (SEC). Other firm level information was achieved from Compustat and CRSP. Our sample size is jointly determined by the information available in the aforementioned the SDC M&A, ExeuComp, Compustat and CRSP databases. We also removed financial and utility companies from the firm list. Ultimately, we identify 1,980 cases with acquisition

[1] If firm have multiple announcements to acquire the same target, we only count the first one.
[2] ExecuComp starts to provide the inside debt of executives from 2006, so we construct our variables from 2003 to 2014 since we need past 3 years information to predict the firm volatility and average salesgrowth.

announcement in the sample period of 2006[3]-2014, 1,087 of which are for non-family firms and 893 for family firms.

3.2 Variable

Acquisition distance (Distance or Dif_state)

Geographic distance between acquirer and target implies the potential risk related to information asymmetry and the benefits of diversification. We gauge the acquisition distance by the following two ways. First, we use the Google Map to record the miles between the headquarter of acquirer and that of target and take the natural logarithm of them for normality issue. Second, we create a dummy indicator to specify whether acquirer and target are in the same state in US since the flow of "soft information" might be circulated in local business environment and decrease the information asymmetry level.

CEO inside debt (CEO_DE or logCEO_DE)

While stock-based compensation can stimulate CEO to manage the firm for the best interest of shareholders, debt-based part in compensation pack should also influence the CEO incentive in firm management. To measure the CEO incentive, we follow Bennett et al. (2015) and construct our CEO inside debt proxies with a ratio of CEO debt/equity holding and natural logarithm of that ratio. The CEO debt holding owned by the firm consists of pension obligations and deferred compensation (Sundadram and Yermack, 2007), which can be directly achieved from ExecuComp database. For CEO equity holding, we calculate both the CEO equity and stock option value. Following Cassell et al. (2012) and He (2015), we adopt the Black-Scholes model to price options including both exercisable and unexercisable.

Family firm and family management (*Fam_firm and Fam_man*)

Business Week (2003) provides a list of family firm in S&P 500, of which 177 firms are identified as family firms. Similar to Anderson and Reeb (2003), Business Week (2003)

[3] ExecuComp starts to provide the inside debt of executives from 2006.

defines the family firm by considering any companies either with family involvement in firm management (family members hold positions in top management team), with family involvement in firm governance (family members hold positions of board director) or with large amount of stock ownership. In addition to our dummy indicator (*Fam_firm*) that distinguishes the family and non-family firms, we also use dummy variable (*Fam_man*) to capture the heterogeneity within family firm. *Fam_man* is denoted as 1 if there is at least one family member in firm top management team and 0 otherwise.

Other Control variables

Consistent with previous literature (Bennett et al., 2014; He, 2015; Phan, 2014; Sundaram and Yermack, 2007;), we employ the following variables to control the firm-level and CEO-level characters. *CEO_age* records the age of current CEO and *CEO_tenure* is the number of months between the date that person assumes the CEO position and the observation's fiscal year end. For firm level, *MB_ratio* represents the firm market to book ratio of equity. *Cash* is the firm cash holding scaled by total assets. *Size* is computed by taking nature logarithm of total sales and *leverage* refers to the ratio of total debt to market equity. Firm operating performance is measured by return on assets (*ROA*) and sales growth (*Salesgrowth*) while capital expenditure (*Capex*) is the total expense on property, plant and equipment scaled by total assets. In addition, to control the current firm risk level, we predict the firm stock beta (Firm_beta) by using the market model based on 3 years (previous 36 months) rolling window. Since acquisition across industry can also bring the diversification benefits, we document this effect in *Same_ind* which specifies whether acquirer and target are in the same industry according to the first two digits of their SIC codes. Finally, we control the target private/public status with a dummy indicator (*Private*). The detailed description for variable definition and computation is in Table 1.

[Insert Table 1 about here]

3.3 Model

The following equations are adopted to test our hypotheses. Specifically, Equation (1) is to examine the family attitude towards long-distance acquisition and Equation (2) is designed to investigate CEO inside debt holding in family firms and firms with family involvement in management. Our last Equation (3) is to analyze the relationship between CEO inside debt and long-distance acquisitions. Besides, we employ the same equation to see whether the aforementioned relationship will be different between family and non-family firms.

$$Distance_{it} or\ Dif\_state_{it} = \beta_1 + \beta_2 Fam\_firm + \beta_3 contols + \varepsilon \quad (1)$$

$$CEO\_DE_{it} = \beta_1 + \beta_2 Fam\_firm + \beta_3 contols + \varepsilon \quad (2)$$

$$Distance_{it} or\ Dif\_state_{it} = \beta_1 + \beta_2 CEO\_DE_{it} + \beta_3 contols + \varepsilon \quad (3)$$

All the variables are wisorized at 1% and 99% before the empirical analysis.

CHAPTER FOUR: EMPIRICAL RESULTS AND DISCUSSION

Table 2 presents the distribution of acquisition announcement in our sample across years and industries. As suggested in Panel A, the number of acquisition announcement is quite constant over time while it reaches the peak during the financial crisis with 301 announcement and drops to around 200 ever after. However, we do observe the clustering phenomenon of acquisition in high technology industry in Panel B as 742 acquisition announcements are made in technology industry, taking up more than 37% of total sample deals.

