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Essays on Corporate Finance

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by

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DEDICATION

I would like to dedicate this dissertation to my parents (Ganga Prasad Adhikari and Ambika Devi Adhikari) and my wife, Binash. Thank you very much for always encouraging and supporting me. I love you and I am sure I couldn't have done it without you!

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ABSTRACT

We compare acquisition activity, method of payment choice, and the long-run value implications of acquisitions by newly public single-class and dual-class US companies. Our results show that dual-class IPO firms make relatively more acquisitions in innovative industries and are less likely to pay with stock as compared to single-class IPO firms. We provide evidence that the reluctance of dual-class firms to pay with stock is not related to the insiders' cash-flow rights but it is significantly positively related to the insiders' voting rights and wedge between the insiders' voting rights and cash-flow rights. We also find that acquiring dual-class IPOs perform better in the long-run than acquiring single-class IPO firms, and the better performance is mainly due to acquisitions in innovative industries. The results suggest that insiders of dual-class IPOs try to retain control during subsequent M&A activities. The governance structure in such firms allows them to make investments in high risk projects that enhance shareholder value in the long-run. Next, we examine the acquisition performance of family and non-family firms in the S&P 500 universe. Using style-adjusted and market-adjusted buy-and-hold returns (BHAR) and controlling for firm and merger characteristics, we find that the post-merger performance of family firms is significantly better than that of non-family firms. In particular, the mean one-year style-adjusted buy-and hold abnormal return is around 18% higher for family acquirers than for non-family acquirers. Further, contrary to the argument that founding family members make value-destroying diversifying acquisitions to minimize the risk of their personal portfolio, we do

not find that family firms lose value in diversifying acquisitions. This result is consistent with Stein's model (1997) showing that diversification helps to reduce the cost of capital of the firm.

ESSAY 1: THE POWER OF CONTROL: THE ACQUISITION DECISIONS OF NEWLY PUBLIC DUAL-CLASS FIRMS

Introduction

Recent research has established that the desire to acquire other firms is one of the main motives of firms making an initial public offering (IPO). These studies find that going public facilitates acquisitions by providing funding to the newly public firm in the form of cash as well as the opportunity to raise capital through subsequent equity or debt issuance (Brau, Francis, and Kohers, 2003; Celikyurt, Sevilir, and Shivdasani, 2010; Hovakimian and Hutton, 2010). When going public, firms have two choices: to go public with only one class of shares with the same voting rights (commonly called single-class); or to go public with two or more different classes of shares with the same cash flow rights, but unequal voting rights (commonly called dual-class). In a single-class firm, typically there is a provision of one share-one vote. In a representative dual-class firm, there are "inferior" and "superior" classes of shares, and insiders hold "superior" class of shares which come with higher voting rights per share (generally ten votes per share). This creates a wedge between the voting rights and cash flow rights for the insiders in a typical dual-class firm.

Previous studies have documented that the difference in cash flow rights and voting rights in the dual-class structure makes some of their corporate behaviors, such as pay-out policy (Jordan, Liu, and Wu, 2012), sensitivity of CEO turnover to performance (Smart, Thirumalai, and Zutter, 2008), and selection of management team (Grossman and Hart, 1988), substantially

different from those of the single-class structure. Given that the desire to make acquisitions is a key motivation behind going public, we are interested in examining the acquisition decision for dual versus single-class firms, and the resulting shareholder wealth implications of these decisions.

In this paper, we examine the following research questions. First, we investigate whether the difference in cash flow and voting rights in single versus dual-class firms affects the quality of acquisition decisions in these two types of firms. In particular, given that newly public firms are active acquirers, we are interested in examining the acquisition tendency of single versus dual-class IPO firms as well as the long-run wealth effects of these acquisition decisions. In this analysis, the method of payment is a relevant consideration since previous studies have found the stock versus cash payment choice influences both the short and long-run wealth effects of merger decisions. Thus, we examine whether the likelihood of paying with stock is significantly different in acquisitions by single and dual-class IPO firms. Furthermore, focusing only on dual-class firms, we analyze how the cash flow rights, voting rights, and the wedge between cash flow rights and voting rights of insiders affects the method of payment choice in takeovers.

In this analysis, we also consider the types of acquisitions that dual versus single-class acquirers are inclined to make. Chemmanur and Tian (2011) find that firms with a larger number of antitakeover provisions (ATPs) are more innovative, and Gompers, Ishii, and Metrick (2010) posit that the dual-class structure is the most extreme example of antitakeover provisions. Based on this evidence, we are interested to see whether dual-class IPO firms acquire more in innovative industries, and whether those acquisitions create value.

Further, Brau, Couch, and Sutton (2012) have documented that firms that acquire within a year of going public significantly underperform for one- through five-year periods following

the first year, whereas the firms which do not acquire within the first year do not significantly underperform during those periods. Motivated by this result, we inquire whether there is a difference in long-term performance between dual-class IPO firms that acquire within one year of going public and those that do not acquire.

Our study is related to Mausulis, Wang, and Xie (2009), who highlight the potential agency problems in a sample of dual class firms between 1995 and 2003. Their results show that dual class firms with greater divergence in voting and cash flow rights have lower cumulative abnormal returns around merger announcements. Our study is distinct from the Masulis et al. (2009) study in several ways. First of all, we compare single and dual-class IPO firms, whereas Masulis et al. (2009) focus on dual-class firms. Their dual-class sample is mostly of mature firms whereas we study newly public firms, whose acquisition activity outpaces that of mature firms both in number and volume, as noted in Celikyurt et al. (2010). Also, the focus of Masulis et al. (2009) is on the short-term performance around the acquisition announcement, while we compare the difference in acquisition activities for dual versus single class firms, the method of payment choice, and the post-merger performance for newly public single and dual-class firms.

Using SDC data from 1990 to 2008, our empirical analysis provides the following results. First of all, we do not find notable differences in the frequency of overall acquisitions by single versus dual-class IPO firms. Both types of IPOs are active acquirers, consistent with recent literature. Also, dual-class IPO firms are significantly more likely to pay with cash in acquisitions than single-class IPO firms. That is, dual-class firms try to avoid paying with stock as they want to retain control of the firm. Further, on average, acquiring dual-class IPOs perform better in the long-run (up to four years) than acquiring single-class IPO firms. These results are mainly driven by acquisitions by dual-class IPO firms in innovative industries. This finding

suggests that the governance structure in dual-class firms allows them to make long-term investments in highly risky positive NPV projects as they do not have to face as much equity market pressure to maintain short-run stock price. The shares with higher voting rights are relatively illiquid in nature, so the insiders with such shares have incentive to monitor firm well. This could be an explanation of why dual-class firms perform better in risky projects than their single-class peers. Finally, we find some evidence that, compared to dual-class IPOs which do not acquire after going public, those which acquire perform better in the long-run.

Our paper contributes to the finance literature in the following dimensions. First, to the best of our knowledge, we are the first to compare the acquisition activities of single-class and dual-class IPO firms. Some earlier studies compare the long-run performance of single-class and dual-class firms, while others focus on performance within dual-class companies. As one of the main motivations for firms to pursue IPO is to make acquisitions, our comparison sheds light on the similarities and differences of acquisition activities of firms with different shareholder voting rights arrangements.

Second, our paper's finding that newly public dual-class firms are highly reluctant to pay with stock provides further evidence that the dual-class firms prefer to maintain their control rights when making acquisitions.

Most importantly, our finding that the long-run performance of dual-class IPO acquirers is significantly better than those of single-class IPO acquirers contributes to the literature by providing evidence that provisions like dual-class structures can be desirable for long-term value creation. Such arrangements demand better monitoring by insiders, because of the lack of easy exit, and also allow managers to focus on long-term goals instead of short-term stock price

fluctuations. Further, this finding suggests that the benefits of control might go beyond private profits of insiders and actually can be value enhancing.

Arguments in Favor of and Against Dual-Class Structure

The presence of dual-class firms is significant in the US corporate world. Gompers et al. (2010) point out that 6% of COMPUSTAT firms are dual-class, which comprises about 8% of the market capitalization of all firms. The benefits and drawbacks of dual-class structure of stocks are difficult to judge as stated by the columnist Andrew Hill (2011) of *Financial Times*: "The advantage of a dual-class share structure is that it protects entrepreneurial management from the demands of ordinary shareholders. The disadvantage of a dual-class share structure is that it protects entrepreneurial management from the demands of shareholders.*"*

The implications of a dual-class structure for merger decisions have a bright side and a dark side. When we view dual-class structure as a medium of raising outside capital without losing substantial control, rather than just as a mechanism to separate cash-flow rights and voting rights, we can see many positive consequences of this structure (Crone and Plaksen, 2010). For example, the dual-class structure mitigates the problem of underinvestment as the managers will be less afraid of their removal by misinformed investors (DeAngelo and DeAngelo, 1985). This structure also facilitates long-term investments through the ability to raise outside capital without substantial takeover threat. Thus, the dual-class structure solves the problem of managerial myopia (Chemmanur and Jiao, 2006). Similarly, with the help of the dual-class provision, corporate insiders can better diversify their personal wealth so that they will not be tempted to make diversifying acquisitions (in order to diversify their personal wealth portfolio) which may not create value (Morck, Shleifer, and Vishny, 1988). The above mentioned arguments in favor

of dual-class structure suggest that, on average, dual-class firms may make value-enhancing acquisition decisions.

At the same time, there are negatives of having dual-class provisions as well. First of all, the dual-class structure is infamous for providing managers (or corporate insiders) an opportunity to extract private benefits of control at the expense of minority shareholders (Bebchuck and Weisbach, 2010). The ability of insiders to redirect corporate resources has adverse consequences to firm value, as well documented in the literature (Jensen and Meckling, 1976; Zwiebel, 1995). Masulis et al. (2009) find that as the wedge between the voting rights and cash flow rights increases, the managers are more likely to take private benefits at shareholders' expense. Specifically in such firms, the authors find that "corporate cash holdings are worth less to outside shareholders, CEOs receive higher compensation; managers make shareholder value-destroying acquisitions more often and capital expenditures contribute less to shareholder value." Further, Cronqvist and Nilsson (2003) find that firms with disproportionate voting structure exhibit worse operating performance because they make less efficient investment decisions. Bebchuck, Kraakman, and Triantis (2000) also argue that the market for corporate control is less effective and takeover discipline is weaker in dual-class firms compared to firms with dispersed ownership (also see Smart et al., 2008). These arguments suggest that the acquisition decisions of dual-class firms can be value destructive.

In addition to the above discussion, we further discuss three hypotheses which again argue in favor of or against dual-class structure.

Entrenchment hypothesis. Recently, researchers (Gompers, Ishii, and Metrick, 2003; Masulis, Wang, and Xie, 2007; Bebchuk, Cohen, and Ferrel, 2009, and others) have documented that strong shareholder rights are positively related to stock returns, operating performance, and

valuation. This line of research mostly agrees that the most important restrictions to shareholder rights are antitakeover provisions (ATPs), and Gompers et al. (2010) point out that the dual-class firms are the most extreme examples of firms with ATPs. So, the common theme of this research is that managers extract private benefits of control by exploiting ATPs and the divergence between insiders' voting rights and cash flow rights that exists in dual-class firms.

Liquidity hypothesis. This stream of research claims that stock-market liquidity provides an opportunity for an "easy exit" for those investors who do not agree with the incumbent management. Bhide (1993) argues that such "easy exit" because of liquidity access discourages internal monitoring. Generally, the shareholders with superior voting shares of dual-class firms cannot enjoy this 'easy exit' option because the shares with higher voting rights are relatively illiquid. On this ground, Bohmer, Sanger, and Varshney (1996) argue that, to the extent that holding this illiquid investment imposes a cost, it should reduce the divergence of interest between management and outside shareholders. So, the better monitoring imposed by no option of "easy exit" should help such firms perform better.

Equity market pressure hypothesis. Stein (1988) argues that the governance structure with a higher number of ATPs could be optimal as those provisions reduce managerial "myopia" of signaling firm quality by boosting short-term performance at the expense of long-term value. Shliefer and Vishny (1989) point out that the managers of the firms with weaker shareholder rights experience enough job security whereas the managers of firms with strong shareholder rights might sub-optimally invest in their area of expertise to retain their job. Core, Guay, and Rustics (2006) argue that there is no conclusive evidence that a large number of ATPs in a firm is detrimental to long-term performance. Their point is that ATPs might destroy shareholders value in a subset of firms, and they might be value enhancing or value neutral in other types of

firms. Chemmanur and Tian (2011) examine this possibility and provide evidence of a causal relationship that firms with a larger number of ATPs are more innovative. Their argument is that ATPs insulate managers from the short-term pressure of satisfying equity market expectations. So, if dual class firms focus more acquiring innovation, we may expect that these firms perform relatively well in the long term.

Why IPO Firms?

We follow Smart et al. (2008) and concentrate on IPO firms instead of seasoned firms. They argue that firms set up governance rules prior to the IPO and abide by those rules and evolve as a public company. They further mention that concentrating on newly public firms avoids issues arising from the switch from single-class to dual-class status through recapitalization. Further, they mention that, although it is common in both single and dual-class firms for insiders to own large fraction of outstanding shares, when firms return to the seasoned equity market (SEO), the voting power of single-class insiders' declines at the same rate as their cash flow rights, while dual-class insiders' voting rights change at a much slower rate than their economic ownership. So, focusing on IPOs minimizes the influence brought by such activities. Bebchuck and Zingles (2000) and others also argue that firms are more likely to go public with an already set governance structure because the cost of doing otherwise needs to be borne by those making this decision.