Insert Tables 2 about here

Table 3 reports the descriptive results and correlations of our key variables. On average, the geographic distance between acquirer and target is around 374 miles (log374=5.92) and more than 77% of acquirers are looking for the targets outside their own state. Family firms and non-family firms have 1093 and 897 announcements respectively. In addition, Firms

with family involvement in management only have 274 announcements. The average (median) CEO debt/equity ratio is 0.35 (0.141), close to 0.322(0.132) in Phan (2014) and 0.37 (0.09) in Bennett et al. (2015). The acquiring companies are quite overvalued around the acquisition announcement with average MB ratio at 3.7 and have positive operating performance with the average ROA of 0.078. In terms of target companies, more than 60% of them are privately held. In terms of correlation matrixes, we do find negative and significant correlation between family firm and acquisition distance and significantly negative relation between family firm and CEO inside debt, providing initial support for our hypotheses 1 and 2. Further, we observe a positive relationship of CEO inside debt and geographic distance in acquisition, suggesting that CEO's inside debt holdings align the interests of CEO and debt holders and also prompt CEO to choose geography diversifying acquisition to mitigate the risk concern.

Insert Table 3 about here

In Table 4, we compare the descriptive statistics between subsamples of family and non-family firms. On average, non-family firms intend to acquire the targets outside their own state with around 132 miles further away compared with the distance between family acquirer and target. Besides, non-family acquirers are more likely to have inside debt in their CEOs compensation package. In Table 4, we also do the comparison within the family firms by looking at whether family members are actively engaged in firm management. As expected, there are considerable heterogeneities among those family firms. If family members take the position in top management team, CEOs will have lower level of inside debt. Consequently, those firms will tend to acquire the firm that is geographic proximate to acquirer's headquarter or located in the same state. In addition, firms with family involvement in management tend to be slightly smaller and exhibit higher cash holding and leverage.

Insert Table 4 about here

Column (1) and (2) in Table 5 exhibit our regression results towards our hypothesis 1a in full sample. The significant and negative coefficient in first column suggests that family firms are less likely to choose the target companies that are far away from acquirer's headquarter. Consistently, they are also less likely to engage in outside state acquisition. Column (3) and (4) report the result for our family firm subsample where we intend to investigate the influence of family involvement in firm management. Still, the significant coefficients are negative at -0.420 and -0.567, indicating that family firm will be even less likely to pursue the long-distance acquisition if there is at least one family member working in the top management team. Thus, our empirical results support the hypotheses 1a and 1b. Column (4) to Column (8) in Table 5 present the results associated with the relationship between family firm and CEO inside debt. Family firm is expected to have lower CEO inside debt since family can exert its influence on firm management and governance and do not necessarily set the inside debt for CEO package to alter his/her incentives. Indeed, the coefficients in Column (5) and (6) are negative and significant. However, when we turn to look at the family subsample in Column (7) and (8), we do not obtain the same results, suggesting that family involvement in firm management does not make any difference in CEO inside debt among those family firms. Therefore, our regression results are only supportive towards hypothesis 2a that family influence can substitute CEO's inside debt to alleviate corporate risky investment concern and leads to less CEO's inside debt in family firm, but the results do not confirm hypothesis 2b.

Insert Table 5 about here

Long-distance acquisition might bring the geography diversification benefit and alleviate the risk concern, which is in line with the interests of external creditors. Therefore, the CEO with higher level of inside debt will manage the firm on behalf of those creditors

and are more likely to make the long-distance acquisition. The related regression results are reported in Table 6. In general, the coefficients are consistently significant and positive for all our alternative proxies of geographic distance and CEO inside debt, indicating the benefits of geography diversification on firm risk reduction. Avoiding the loss of family socio-emotional wealth is the priority for family firms to make the strategic choice even it results in financial wealth loss and risk increasing (Berrone et al., 2012; Gómez-Mejía, Haynes, Núñez-Nickel and Monyano-Fuentes, 2007; Gomez-Mejia, Makri and Larraza-Kintana, 2010). Hence, long-distance acquisition might not be the best choice of family firm even it can reduce the firm risk and boost firm performance. To examine this hypothesis, we conduct regression analysis for family and non-family subsamples and display the results in Table 7 where the results from Column (1) to Column (4) are for family firms and those from Column (5) to (8) are for non-family counterparts. Consistently, the coefficients for family firms are not significantly different from 0 except that in Column (4) with p value close to 0.1. In contrast, the coefficients for non-family firms are all significantly positive with p value less than 0.01. In addition, we conduct Chow test for each group of sub-samples and find significant difference between the coefficients of family and non-family firms. Thus, we confirm our third hypothesis that CEOs with higher level of inside debt holdings tend to chase acquisition that are far from their headquarters only in non-family firm while family firms will not choose the long-distance acquisition in order to preserve family socio-emotional wealth although CEOs have greater amount of inside debt in their compensation package.

Insert Tables 6 and 7 about here

CHAPTER FIVE: ROBUSTNESS CHECK

5.1 Endogeneity

The potential positive relationship between CEO inside debt and acquisition distance

could be driven by unobservable firm information or CEO attributes that we do not have access to, so we adopt a two-stage instrumental regression analysis to alleviate the endogeneity issue. Following He (2015), we employ the state individual income tax rate (wage_tax) and mortgage subsidy rate (mort_sub)[4] as instrumental variables for our first stage and use the predicted CEO inside debt in the second stage. Table 8[5] reports the results for our full sample and indicates that our conclusion is still hold after controlling the endogeneity issue. The coefficients from Column (3) and Column (4) are significantly positive, confirming that CEO's inside debt holdings align the interests of CEO and debt holder and impels CEO to pursue the acquisition with geographic diversification. Similarly, we also implement 2SLS analysis[6] for family (Column (5)- (6)) and non-family ((Column (7)- (8)) subsamples. The positive and significant coefficients for non-family sample suggest that the non-family firm will choose the diversifying acquisition to reduce the risk while family firm might not be interested in long-distance acquisition for socio-emotional wealth loss concern.

Insert Table 8 about here

5.2 Selection Bias

Since CEOs in family firms are less likely to have inside debt as suggested in Table 6, our findings for the relationship between CEO inside debt and long-distance acquisition in family and non-family subsamples might be blurred due to the selection bias. For instance, CEO with inside debt in family firm will not choose the diversifying acquisition only because CEO inside debt in family firm is less likely to be observed. To control the tendency of family firm for less or none CEO inside debt, we use the Heckman two-stage model (Heckman, 1979) for further analysis. In first stage, we predict the firms' likelihood for CEO

[4] Both of the two rates are obtained from http://users.nber.org/~taxsim/state-rates/

[5] For space issue, we only report the results related to CEO leverage ratio. But the results are the same when we use natural logarithm of CEO leverage (log(CEO_DE)).

[6] We drop the firm size and leverage from control variables since they have severe collinear problem with the predicted CEO inside debt.

inside debt based on our regression sample and compute the inverse mills ratio, which is introduced in the second stage as additional control variable. The results still support our hypotheses 3 that compared with family firms, non-family counterparts are more likely to conduct acquisition with diversification benefits. Our firm sample is the list of S&P 500 in 2003 and identifies 177 family firms in total. However, the calculation of firms' likelihoods for CEO inside debt should not be restricted in our S&P 500 sample firms. To alleviate the bias issue in predicting CEO inside debt, we re-conduct the first step of Heckman model by using all the possible firms with disclosed information about CEO inside debt in ExecuComp database. Still, our results are supportive to the findings that family firm might not be willing to go for long-distance acquisition to preserve family socio-emotional wealth. For space issue, we do not tabulate our results.

5.3 Outliers

Our previous findings are obtained by winsorizing our key variables at 1% and 99% to alleviate the outliers concern. We also try the 95% winsorizing and re-run all the regressions. The results are almost the same as those with 99% winsorizing. We do not report the table results for space issue.

CHAPTER SIX: CONCLUSION

According to agency theory, debt-like compensation in forms of deferred compensation and pension obligation should alter the CEOs incentive to manage the firm in a way that is in line with the interest of external creditors. Several existing studies (Colonnello et al., 2017; Dang and Phan, 2016; Phan, 2014) provide empirical evidence for this prediction. However, to our best knowledge no research looks at the influence of CEO inside debt on corporate risk-taking behavior in family firm. Our study bridges the gaps in the finance and family business literature by exploring the relationship between CEO inside debt and long-distance

acquisition in family firm. The empirical findings are consistent with behavior agency theory (Berrone et al. 2012; Gomez-Mejia et al., 2007), suggesting that family firm will not choose long-distance acquisition to preserve its socio-emotional wealth even though CEO has a large amount of inside debt. In addition, we observe that family firm is less likely to set debt-like compensation in CEO compensation package as family can exert its power to influence the firm management and governance. As a result, family firm is not necessary to use the incentive tool to align the interest between family and CEO.

Our study provides several avenues for future research. First, our paper focuses on CEO inside debt and the geographic distance between US acquirer and target companies in acquisition. Future research can explore the cross-border acquisition in family firms by considering the culture distance or business environment distance (the difference between acquirer and target business environment) since international diversification can introduce additional risk associated with unfamiliar business and culture environment, imposing more barriers for family to facilitate its control in target firm during the post-acquisition integration. Yet, international diversification on the other side might contribute to family socio-emotional wealth by extending family reputation to worldwide. Thus, family firm might trade off the diversification benefits and additional risk for cross-border acquisition. Second, compared with the difference between family and non-family firm, the heterogeneity within family firms is also found to have the same level of influence on firm behavior (Chua et al., 2012). Thus, one future direction is to look at the effect of other dimensions of family firm such as family involvement in governance and intergeneration succession plan on long-distance acquisition. Finally, as most research has focused on the inside debt holding of CEOs, scholars can also look at the inside debt level of CFOs who are responsible for corporate financing activities. For instance, Chava and Purnanandam (2010) indicate that CFOs' incentives are the key determinants of corporate decisions requiring financial expertise.

Hence, corporate financing choice can be a reflection of CFO's inside debt holding level and firm current leverage ratio, as bankruptcy risk tends to increase convexly with the debt ratio (Brisker and Wang, 2016).

Reference:

Amihud, Y. & Lev, B. (1981). Risk Reduction as a Managerial Motive for Conglomerate Mergers. *Bell Journal of Economics*, 12(2), 605-617.

Anderson, R. C. & Reeb, D. M. (2003). Founding-Family Ownership and Firm Performance: Evidence from the S&P 500. *Journal of Finance,* 58(3), 1301-1328.

Bennetta L. R., Güntaya L. & Unalb H. (2015). Inside Debt, Bank Default Risk, and Performance during the Crisis, *Journal of Financial Intermediation*, 24(4), 487-513.

Berrone, P., Cruz, C. & Gomez-Mejia, L. R. (2012). Socioemotional Wealth in Family Firms : Theoretical Dimensions, Assessment Approaches, and Agenda for Future Research. *Family Business Review,* 25(3), 258 – 279.

Berry, H., Guillén, M. & Zhou, N. (2010). An Institutional Approach to Cross-national Distance, *Journal of International Business Studies*, 41(9), 1460-1480.

Bick, P., Crook, M. D., Lynch, A. A. & Walkup, B. R. (2017). Does Distance Matter in Mergers and Acquisitions? *Journal of Financial Research*, 40(1), 33-54.

Bingham, J. B., Dyer Jr, W. G., Smith, I. & Adams, G. L. (2011). A Stakeholder Identity Orientation Approach to Corporate Social Performance in Family Firms. *Journal of Business Ethics*, 99(4), 565-585.

Boellis, A., Mariotti, S., Minichilli, A. & Piscitello, Lucia. (2016). Family Involvement and Firms' Establishment Mode Choice in Foreign Markets. *Journal of International Business Studies*, 47(8), 929-950.