The rest of the paper will proceed as follows. Section 2 describes the related literature and presents the hypotheses. Section 3 discusses data and presents descriptive statistics. Section 4 and Section 5 explain the empirical results, while Section 6 provides the conclusions.

Relation to the Existing Literature

Single versus Dual-Class Firms and the Method of Payment

Given the importance of the method of payment choice on merger outcomes, we first discuss reasons for differences in the choice of merger financing for single versus dual-class IPO. Faccio and Masulis (2005) argue that cash and stock offers have conflicting effects. They point out that most cash offers require debt financing, as many acquirers do not possess sufficient cash and/or liquid assets to finance their cash payment. So, they note that the choice between cash or stock financing becomes a tradeoff between corporate control concerns of issuing equity and the bankruptcy cost of issuing debt. As one of the objectives of going IPO with dual-class is to retain control (Arugaslan, Cook, and Kieschnick, 2010), we can expect that the dual-class IPO firms might pay more with cash in takeovers, as this method of payment does not dilute their voting rights and hence their control motive. However, there is another side of the story as well. Many insiders with superior voting rights in dual-class firms have a significant amount of wealth invested in the firm. These shareholders may be reluctant to use cash as a method of payment since the debt financing typically used to finance the cash offer increases the likelihood of bankruptcy of the firm.

Clearly, a similar tradeoff exists in single-class firms as well. Yet, the two structures might weigh the threat of diminished control and the threat of increased bankruptcy risk differently, which may lead to different methods of payment in acquisitions made by newly-public single and dual-class firms.

Further, Dittmar and Mahrt-Smith (2007) provide evidence that an extra dollar of cash is less valuable to shareholders at companies with more anti-takeover provisions. They attribute their finding to managers extracting private benefits from corporate cash holdings in such firms.

This would suggest that the managers in dual-class firms will be more interested in paying with stock and saving cash for future private benefits.

These different predictions regarding the payment choices of single versus dual-class acquirers further motivates us to study this question empirically.

In examining a sample of dual-class firms between 1995 and 2003, Masulis et al. (2009) provide summary statistics showing that 56% of the takeover deals are paid with cash, which is similar to our summary statistics. In their analysis, they find that stock offers used to purchase public targets are negatively related to the bidder CAR around the time of the merger announcement, and stock offers used to purchase private targets are positively related to bidder CAR. These findings for dual-class acquirers are in line with prior studies examining bigger samples of non-dual-class acquirers.

Further, not all dual-class firms possess the same proportions of insiders' cash-flow rights and voting rights. These two rights have different effects on firm value, as is well-documented in Gompers et al. (2010). They find that firm value increases with insiders' cash-flow rights and decreases with insiders' voting rights. Motivated by that study, we test the effect of cash flow rights, voting rights and the wedge (the difference between voting rights and cash flow rights) on the choice of the method of payment by dual-class firms in corporate takeovers.

Single and Dual-Class Firm Long-Run Performance

Smart et al. (2008) study the short and long-run performance of single-class and dual-class IPO firms but they do not consider the acquisition activities of single and dual-class firms. Using the calendar-time portfolio regression method, they find insignificant abnormal returns for both single-class and dual-class IPOs except in the case of the four-factor equal-weighted

portfolio regression in which they find significantly positive abnormal returns for single-class IPO firms and insignificantly positive abnormal returns for dual-class firms. In comparing operating performance for up to five years, measured by ROA and EBITDA, they do not find significant differences between single-class IPOs and dual-class IPOs.

Furthermore, Gompers et al. (2010) focus only on dual-class firms between 1995 and 2003 and find that firm value is increasing in insiders' cash-flow rights and decreasing in insiders' voting rights.

Acquisition in Innovative Industries

As discussed in Sevilir and Tian (2012), the previous literature highlights two main channels through which innovation helps acquiring firms. One view, based on Aghion and Tirole (1994), is that less innovative firms can become more innovative by acquiring firms which are more efficient at innovation. This view suggests that acquisition enhances innovation where firms with lower innovation efficiency acquire firms with higher innovation efficiency. The other argument is based on Rhodes-Kropf and Robinson (2008), which suggests that M&A can synergize innovation by bringing complementary assets of merging firms together.

Similarly, Sevilir and Tian (2012) find that acquiring a target that is more R&D intensive than the acquirer enhances the innovative output of the acquirer. Bena and Li (2012) document that technological overlaps such as proximity of innovation activities and mutual citations of patents between two firms significantly affects in merger pair formation.

Hirshleifer, Low, and Teoh (2012) point out that overconfident CEOs invest more in innovation, obtain more patents and patent citations, and are more successful in innovation for given research and development expenditures. Paredes (2005) argues that high CEO pay

provides positive feedback to CEO and signals CEO's success. He further reasons that positive feedback and recent success can make CEOs overconfident. The finding of Masulis et al. (2009) and Smart and Zutter (2003) suggest that dual-class CEOs get higher compensation. Overall, these arguments support that the CEOs in dual-class firms are more likely to be overconfident. So, we can expect more investment in innovation by dual-class firms.

These thoughts collectively imply that a firm's investment in innovation (for example acquiring innovative firm) is necessary but risky undertaking for long-term success of a firm. Along with discussion in Section 1, the arguments here provide signal that dual-class firms which are full with anti-takeover provisions and whose CEOs are more overconfident might invest more and also perform better in long-run by acquiring firms in innovative industries. In this paper, we test this speculation empirically.

Data and Descriptive Statistics

We obtain our initial sample of IPOs from the Security Data Company (SDC) *New Issues Database*. From our initial sample of IPOs, we exclude foreign issuers, REITs, penny stocks (issues with less than $5 offer price) and financial firms (firms with SIC codes between 6000 and 6999). We obtain the sample of dual-class IPOs from Jay Ritter's website. Our sample period for the single-class dual-class IPOs extends from 1990 through 2008.

Similarly, for our merger sample, we include all completed mergers over the period from 1990 through 2012 from the SDC *Mergers and Acquisitions Database*. We exclude acquisitions of partial interests or acquisitions of remaining interests from our sample. If the consideration structure is labeled unknown or other, then we exclude those acquisitions as well. In order for an

acquisition to be in our sample, the transaction value must be at least one million dollars and at least one percent of the market value (one fiscal year before) of the acquiring firm.

Further, the data for the insiders' cash flow rights and voting rights is generously provided by Andrew Metrick, which is used in Gompers et al. (2010) where the details of the data can be found. This data set is for dual-class firms (not necessarily IPOs) existing between years 1995 and 2002. If the firm happens to have gone public during those years, then we get their information for the year in which they go public and the subsequent years. If the firm has gone public in earlier years (between 1990 and 1994), then we use the data for the insiders cash flow rights and voting rights from the first available year. Here, we make an assumption that the insiders' cash flow rights and voting rights do not change after going public. While this might not be true, in general, firms slowly become widely held, as noted by Helwege, Pirinsky, and Stulz (2007) who find that a majority of IPO firms has insider ownership below 20%, 10 years after going public. If this assumption provides a bias, but the bias is against finding significant differences between dual and single-class firms. Finally, necessary accounting information comes from COMPUSTAT.

As in Gompers et al. (2010), we define the wedge variable (Wedge) as the difference between the voting rights and the cash flow rights of the insiders in the dual-class firms. Following previous research, we also define wedge as the ratio of the voting right and cash flow rights of the insiders.

Panel A of Table 1 provides an annual distribution of single-class and dual-class IPOs in our sample between 1990 and 2008. The table shows that there are 7.6% dual-class IPOs overall during the sample period. This finding is comparable to previous results showing 6% dual-class firms in Gompers et al. (2010) and 9.6% dual-class IPOs in Smart and Zutter (2003).

In Panel B of Table 1, we report univariate comparison of certain characteristics of single and dual-class firms which acquire within three years of going public. The result suggest that dual-class IPO firms are relatively larger in terms of market capitalization, conduct more related mergers, and have higher leverage than newly public single-class firms. In addition, the dual-class IPO's, on average, have lower Tobin's Q and less VC-backing.

Panel A of Table 2 shows the number of acquisitions made by single-and dual-class firms within 3-, 4-, and 5-years of going public, distributed by the method of payment used in the acquisitions. We see that in all three year ranges, the methods of payments employed by single and dual-class firms are significantly different. For example, in acquisitions made by dual-class firms within three years of going public, 52% of the acquisitions are paid with cash and only 19% are paid with stock. In acquisitions made by single-class firms within three years of going public only 36% are cash offer and 36% are stock offers. The percentages paid for with hybrid method are pretty similar: 29% in both cases. Similar percentage distributions are true in cases of acquisitions within four and five years of going public.

Panel B of Table 2 exhibits the distribution of types of acquisitions (mergers, acquisitions of assets or other) made by single and dual-class IPOs within three, four, and five years of going public. We see that dual-class firms acquire assets more than single-class firms do. Because of this observation, we control for acquisition of assets in our regressions, and we also perform separate tests excluding acquisitions of assets.

Empirical Results

Empirical Model and Multivariate Results

In panels A and B of Table 3, we test whether the share class structure (single or dual) influences the choice between stock and cash as a method of payments by newly public firms in corporate takeovers within three, four or five years after going public. Specifically, we run the following logit regression:

$$\log\left[\frac{P(y=1)}{1-P(y=1)}\right]_i = \beta_0 + \beta_1 DUAL_i + \beta_2 SIZE_i + \beta_3 TOBINQ_i + \beta_4 SLACK_i + \beta_5 DEBTRATIO_i + \beta_6 CRISIS_i + \beta_7 INTCOV_i + \beta_8 IPOPRO_i + \beta_9 VCBACKED_i + \beta_{10} RDEALSIZE_i + \beta_{11} RELATED_i + \beta_{12} TECH_i + \beta_{13} TENDER_i + \beta_{14} SUBS_i + \beta_{15} ASSET_i + \beta_{16} CEOAGE_i + \varepsilon_i \quad (2)$$

where the dependent variable takes the value of 1 (that is $y = 1$) if the acquiring firm i used stock as a method of payment and zero otherwise. We include the hybrid method of payment as non-stock payment. $DUAL$ is a dummy variable equal to 1 if the acquirer is a dual-class firm and 0 if it is a single-class acquirer. $SIZE$ is the logarithm of the market value of equity of the firm in the year prior to the acquisition (in case of the firm going public and making an acquisition are in the same year we use the market value of the same year). $TOBINQ$ is the Tobin's Q of the acquiring firm measured as the ratio of the market value of equity to the book value of assets. $SLACK$ is cash and short-term investments of the firm divided by the total assets of the firm in the year prior to the acquisition. $DEBTRATIO$ is the total long term debt of the firm divided by the market value of equity of the firm. $CRISIS$ is a dummy variable equal to 1 if the year is 2001, 2002, 2007 or 2008 and zero otherwise. $INTCOV$ is the ratio of the earnings-

before-interest and taxes (EBIT) divided by the net interest paid by the firm. $IPOPRO$ is the logarithm of the IPO Proceeds value net of fees and expenses scaled by total assets. $VCBACKED$ is a dummy variable equal to one if the firm had VC backing before the IPO and zero otherwise. $RDEALSIZE$ is the transaction value of the acquisition divided by market value of equity of the firm in the year prior to the acquisition. $RELATED$ is a dummy variable equal to one if both acquirer and target are in the same four digit industry and zero otherwise. $TECH$ is a dummy variable equal to one if the acquiring firm is in a high tech industry and zero otherwise. $TENDER$ is a dummy variable equal to one if the deal is a tender offer and zero otherwise. $SUBS$ is a dummy variable equal to one if the target is a subsidiary and zero otherwise; and $ASSET$ is a dummy variable equal to one if the deal is an acquisition of assets and zero otherwise.

A Difference in Method of Payments in Acquisition by Single and Dual-Class IPO Firms

In Panel A of Table 3, the dependent variable is stock, which is equal to 1 if the method of payment is stock and 0 if the method of payment is cash or hybrid. The coefficients of the dual-class dummy are -0.66, -0.90 and -0.86 for the samples with acquisitions within 3-years of going public (with different control variables), each of which is significant at the 1 percent level. This result suggests that, compared to single-class IPO firms, dual-class IPO firms are highly reluctant to pay with stock in corporate takeovers. For example, Model 1 suggests that the odd of paying with stock is ½ (=exp(-0.66) if the acquiring firm is a newly public dual-class firm. We get qualitatively similar results for the samples with acquisitions within four or five years of going public. In these models, we use several control variables which are considered as determinants of method of payment in acquisitions in the existing literature. Most of the

variables have the expected signs. For example, we observe that larger firms (firms with larger market cap) mostly use either cash or hybrid methods of payment, as evidenced by the variable *SIZE*. The positive and significant coefficient of *TOBINQ* suggests that firms with higher growth opportunities tend to pay with stock. Similarly, *VCBACKED* firms have a higher likelihood of using stock offers in mergers. Firms are more likely to use cash offers when acquiring assets or subsidiaries of other firms, consistent with prior studies which show that parent firms often sell subsidiaries to obtain a needed cash infusion. The positive and significant coefficient of the variable *SLACK* is counterintuitive as it suggests that firms with higher cash do not use cash or hybrid as a method of payment. However, Havokimian and Hutton (2010) also find a similar significantly positive relationship between slack and the decision to use stock. They attribute this finding to the argument in the literature that financially constrained firms tend to hold more cash and prefer to use stock as a method of payment (Almeida and Campello, 2007).