Brickson, S. L. (2005). Organizational Identity Orientation: Forging a Link Between Organizational Identity and Organizations Relations with Stakeholders. *Administrative Science Quarterly*, 50, 576–609.

Brickson, S. L. (2007). Organizational Identity Orientation: The Genesis of the Role of the Firm and Distinct Forms of Social Value. *Academy of Management Review*, 32, 864–888.

Brisker, E. R. & Wang, W. (2017). CEO's Inside Debt and Dynamics of Capital Structure. *Financial Management*, *Forthcoming*.

Business Week. (2003). Family Inc.

Cassell, C. A., Huang, S. X., Sanchez, J. M. & Stuart, M. D. (2012). Seeking Safety: The Relation Between CEO Inside Debt Holdings and the Riskiness of Firm Investment and Financial Policies. *Journal of Financial Economics,* 103(3), 588-610.

Chava, S. & Purnanandam, A. (2010). CEOs versus CFOs: Incentives and Corporate Policies. *Journal of Financial Economics,* 97, 263–278.

Chrisman, J. J. & Patel, P. C. (2012). Variations in R&D Investments of Family and Nonfamily Firms: Behavioral Agency and Myopic Loss Aversion Perspectives. *Academy of Management Journal,* 55(4), 976-997.

Chua, J. H., Chrisman, J. J., Steier, L. P. & Rau, S. B. (2012). Sources of Heterogeneity in Family Firms: An Introduction. *Entrepreneurship Theory and Practice,* 36, 1103-1113.

Coff R. W. (1999). When Competitive Advantage Doesn't Lead to Performance: The Resource-based View and Stakeholder Bargaining Power. *Organization Science,* 10(2), 119–133.

Colonnello, S., Curatola, G. & Hoang, N. G. (2017). Direct and Indirect Risk-Taking Incentives of Inside Debt. *Journal of Corporate Finance*, 45, 428-466.

Croci, E. & Petmezas, D. (2015). Do Risk-taking Incentives Induce CEOs to Invest? Evidence from Acquisitions. *Journal of Corporate Finance*, 32, 1-32.

Cuypers, I. R. P., Cuypers, Y. & Martin, X. (2016). When the Target May Know Better: Effects of Experience and Information Asymmetries on Value from Mergers and Acquisitions. *Strategic Management Journal*, 38(3), 609-625.

Dang, V. A. & Phan, H. V. (2016). CEO Inside Debt and Corporate Debt Maturity Structure. *Journal of Banking and Finance*, 70, 38-54.

De Cesari, A., Gonenc, H. & Ozkan, N. (2016). The Effects of Corporate Acquisitions on CEO Compensation and CEO Turnover of Family Firms. *Journal of Corporate Finance*, 38, 294-317.

Deng, S. & Elyasiani, E. (2008). Geographic Diversification, Bank Holding Company Value, and Risk, *Journal of Money, Credit and Banking*, 40(6), 1217-1238.

Duru A. & Reeb M. D. (2002). Geographic and Industrial Corporate Diversification: The Level and Structure of Executive Compensation, *Journal of Accounting, Auditing & Finance,* 17(1), 1-24.

Gomez-Mejia, L.R., Haynes, K.T., Nunez-Nickel, M., Jacobson, K.J.L., & Moyano-Fuentes, J. (2007). Socioemotional Wealth and Business Risks in Family-controlled Firms: Evidence from Spanish Olive Oil Mills. *Administrative Science Quarterly*, 52, 106–137.

Gomez‐Mejia, R. L., Makri, M. & Kintana, M. L. (2010). Diversification Decisions in Family-Controlled Firms, *Journal of Management Studies*, 47(2), 223-252.

Granata, D. & Chirico, F. (2010). Measures of Value in Acquisitions: Family Versus Nonfamily Firms. *Family Business Review,* 23(4), 341 – 354.

He, G. (2015). The Effect of CEO Inside Debt Holdings on Financial Reporting Quality. *Review of Accounting Studies*, 20(1), 501-536.

Heckman, J. J. (1979). Sample Selection Bias as a Specification Error. *Econometrica*, 47(1), 153-161.

Jensen, M. & Meckling, W. (1976). Theory of the Firm: Managerial Behavior, Agency Costs, and Capital Structure. *Journal of Financial Economics,* 3, 305–360.

Knyazeva, A. & Knyazeva, D. (2012). Does Being Your Bank's Neighbor Matter? *Journal of Banking and Finance*, 36(4), 1194-1209.

Kroll, M., Simmons S. A. & Wright P. (1990). Determinants of Chief Executive Officer Compensation Following Major Acquisitions, *Journal of Business Research,* 20, 349-366.

Landier, A., Nair, V. & Wulf, J. (2009). Tradeoffs in Staying Close: Corporate Decision-Making and Geographic Dispersion. *Review of Financial Studies*, 22, 1119-1148.

Le Breton-Miller, I. & Miller, D. (2006). Why do Some Family Businesses Out-Compete? Governance, Long-Term Orientations, and Sustainable Capability. *Entrepreneurship Theory & Practice,* 30(6), 731-746.

Lehn, M. K. & Zhao, M. (2006). CEO Turnover After Acquisitions: Are Bad Bidders Fired? *Journal of Finance*, 61(4), 1759-1811.

Meslier C., Morgan P. D., Samolyk K. & Tarazi A. (2016). The Benefits and Costs of Geographic Diversification in Banking. *Journal of International Money and Finance*, 69, 287-317.

Miller, D. & Le Breton‐Miller. (2009). Agency vs. Stewardship in Public Family Firms: A Social Embeddedness Reconciliation, *Entrepreneurship Theory and Practice*, 33(6), 1169-1191.