In Panel B of Table 3, we repeat the regression as in Panel A of Table 3 but we exclude observations with the hybrid method of payment. Thus, in this table, the dependent variable is stock, which is equal to 1 if the method of payment is stock and 0 if the method of payment is cash. In this table, all the results are similar except that the significance level of the dual dummy decreases slightly to the 5%.

These results suggest that share class structure is an important determinant of the method of payment in mergers and acquisitions. The findings support the argument that dual-class firms do not want to lose control of the firm by diluting their voting rights. In the next set of analysis, we concentrate on newly public dual-class IPO firms only.

Effect of Cash-Flow Rights and Voting Rights of the Insiders in the Choice of Methods of Payments

In Table 4A, we test the effect of insiders' cash-flow rights in the choice of method of payment in acquisitions by dual-class IPO firms. In all three columns, the dependent variable is stock, which is equal to 1 if the method of payment is stock and 0 if the method of payment is cash. The logit regressions show that the cash-flow rights of insiders' (*CFR*) is not significant, suggesting that insiders' cash-flow rights are not an important determinant of the method of payment choice in newly public dual-class firms. In this table, we have included fewer explanatory variables than those in Tables 3A and 3B because of the small sample size. The control variables have expected signs.

In Table 4B, we test the effect of insiders' voting rights in the method of payment choice for dual-class IPO firms. The specification is similar to the specification in Table 4A. We observe that the variable capturing the voting rights of the insiders' (*VOTER*), is negative and significant at the 10% level for the sample with acquisitions within three years of going public and at 5% in cases with acquisitions within four or five years of going public. The significant negative coefficients of *VOTER* tell us that the higher the voting rights of insiders, the more reluctant they are to pay with stock. This result supports the finding in Tables 3A and 3B showing that dual-class IPO firms are less inclined to pay with stock in general, likely due to the desire for control.

Together, the results of Tables 4A and 4B provide preliminary evidence that the desire and/or ability to control firm is better substantiated if the insiders have higher voting rights than if they have higher cash-flow rights.

Effect of Wedge on the Choice of Method of Payment

In Table 4C and 4D we test the effect of the wedge between the voting rights and cash-flow rights of insiders in the choice of the method of payment by newly public dual-class firms. We measure wedge in two ways. In Table 4C, *WEDGE* is defined as the insiders' voting rights minus the insiders' cash-flow rights, whereas in Table 4D, *WEDGE* is defined as the ratio of the insiders' voting rights to the insiders' cash-flow rights.

In Tables 4C and 4D, our variable of interest, *WEDGE*, is negative and significant in all three columns. Thus, the higher the wedge between insiders' voting rights and cash-flow rights, the less likely the firms are to issue equity in takeovers. This result corroborates the finding of Arugaslan et al. (2010) that the objective of going public with dual-class is to retain control of the firm after going public as well.

Effect of High versus Low Wedge on the Choice of Method of Payment

In Tables 5A, 5B and 5C, we are interested in examining how high versus low wedge influences the method of payment choice for dual-class IPO firms. When the wedge is very small, firms might be indifferent in choosing stock or cash as a method of payment, but when the wedge is substantial enough the firms might use that to seek rent. In order to investigate this, we compare three logit regressions with cut-offs at 5%, 10% and 15% for the *WEDGE* variable. Specifically, we create a dummy variable HW as follows: For 5% cut-off, *HW* is equal to 0 if the wedge (insiders' voting rights minus cash-flow rights) is less than 5% and equal to 1 otherwise; similarly for 10% cut-off, *HW* is equal to 0 if the wedge is less than 10% and equal to 1 otherwise; and for 15% cut-off *HW* is equal to 0 if the wedge is less than 15% and equal to 1 otherwise. We perform logit regressions with acquisitions within three years, four years, and five

years in Tables 5A, 5B and 5C respectively. In each of the tables, we observe that as the cut-off increases, the HW variable becomes more negative and more significant up to the 15 % cut-off. Specifically, in Table 5A, when the cut-off is 5%, the coefficient of HW variable is -1.02 which is not significant; when the cut-off is 10%, the coefficient of HW variable is -2.84 which is significant at 5% level, and when the cut-off is 15%, the coefficient of HW variable is -4.72 and is significant at 1% level. This result suggests that the magnitude of the wedge between insiders' voting and cash flow rights is an important determinant of the method of payment choice for dual-class acquirers.[1]

Acquisition Activity and Long-Term Performance

Acquisition Activities

Tables 6A and 6B report the acquisition activities of single and dual-class IPO firms. In Table 6A, we consider the acquisitions that are at least one million dollars in transaction value and are at least one percent of the market capitalization of the firm for firms going public between 1980 and 2008. We see that 13.52% of the single-class and 13.09 % of the dual–class firms make acquisitions within one year of going public. Similarly, the table reports that around 22.2% of single-class and 23.15 of the dual-class firms make such acquisitions within two years of going public. Also, the total number of firms acquired by single and dual-class within two years of going public are also comparable. Acquiring single-class firm acquire 1.55 targets, on average, whereas acquiring dual-class firm acquire 1.51 targets on average within two years of going public.

[1] In these tables, we have removed eight acquisitions associated with negative wedge. The data indicates that in those firms, a superior class of shares possess one vote per share and an inferior class of share possess zero votes per share. As such, the insiders' cash flow rights exceed the insiders voting rights. Interestingly, all those acquisitions are made with stock.

Table 6B reports all qualified acquisitions with no restriction on the transaction value. We see that 25.20% of the single-class and 25.34 % of the dual–class firms make at least one acquisition within one year of going public, whereas 37.58% of single-class and 40.11% of dual-class firms make acquisitions within two years of going public. Furthermore, acquiring single-class firm acquire 1.95 targets on average whereas acquiring dual-class firm acquire 2.23 targets on average within two years of going public. Thus, overall, we do not observe notable differences in the frequency of acquisitions for single-class and dual-class acquirers in the period after going public.

In Table 6C, we compare the acquisition of innovative and non-innovative targets by single-class and dual-class IPO firms. By innovative targets, we mean firms with 4-digit SIC codes in the top one-third innovative industries based on citations per patent produced by all firms in that industry for the period during which patent data from NBER is available. We obtain this data from Sevilir and Tian (2012). The table shows that dual-class firms acquire relatively higher percentage of targets from innovative industry than single-class firms do. Specifically, 52.68% of the acquisitions that single-class firms make within two years of going public are in innovative industries, while 60.87% of the targets that dual-class firms acquire are from innovative industries.

Tables 6A, 6B and 6C collectively suggest that the dual-class IPO firms are involved in smaller acquisitions more often than single-class IPO firms. Also, dual-class firms make higher proportion of acquisitions of targets in innovative industries than their single-class counterparts.

Long-Term Performance of Acquiring Firms

As acquisitions are long-term investments, we test whether dual-class acquiring firms perform better than acquiring single-class firms in the long-run. We measure the long-run performance of an acquirer by style-adjusted buy-and-hold returns. Benchmark returns for style-adjusted BHARs are the returns of 25 size and book to market matched portfolios obtained from 20 size and 20 book to market Fama-French portfolios: 20 size portfolios are grouped into 5 size portfolios and similarly, 20 book-to-market portfolios are grouped into 5 book-to-market portfolios and finally we have 5*5=25 size and book-to-market matched portfolios. The results are shown in the multivariate regressions in Table 7. In the regression models, we control for relevant firm characteristics, merger characteristics, as well as year and industry fixed effects. The dual-class indicator variable, *DUAL*, shows a positive and significant relationship with the acquirer's long-run abnormal returns, as measured by the style-adjusted buy and hold abnormal return. Thus, contrary to the argument that the agency problems inherent in dual-class firms adversely affect their performance, our findings suggest that newly-public dual-class acquirers outperform single-class acquirers. However, given that dual-class acquirers are more likely to use cash payments in acquisitions, which are associated with better long-run performance, it is important to control for the method of payment. The interaction term between dual dummy (*DUAL*) and Cash dummy (*MOPC*) that is *DUAL_MOPC*, is not significant. This finding suggests that, the positive long-run performance of dual-class acquirers is not driven by the method of payment choice.

Next, we examine whether dual-class IPO firms which value innovation perform better in the long-run. This test is partially a test of *equity market pressure hypothesis.* As innovation is a time consuming and high risk process with large probability of failure, dual-class firms have an

edge to take such risk because of the large numbers of ATPs and less pressure from stock price movements. In our multivariate regression, in Tables 7A to 7D we use an interaction of the dual dummy (*DUAL*) with the dummy for innovative target (*INNOT*). In all four tables where the dependent variables are one year BHAR to four year BHAR, respectively, we find that the interaction term is significantly positive. The dual dummy (*DUAL*) becomes insignificant. In column 3 of the models used in Table 7A to 7D, the coefficient of *DUAL* shows the effect of dual dummy (*DUAL*) on long-term performance when *INNOT*=0 (that is acquiring targets in non-innovative industries). The insignificant coefficient of *DUAL* suggests that *BHAR* is not related to acquisitions by dual-class firms in non-innovative industries. The positive sum of the coefficients of dual dummy (*DUAL*) and the interaction term *DUAL_INNOT* in models 7A to 7D suggests that acquiring targets in innovative industries have significant positive effect on *BHAR*. Thus, the results imply that dual-class IPO firms which acquire in innovative industries soon after going public perform better for at least up to four years after the acquisition compared to other single-class and other dual-class acquirers. We further investigate the effect on BHAR of acquiring firms themselves being in the innovative industries. The results show that the interaction term *DUAL_INNOA* (interaction of *DUAL* dummy and Aacquiring in innovative industry dummy) are positive but not significant except in Panel B (in which it is significant at 10% level). These results substantiate the finding that it is the acquisition in the innovative industries that creates value for newly public dual-class firms.

Performance of Acquiring and Non-Acquiring Dual-Class IPO Firms

Previous studies examining the acquisition activity of newly public firms has shown that newly public firms are not the best acquirers. Thus, we are interested in comparing the long-term

performance of acquiring relative to non-acquiring dual-class IPO firms. In table 8, we compare the style-adjusted *BHAR*s of first year acquirers (that is, firms acquiring within one year of going public) and first year non-acquirers (the firms which do not make an acquisition within first year of going public). In the first year, the acquirers have an average *BHAR* of 2.04% which is insignificantly different from zero, but the non-acquirers have an average *BHAR* of -6.56% which is significantly negative at the 10% level. The result is different from the results of Brau, Couch and Sutton (2012), which finds that firms that acquire within a year of going public significantly underperform for 1-through 5-year periods following the first year whereas firms which do not acquire within the first year do not underperform. The results for the single-class acquirers and non-acquirers are qualititatively similar to the results of Brau et al. (2012). This finding suggests that the distinct nature of the dual-class form can be beneficial in merger decisions made by newly-public dual-class firms.

Conclusion

Recent studies provide evidence that firms go public to facilitate the process of acquiring other firms. However, it is unclear how a dual versus single-class structure influences acquisition activity after going public. We try to fill this void in the literature. We compare single and dual-class IPO firms in terms of acquisition activity, payment method, and post-merger performance to improve our understanding of how these two structures differ in major corporate decisions and their implications for shareholder wealth.

Consistent with prior research, we find that both types of IPOs are active acquirers. However, measuring long-run performance by buy and hold abnormal returns (BHAR), our evidence shows that newly-public dual-class acquirers perform better than single-class acquirers

in the long-run. When we focus on the acquisition activities in innovative industries, we find that compared to single-class firms, dual-class IPO firms acquire more firms from innovative industries. Also, we find that dual-class IPO firms acquiring in innovative industries perform better for at least up to four years after the acquisition compared to other single-class and dual-class acquirers. Similarly, in examining dual-class IPOs which acquire within one year of going public with those which do not acquire within one-year of going public, we observe that acquirers perform better than the non-acquirers.

Given the importance of the method of payment in mergers and acquisitions, we also carefully examine the method of payment choice for dual versus single-class firms. The findings show that dual-class firms are highly reluctant to pay with stock. We attribute this trend of payment method of dual-class firms to their control motive. In a typical dual-class firm insiders normally possess "superior" class of stock which carries higher voting rights than their corresponding cash-flow rights. When they issue shares, there could be a dilution in the insiders' voting rights which is against their control motive. With the help of data from Gompers et.al (2010), we disentangle the effect of insiders' cash-flow rights, voting rights and the wedge between the voting rights and cash-flow rights on the choice of the payment methods by dual-class IPO firms. We find evidence that the reluctance to pay with stock is not significant with the insiders' cash-flow rights but it is highly significant with the insiders' voting rights and with the wedge between the voting rights and the cash-flow rights. These results substantiate the control motive of going IPO with dual-class share structure.

Viewed in the context of existing literature, these findings indicate that there are certain corporate activities in which dual-class firm structure is desirable. Also, the results are consistent with *liquidity hypothesis* which argue that the shareholders with "superior voting" rights in dual-

class firms monitor firms more compared to the shareholders in single-class firms because those shareholders do not have an easy exit option of quitting the firm by selling their shares if they do not like the decisions of the existing management. Thus, better monitoring might be the reason for the better performance of dual-class acquirers. These results are also consistent with *equity market pressure hypothesis* which argue that the dual-class firms do not feel as much pressure from stock price movements so that they can focus on their long-term endeavors and hence fare better in the long-run.