Miller, D., Le Breton‐Miller, I. & Lester, R. H. (2010). Family Ownership and Acquisition Behavior in Publicly-traded Companies. *Strategic Management Journal*, 31(2), 201-223.

Mitchell, L. M. & Lehn, K. (1990). Do Bad Bidders Become Good Targets? *Journal of Applied Corporate Finance*, 3(2), 60-69.

Morck, R. & Yeung, B. (2003). Agency Problems in Large Family Business Groups. *Entrepreneurship Theory and Practice, 27(4)*, 367-382.

Petersen, M. A. (2004). Information: Hard and Soft. working paper, Northwestern University

Phan, V. H. (2014). Inside Debt and Mergers and Acquisitions. *Journal of Financial and*

Quantitative Analysis, 49, 1365–1401.

Qian, G., Khoury, A. T., Peng, W. M. & Qian, Z. (2010). The Performance Implications Of Intra- and inter-Regional Geographic Diversification, *Strategic Management Journal*, 31(9), 1018-1030.

Reuer, J. J. & Ragozzino, R. (2012). The Choice Between Joint Ventures and Acquisitions: Insights from Signaling Theory. *Organization Science*, 23(4), 1175–1190.

Reuer, J. J., Tong, T. W. & Wu, C. W. (2012). A Signaling Theory of Acquisition Premiums: Evidence from IPO Targets. *Academy of Management Journal*, 55(3), 667–683.

Shim, J. & Okamuro, H. (2011). Does Ownership Matter in Mergers? A Comparative Study of the Causes and Consequences of Mergers by Family and Non-family Firms. *Journal of Banking and Finance*, 35(1), 193-203.

Sundaram, R. & Yermack, D. L. (2007). Pay Me Later: Inside Debt and Its Role in Managerial Compensation. *Journal of Finance*, 62(4), 1551-1588.

Wei, C. & Yermack, D. (2011). Investor Reactions to CEOs' Inside Debt Incentives. *The Review of Financial Studies,* 24, 3813–3840.

Wright, P., Kroll, M. & Elenkov, D. (2002). Acquisition Returns, Increase in Firm Size, and Chief Executive Officer Compensation: the Moderating Role of Monitoring. *Academy of Management Journal,* 45(3), 599-608.

Table 1 Variable definitions

Variables	Definition
Distance	Natural log of physical distance between the acquirer city and target city.
Diff_state	Dummy variable, it takes the value 1 if the acquirer firm and the target firm are from the different state and 0 otherwise.
Fam_firm	Dummy variable, it equals to 1 if the firm is a family firm and equals to 0 otherwise.
Fam_man	Dummy variable, it equals to 1 if the firm is a family firm with family member working as executive officer and equals to 0 otherwise.
CEO_DE	The ratio is measured as (CEO's pension + deferred compensation)/ (CEO's stock + stock options).
Log(CEO_DE)	Nature log of the variable CEO_DE.
Wage_tax	Nature log of the maximum tax rate for wages.
Mort_sub	Nature log of the maximum mortgage subsidy rate.
CEO_tenure	Number of months that a CEO has held the CEO title at the current firm.
CEO_age	Age of the CEO.
MB_ratio	The market value of assets divided by the book value of assets, where the market value of assets is measured as (the market value of equity + preferred Stock value + debt in current liabilities + long-term debt − deferred taxes and Investment tax credit).
Cash	The amount of cash of the acquirer firm divided by the total assets.
Size	The size of the firm. Calculated as the nature log of the sales.
Leverage	The ratio of (long term debt + current liabilities – account payable) to the book value of the total equity.
ROA	Return of assets, it calculated as the ratio of net income to the average total asset.
Capex	The value of property plant and equipment divided by total assets.
Salesgrowth	The average of the annual sales growth rates of the last 3 years.
Same_ind	Dummy variable, it equals to 1 if the two firms are in the same industry and equals to 0 otherwise.
Private	Dummy variable, it equals to 1 if the target firm is public-owned and equals to 0 otherwise.
Firm_beta	Calculated with market model using three years running window started with 2003.

Table 2 Distribution of acquisition deals according to years and industries

Panel A. Distribution of acquisition deals according to years

Year	Freq.	Percent	Cum.
2006	221	11.16	11.16
2007	301	15.2	26.36
2008	241	12.17	38.54
2009	203	10.25	48.79
2010	204	10.3	59.09
2011	215	10.86	69.95
2012	215	10.86	80.81
2013	198	10	90.81
2014	182	9.19	100
Total	1980	100.00	

Panel B. Distribution of acquisition deals according to industries

Industry	Freq.	Percent	Cum.
Energy	80	4.04	4.04
Materials	149	7.53	11.57
Industrials	351	17.73	29.29
Consumer discretionary	188	9.49	38.79
Consumer staples	106	5.35	44.14
Health care	321	16.21	60.35
Information technology	742	37.47	97.83
Teleservices	43	2.17	100
Total	1980	100.00	