ESSAY 2: ALL IN THE FAMILY: THE EFFECT OF FAMILY OWNERSHIP ON ACQUISITION

Introduction

Family firms are as prevalent as non-family firms around the world, as is well-established in the finance and business literature. For example, in an international study, La Porta, Lopez-de-Silanes, and Shleifer (1999) report that 30% of firms are family controlled, whereas 36% are widely-held. Furthermore, Faccio and Lang (2002) observe family firms being the dominant ownership structure in Western Europe, excluding the UK and Ireland. Weisskopf (2012) also highlights that about one-third of the firms in the Swiss Exchange are family firms. Similarly, Claessens, Djankov, Fan, and Lang (2000) report that about two-thirds of the firms in Asian countries have family ownership. Among large US companies (S&P 500), more than one-third of firms are classified as family firms (Anderson and Reeb, 2003; Villalonga and Amit, 2006). The substantial presence and unique ownership characteristics of family firms have attracted researchers to compare their corporate policies and performance with those of non-family firms.

The main difference in the characteristics of family and non-family firms lies in the types of agency problems they possess. Generally speaking, family firms have at least one large shareholder and other small shareholders. For example, Anderson, Mansi, and Reeb (2003) observe that founding families, on average, hold 19% of the firm's outstanding equity in their sample. Because of the incentive of the large shareholder(s) to monitor the manager, the classic agency problem between shareholders and managers will generally be of a smaller degree in

family firms than in non-family firms. However, due to large shareholder's control advantage, another type of agency problem emerges in which large shareholders may procure private profits at the cost of small shareholders. Hence, this type of agency problem is considered to be of larger magnitude in family firms than in non-family firms.

Thus, there are two types of agency problems created by the difference in ownership, control, and management structures in family and non-family firms. The relative influence of these agency problems on the corporate strategies undertaken by firms may lead to differences in performance as well. There is no clear answer regarding which of these two types of agency problems is more impeding to value creation in a firm.

Following Anderson and Reeb (2003), we consider a US public company as a family firm if the members of the instituting families still maintain share ownership in the firm or if family members still serve as board of directors. To test how the unique agency problems in these two different types of firms influence major corporate decisions, we focus on a decision area that is susceptible to agency problems: mergers and acquisitions. In this paper, we empirically examine the long run performance of family and non-family firms after they make an acquisition. Addressing this question will provide evidence on the relative impact of two different types of agency problems on the value creation or destruction in the M&A activities of U.S. corporations.

Furthermore, we specifically examine the value implications of diversifying mergers made by family-firms. Founding families generally maintain undiversified portfolios in their firms. Also, the strong emotional attachment of founding family members to their firms may often lead to an unwavering commitment to firm survival. Anderson and Reeb (2003b) argue that, because of such concentrated holdings of the family members and their strong motive to warrant the continued existence of the firm, founding family members have inspirations to

moderate the risk of the firm. This argument signals that, in the hope of minimizing their firm risk and hence the risk of their personal wealth portfolio, family firms may undertake value destroying diversifying mergers. At the same time, some theories in the literature argue that diversifying takeovers can be value creating. In a theoretical model, Stein (1997) shows that if management has an ability to determine the outcomes of projects, diversification provides an opportunity to minimize the cost of capital of the firm. Thus, diversification improves firms' internal capital market, leading to lower cost of capital and thereby improving firm value. Anderson and Reeb (2003) indeed find that the cost of debt is lower in firms with founding family ownership. Another line of reasoning in favor of diversified firms is that, compared to focused firms which have highly correlated projects; diversified firms have the flexibility to choose from uncorrelated projects more often. As a result, diversified firms have a higher opportunity of creating value by choosing the best among the available projects (DeLong, 2001). Motivated by these arguments, we empirically compare the long-run performance of focus increasing and diversifying acquisitions by family and non-family firms.

Most of the available evidence on the merger decisions of family firms is based on non-U.S. firms. For example, Bae, Kang, and Kim (2002) show that influential shareholders in large Korean firms use mergers and acquisitions to channel wealth away from minority equity holders. However, Ben-Amar and Andre´ (2006) study Canadian firms and observe that the performance of acquiring firms is better if the firm has sizeable family ownership. Shim and Okamuro (2011) study Japanese firms from 1955-1973 and find that mergers occur less often in family firms than in non-family firms. While pre-merger family ownership and the probability of mergers are positively related in their study, they further find that mergers are more beneficial for non-family firms than for family firms.

Analyzing acquisitions of public targets by 103 newly public US family firms, Basu, Dimitrova, and Paeglis (2009) find a positive association between acquirer's family ownership and abnormal returns and a negative association between target's family ownership and abnormal returns around the merger announcement. Similar to Basu et al. (2009), Bauguess and Stegemoller (2008) also study the short-term performance of acquiring family firms and find that firms with founding family presence generally destroy firm value when they acquire.

While closely related, our study differs from Basu et al. (2009), and Bauguess and Stegemoller (2008) in a number of important aspects. First, they look only at the short-run announcement returns around M&A, while we focus on the influence of family firm ownership on long-term value creation in the post-merger period. Also, we compare the value implications of diversifying versus focus-increasing acquisitions whereas they do not. Further, Basu et al. (2009) concentrates on newly public family firms and their acquisitions of public targets only. In our study, we consider new as well as mature firms and all three types of targets, public, private and subsidiary.

Similarly, Caprio, Croci, and Del Giudice (2011) is also related to our paper. They study 777 large continental European companies for the period 1990-2008. They find that the size of the voting rights of the largest shareholder in a family firm is negatively related to the propensity to acquire. They also find that the chance of being acquired by an unrelated party diminishes for the firms with family ownership. Studying cumulative abnormal returns (CAR), they find that family ownership does not reduce value when they acquire other companies. Though related, our paper is distinct from this paper in key ways. They mainly focus on relating the control motives of the largest shareholder in the family firms to the propensity to acquire, whereas we focus on the long-run value implications of acquisition decisions by family firms. We also find that family

firms do not destroy value during acquisitions in search of wealth diversification, whereas they do not examine this point of view. Also, their sample consists of large European firms whereas we study S&P 500 US companies.

Our results show that family acquirers perform significantly better than non-family acquirers based on style-adjusted and market-adjusted buy-and-hold three-year abnormal returns. Calendar time portfolio regression models also show that the average monthly abnormal return for acquiring family firms is significantly positive, while it is insignificant for non-family acquiring firms during the three years after the effective date of acquisition. These results are consistent with Li and Srinivasan (2011), who find that stock returns around M&A announcements, as well as board attendance, are higher in founder-director firms compared with non-founder firms. They argue that if having a founder-director on the board implies better monitoring of the acquisition process, this enhanced monitoring would lead to more favorable M&A decisions and hence higher returns after M&A announcements. Furthermore, our analysis of diversifying mergers shows that family firms that engage in focus-decreasing mergers do not destroy shareholder value. This finding suggests that, in general, the main goal of acquisitions by family firms is not simply to diversify the personal portfolio of the family members. This finding is consistent with the theory that diversification helps to reduce the cost of capital of the firm which could enhance value of the firm.