Table 3 Summary statistics and variable correlations

Variables	Mean	S.D.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16	17.
1. Distance	5.928	2.061	1.000																
2. Diff_state	.776	.417	.801***	1.000															
3. Fam_firm	.451	.498	-.086***	-.178***	1.000														
4. Fam_man	.307	.461	-.146***	-.207***	.	1.000													
5. CEO_DE	.355	.584	.082***	.175***	-.190***	-.115***	1.000												
6. Log(CEO_DE)	.245	.310	.108***	.213***	-.243***	-.173***	.967	1.000											
7. CEO_tenure	83.451	79.341	-.024	-.093***	.112***	.418***	-.147***	-.175***	1.000										
8. CEO_age	55.295	6.375	.045**	.075***	-.129***	-.084**	.085***	.118***	.502***	1.000									
9. MB_ratio	3.699	2.823	.036	.046**	-.131***	-.006	.070***	.081***	.014	.060***	1.000								
10. Cash	.099	.079	-.037	-.137***	.077***	.094***	-.130***	-.166***	.123***	.037*	.079***	1.000							
11. Size	9.578	1.266	.033	.060***	-.052**	-.112***	.175***	.223***	.099***	.221***	.116***	-.284***	1.000						
12. Leverage	.273	.412	.024	.099***	-.129***	-.095***	.168***	.166***	-.054**	-.011	-.071	-.247***	.030***	1.000					
13. ROA	.078	.059	3E-04	-.071***	.076***	.045	-.122***	-.104***	.130***	.077***	.279***	.067***	.209***	-.475***	1.000				
14. Capex	.401	.301	.005	.084***	-.155***	-.041	.173***	.208***	-.156***	.107***	-.016	-.309***	.097***	.284***	-.089***	1.000			
15. Salesgrowth	.069	.131	-.024	-.060***	.043*	.026	-.072***	-.082***	.082***	.003	.037*	.010	.096***	-.092***	.199***	-.033	1.000		
16. Same_ind	.501	.500	-.004	-.061***	.091***	.210***	-.086***	-.113***	.056**	-.111***	-.064***	.159***	-.263***	.038*	-.030	-.051**	.066***	1.000	
17. Private	.606	.489	4E-04	-.081***	.061***	.036	-.129***	-.139***	.024	-.029	.067***	.128***	-.038*	-.116***	.133***	-.209***	.010	-.040*	1.00(
18. Firm_beta	1.071	.499	-.069***	-.101***	.104***	.029	-.106***	-.151***	.092***	-.021	-.151***	.205***	-.274***	.198***	-.153***	.017	.049**	-.006	.043*

*** p<0.01, ** p<0.05, * p<0.1

Remark: N=1980, except Fam_man=893.

Table 4 Descriptive statistics of the subsamples

Variable	Nonfamily firms			Family firms			t-test	Family w/o management			Family management			t-test
	Obs.	Mean	S.D.	Obs.	Mean	S.D.		Obs.	Mean	S.D.	Obs.	Mean	S.D.	
Distance	1087	6.089	.057	893	5.733	.075	3.84***	619	5.950	.085	274	5.241	.149	4.40***
Diff_state	1087	.844	.011	893	.694	.015	8.09***	619	.758	.017	274	.551	.030	6.31***
CEO_DE	1087	.455	.018	893	.233	.017	8.58***	619	.271	.020	274	.145	.031	3.44***
Log(CEO_DE)	1087	.313	.010	893	.162	.009	-5.03***	619	.193	.011	274	.092	.015	5.24***
CEO_tenure	1087	75.366	1.669	893	93.291	3.363	-5.20***	619	65.383	2.011	274	156.339	8.875	-13.72***
CEO_age	1087	56.040	.152	893	54.389	.255	5.78***	619	54.814	.242	274	53.427	.623	2.52**
MB_ratio	1087	4.034	.098	893	3.292	.071	5.87***	619	3.301	.087	274	3.272	.123	0.19
Cash	1087	.093	.002	893	.105	.003	-3.42***	619	.101	.003	274	.116	.005	-2.83***
Size	1087	9.638	.040	893	9.505	.039	2.34**	619	9.593	.049	274	9.307	.065	3.37***
Leverage	1087	.321	.013	893	.214	.012	5.78***	619	.237	.016	274	.162	.015	2.85***
ROA	1087	.074	.002	893	.083	.002	-3.39***	619	.081	.003	274	.087	.003	-1.34
Capex	1087	.443	.009	893	.350	.010	6.96***	619	.358	.011	274	.333	.020	1.21
Salesgrowth	1087	.064	.004	893	.075	.004	-1.89*	619	.073	.005	274	.080	.009	-0.79
Same_ind	1087	.459	.015	893	.551	.017	-4.08***	619	.481	.020	274	.708	.028	-6.42***
Private	1087	.579	.015	893	.638	.016	-2.08**	619	.627	.019	274	.664	.029	-1.07
Firm_beta	1087	1.022	.017	893	1.142	.017	-5.00***	619	1.119	.018	274	1.147	.026	-0.88

*** p<0.01, ** p<0.05, * p<0.1

Table 5 Family firms and CEO inside debt vs. long-distant M&As

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	OLS	Logit	OLS	Logit	OLS	OLS	OLS	OLS
Variables	Distance	Dif_state	Distance	Dif_state	CEO_DE	Log(CEO_DE)	CEO_DE	Log(CEO
Fam_firm	-0.229**	-0.411***			-0.090***	-0.065***		
	(0.105)	(0.134)			(0.028)	(0.014)		
Fam_man			-0.420*	-0.567**			-0.020	-0.014
			(0.230)	(0.224)			(0.047)	(0.024)
CEO_tenure	-2.313E-04	-0.002**	6.515E-04	1.908E-04	-0.001***	-0.001***	-5.303E-04**	-4.674E-04**
	(0.001)	(0.001)	(0.001)	(0.001)	(1.773E-04)	(9.02E-05)	(2.318E-04)	
CEO_age	0.010	0.048	0.021	-0.001	0.010***	0.007***	0.007**	0.007***
	(0.010)	(0.032)	(0.014)	(0.050)	(0.003)	(0.001)	(0.003)	(0.002)
MB_ratio	0.009	-1.599*	0.010	-2.718*	0.018**	0.009***	-0.033***	-0.018***
	(0.015)	(0.889)	(0.036)	(1.443)	(0.008)	(0.003)	(0.008)	(0.004)
Cash	-0.398	0.106**	-0.969	0.014	-0.058	-0.042	0.258	0.139
	(0.770)	(0.054)	(1.247)	(0.084)	(0.168)	(0.089)	(0.229)	(0.128)
Size	0.064	-0.017	-0.001	0.331	0.071***	0.046**	-0.064***	-0.038***
	(0.041)	(0.219)	(0.073)	(0.478)	(0.012)	(0.006)	(0.017)	(0.009)
Leverage	-0.073	-2.558**	0.143	-1.524	0.073	0.027	0.363***	0.127**
	(0.141)	(1.241)	(0.309)	(1.765)	(0.058)	(0.027)	(0.137)	(0.060)
ROA	-0.206	-0.144	0.247	-0.707*	-0.971***	-0.421***	0.895**	0.465**
	(1.068)	(0.291)	(1.647)	(0.397)	(0.308)	(0.152)	(0.376)	(0.198)
Capex	0.178	-0.922*	-0.635	-1.062	0.046	0.031	0.130*	0.084**
	(0.224)	(0.506)	(0.402)	(0.757)	(0.057)	(0.030)	(0.073)	(0.040)
Salesgrowth	-0.225	0.025**	-0.500	0.029*	-0.244**	-0.147**	0.065	0.040
	(0.431)	(0.011)	(0.802)	(0.015)	(0.104)	(0.058)	(0.117)	(0.066)
Same_ind	0.097	0.054	-0.133	-0.108	-0.002	-0.004**	-0.051	-0.018
	(0.102)	(0.130)	(0.174)	(0.182)	(0.027)	(0.014)	(0.038)	(0.019)
Private	0.049	-0.207	-0.030	-0.161	-0.094***	-0.046***	-0.063*	-0.031*
	(0.102)	(0.128)	(0.157)	(0.182)	(0.028)	(0.014)	(0.035)	(0.018)
Firm_beta	-0.146	-0.283**	-0.171	-0.270	-0.058**	-0.037***	-0.129**	-0.070***
	(0.105)	(0.140)	(0.211)	(0.229)	(0.026)	(0.014)	(0.053)	(0.027)
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1980	1980	893	893	1980	1980	893	893
F	2.88***		2.59***		17.51***	28.24***	11.86***	20.24***
Adj. R^2	0.042		0.081		0.188	0.248	0.312	0.370
Wald chi^2		196.3***		98.65***				
Pseudo R^2		0.118		0.116				

*** p<0.01, ** p<0.05, * p<0.1

Table 6 CEO inside debt and long-distant M&As

	(1)	(2)	(3)	(4)
	OLS	Logit	OLS	Logit
Variables	Distance	Dif_state	Distance	Dif_state
CEO_DE	0.222***	0.787***		
	（0.083）	(0.239)		
Log(CEO_DE)			0.554***	1.472***
			（0.155）	(0.316)
CEO_tenure	-1.38E-04	-0.002*	3.7E-05	-0.001
	（0.001）	(0.001)	（0.001）	(0.001)
CEO_age	0.010	0.054	0.009	0.049
	（0.010）	(0.033)	（0.010）	(0.033)
MB_ratio	0.009	-1.361	0.008	-1.348
	（0.015）	(0.885)	（0.015）	(0.888)
Cash	-0.308	0.059	-0.303	0.051
	（0.770）	(0.057)	（0.769）	(0.056)
Size	0.048	-0.016	0.038	-0.009
	（0.042）	(0.221)	（0.042）	(0.221)
Leverage	-0.068	-2.371*	-0.069	-2.324*
	（0.142）	(1.262)	（0.142）	(1.257)
ROA	-0.093	-0.226	-0.068	-0.257
	（1.077）	(0.285)	（1.077）	(0.285)
Capex	0.157	-0.930*	0.150	-0.904*
	（0.225）	(0.497)	（0.225）	(0.500)
Salesgrowth	-0.211	0.026**	-0.181	0.023**
	（0.433）	(0.011)	（0.433）	(0.011)
Same_ind	0.085	0.026	0.087	0.035
	（0.103）	(0.130)	（0.103）	(0.131)
Private	0.070	-0.156	0.074	-0.157
	（0.096）	(0.129)	（0.096）	(0.129)
Firm_beta	-0.145	-0.266*	-0.137	-0.256*
	（0.106）	(0.137)	（0.106）	(0.137)
Year	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes
N	1980	1980	1980	1980
F	2.88***		3.03***	
Adj. R^2	0.043		0.045	
Wald chi^2		175.90***		179.67***
Pseudo R^2		0.125		0.128

*** p<0.01, ** p<0.05, * p<0.1

Table 7 CEO inside debt and long-distant M&As in subsamples

	(1)	（2）	(3)	（4）	(5)	（6）	(7)	（8）
	Family firms				Nonfamily firms			
Variables	Distance	Dif_state	Distance	Dif_state	Distance	Dif_state	Distance	Dif_state
CEO_DE	-0.026	0.391			0.344***	1.035***		
	(0.186)	(0.355)			(0.089)	(0.354)		
Log(CEO_DE)			0.088	0.907*			0.784***	1.883***
			(0.338)	(0.536)			(0.184)	(0.498)
CEO_tenure	-0.001	-0.002*	-0.001	-0.002*	0.001	3.323E-04	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.002)
CEO_age	0.034***	0.015	0.033**	0.019	-0.036**	0.040	-0.037**	0.031
	(0.013)	(0.050)	(0.013)	(0.051)	(0.016)	(0.043)	(0.016)	(0.042)
MB_ratio	0.014	-3.117**	0.016	-3.171**	-0.003	-1.563	-0.005	-1.456
	(0.037)	(1.423)	(0.037)	(1.433)	(0.017)	(1.313)	(0.017)	(1.313)
Cash	-1.187	0.059	-1.204	0.066	-0.419	-0.016	-0.387	-0.039
	(1.259)	(0.086)	(1.259)	(0.086)	(0.979)	(0.093)	(0.979)	(0.092)
Size	0.010	0.280	0.015	0.296	0.026	-0.343	0.004	-0.360
	(0.075)	(0.509)	(0.075)	(0.512)	(0.050)	(0.254)	(0.051)	(0.256)
Leverage	0.190	-1.409	0.170	-1.472	-0.209	-0.459	-0.218	-0.569
	(0.311)	(1.769)	(0.311)	(1.777)	(0.158)	(2.010)	(0.158)	(2.007)
ROA	0.595	-0.862**	0.530	-0.893**	0.937	0.630	0.857	0.616
	(1.608)	(0.390)	(1.610)	(0.390)	(1.539)	(0.487)	(1.537)	(0.489)
Capex	-0.713*	-1.147	-0.724*	-1.162	0.737***	-0.967	0.734***	-0.881
	(0.400)	(0.743)	(0.401)	(0.740)	(0.268)	(0.766)	(0.268)	(0.769)
Salesgrowth	-0.525	0.045***	-0.530	0.042***	-0.189	-0.043*	-0.156	-0.044*
	(0.797)	(0.013)	(0.797)	(0.014)	(0.489)	(0.024)	(0.488)	(0.024)
Same_ind	-0.161	-0.122	-0.158	-0.119	0.253**	0.206	0.252**	0.208
	(0.173)	(0.181)	(0.173)	(0.181)	(0.124)	(0.219)	(0.124)	(0.220)
Private	-0.062	-0.190	-0.058	-0.189	0.120	-0.177	0.121	-0.184
	(0.158)	(0.181)	(0.158)	(0.181)	(0.118)	(0.196)	(0.118)	(0.198)
Firm_beta	-0.126	-0.152	-0.116	-0.142	-0.143	-0.313	-0.136	-0.303
	(0.214)	(0.224)	(0.214)	(0.225)	(0.116)	(0.192)	(0.116)	(0.192)
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	893	893	893	893	1087	1087	1087	1087
F	2.47***		2.48***		2.24***		2.36***	
Adj. R^2	0.077		0.077		0.068		0.071	
Wald chi^2		90.08***		90.29***		93.15***		95.76***
Pseudo R^2		0.112		0.114		0.146		0.149

*** p<0.01, ** p<0.05, * p<0.1

Table 8 Family firms and CEO inside debt

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
					Family firms		Nonfamily firms	
Variables	CEO_DE	Log(CEO_DE)	Distance	Dif_state	Distance	Dif_state	Distance	Dif_state
Fam_firm	-0.095***	-0.068***						
	(0.029)	(0.015)						
CEO_DE'			1.429***	3.452***	0.489	0.759	0.519*	1.919***
			(0.429)	(0.618)	(0,718)	(0.957)	(0.302)	(0.624)
Wage_tax	2.098***	1.205***						
	(0.787)	(0.385)						
Mort_sub	2.028***	1.283***						
	(0.629)	(0.305)						
CEO_tenure	-0.001***	-0.001***	0.001	0.002*	-3.797E-04	-0.002	0.002	0.003
	(1.852E-04)	(9.34E-05)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.003)
CEO_age	0.008***	0.006***	-0.004	-0.021	0.031**	0.032	-0.037**	-0.066***
	(0.003)	(0.001)	(0.011)	(0.014)	(0.013)	(0.015)	(0.017)	(0.025)
MB_ratio	0.018**	0.009***	-0.018	-0.533	0.030	-3.614	-0.010	-0.006
	(0.008)	(0.003)	(0.018)	(0.037)	(0.039)	(0.058)	(0.019)	(0.050)
Cash	-0.014	-0.004	0.056	0.655	-1.454	-1.546	-0.166	-0.024
	(0.171)	(0.090)	(0.759)	(0.852)	(1.212)	(1.382)	(0.970)	(1.387)
Size	0.073***	0.047***						
	(0.012)	(0.006)						
Leverage	0.066	0.021						
	(0.058)	(0.027)						
ROA	-0.851***	-0.346**	1.503	-0.445	0.307	-0.883	1.925	1.662
	(0.309)	(0.152)	(1.059)	(1.315)	(1.382)	(1.505)	(1.431)	(1.969)
Capex	0.071	0.047	0.050	-0.266	-0.769*	-1.079	0.674**	0.517
	(0.058)	(0.030)	(0.224)	(0.295)	(0.418)	(0.412)	(0.266)	(0.476)
Salesgrowth	-0.214**	-0.129**	0.064	-0.015	-0.504	0.045	-0.161	-0.878
	(0.103)	(0.057)	(0.438)	(0.524)	(0.787)	(0.744)	(0.500)	(0.816)
Same_ind	0.013	0.005	0.103	0.122	-0.155	-0.139	0.232	0.234
	(0.027)	(0.014)	(0.098)	(0.127)	(0.161)	(0.168)	(0.120)	(0.202)
Private	-0.088***	-0.042***	0.187*	0.122	-0.027	-0.155	0.145	-0.017
	(0.028)	(0.014)	(0.106)	(0.143)	(0.168)	(0.193)	(0.124)	(0.210)
Firm_beta	-0.051**	-0.033**	-0.079	-0.035	-0.076	-0.105	-0.176	-0.259
	(0.026)	(0.014)	(0.101)	(0.147)	(0.200)	(0.224)	(0.112)	(0.200)
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1980	1980	1980	1980	893	893	1087	1087
F	18.78***	30.02***	3.14***		2.67***		2.04***	
Adj. R^2	0.195	0.258	0.044		0.077		0.057	
Wald chi^2				202.61***		91.28***		96.12***
Pseudo R^2				0.128		0.110		0.133

*** p<0.01, ** p<0.05, * p<0.1