This study contributes to the literature examining M&A, agency problems, and family ownership. First, the findings help us to better understand the role of ownership structure in mergers and acquisitions activities. Contrary to the notion that family blockholders use M&A transactions to expropriate private benefits from small shareholders, we show that family acquirers perform better than non-family acquirers in the long-run. Second, this paper adds to

the vast literature in mergers and acquisition. To the best of our knowledge, this is the first paper to study the long-term performance of family firm acquirers versus non-family acquirers. The findings provide evidence on the effect of ownership and control on the takeover decisions of firms, showing that family firms are better acquirers than non-family firms. Implicitly, these findings suggest that the agency problem between shareholders and managers (which is of higher magnitude in non-family firms) is more detrimental than the agency problem between large and small shareholders (which is of higher magnitude in family firms) in acquisition activities by large US firms. Also, the finding that diversifying acquisitions by family-firms do not destroy value provides avenues for future research to investigate how family-firms perform in cross-border acquisitions or in geographic diversification.

Furthermore, starting with Anderson and Reeb (2003), studies have shown that the market- and accounting performance of family firms is better than comparable non-family firms. However, the factors that lead to this better performance are not well understood. This paper tries to partially fill that gap by finding M&A as a channel through which family firms perform better than non-family firms. Finally, this study contributes to the M&A literature by providing another dimension to creation and destruction of firm value in mergers and acquisitions.

Pros and Cons of Family and Non-Family Firms

As reviewed in Anderson and Reeb (2003) and other studies, founding family ownership and control can be less profitable than dispersed ownership. For example, Anderson and Reeb (2003) argue that firms with diversified shareholders normally base their investments on the basic finance rules that maximize the value of the firm. However, large shareholders with undiversified holdings may have incentives to increase firm growth, technological innovation, or

firm survival as their primary objective, which may not necessarily lead to shareholder maximization. This point is in line with the Fama and Jensen's (1983) position that combining ownership and control provides large shareholders an opportunity to swap profits for personal advantages. This logic is also consistent with Demsetz's (1983) argument that concentrated shareholders with control rights may choose non-monetary consumption and, hence, take scant resources away from valuable investments.

Also, many family firms hire top executives from inside the family, so they limit their pool of labor force to family members, thus missing the opportunity to hire talented and capable individuals from outside. Villalonga and Amit (2006) find that the disagreement between the family and nonfamily shareholders in descendant-CEO firms is more detrimental than the owner-manager disagreement in nonfamily firms. Similarly, managerial entrenchment is another cost associated with family firms. Because of the family's large stake, these firms may avoid positive NPV projects that cause them to relinquish control (e.g., takeovers).

While some studies have pointed out the disadvantages of the family firm structure, other papers have argued that the family firm structure is value-enhancing as compared to nonfamily firms. For example, Berle and Means (1932) claim that the value of the firm with concentrated ownership should increase as it reduces the conflict of interest between owners and managers. Demsetz and Lehn (1985) pose that the ownership and control combination can be beneficial as the large shareholders can minimize managerial expropriation. Undiversified shareholding and control of management strengthen them to monitor and influence the firm. Similarly, James (1999) argues that family owners have longer investment prospects, which leads to better investment productivity. Similarly, Stein (1988, 1989) models how long investment horizons of large shareholders mitigate the short-sighted decisions of managers.

Recent literature posits that blockholders can govern firms through "exit." That is, selling a firm's stock based on private information (Adamati and Pfliederer, 2009; Edamans, 2009; Edmans and Manso, 2011; Bharath, Jayaraman, and Nagar. 2012). These models suggest that the negative stock price impact of blockholder exit is detrimental to managers because of their equity interest in the firm (equity holding and/or compensation linked to equity). So, managers try to make sure that large blockholders do not exit the firm. This reasoning suggests that the family firms' ownership structure, in which a founding family member is generally a blockholder or a reputed shareholder, reduces the agency problem between shareholders and managers and leads to better performance.

These arguments suggest that, by minimizing the conflict of interest between owners and managers, by enhanced monitoring of managers, and by widening the investment horizon, concentrated ownership and control might increase firm value.

Research on Family and Non-Family Firms

Whether family ownership creates or destroys firm value is an intriguing question of interest in the academic research (Morck, Strangeleand, and Yeung, 2000; Anderson and Reeb, 2003; Cronqvist and Nilsson, 2003). The results are mixed so far.

Studying large U.S. firms, Holderness and Sheehan (1988) find that family firms have a lower Tobin's q than nonfamily firms. Similarly, Morck et al. (2000) find that family successor controlled Canadian firms have lower labor to capital ratios, less R&D spending, and worse financial performance compared to other similar firms. Similarly, Faccio, Lang, and Young (2001) provide evidence that family control may harm minority shareholders in East Asian firms where transparency is low.

However, some studies provide evidence that family-owned firms are more valuable. For example, Claessens et al. (2002) find that firm value increases with the cash-flow ownership of the largest shareholder for a sample of public firms in eight East Asian countries. Also, Anderson and Reeb (2003) find that family firms perform better than nonfamily firms, based on accounting performance and Tobin's q, and after controlling for industry and firm characteristics. Their results are relatively unaffected by the consideration of other block holders or by the discrepancy between the family's ownership and control rights. Their findings further show that the gain from family control becomes higher when the ownership stake exceeds about 30%. Using a more specific classification of family firms, Villalonga and Amit (2006) identified family and nonfamily firms as founder-CEO firms and descendant-CEO firms. Measuring firm performance by Tobin's q and industry-adjusted q, they find that the classic principal-agent problem in nonfamily firms is more disadvantageous than the problem between family and nonfamily owners in the firms led by founder CEOs. However, the conflict between family and nonfamily shareholders in descendant-CEO firms is more costly than the owner manager conflict in non-family firms. In comparing the performance of family controlled firms in Western Europe, Maury (2006) reports that active family control is associated with higher profitability compared to non-family firms, whereas passive family control doesn't affect profitability. By separating the founding family ownership effect from the general blockholder effect, Andres (2008) provides evidence from German exchange-listed companies that family firms outperform widely-held firms as well as firms with other types of concentrated holdings. They further report that family businesses are better only in firms in which a member of the instituting family is still serving either as an executive or as a board member.

Research on Various Corporate Policies of Family and Non-Family Firms

Recent studies have uncovered differences in corporate policies adopted by family and non-family firms. For example, Anderson et al. (2003) show that debt is less expensive for the firms with founding family ownership, both statistically and economically. Furthermore, Hu, Wang, and Zhang (2007) find that family firms pay relatively less dividend (as measured by payout ratio) than non-family firms. Chen, Chen, Cheng, and Shevlin (2010) study the tax aggressiveness of family and non-family firms and find that family firms are less tax aggressive than nonfamily firms. They attribute this result to the family owners being more concerned with the non-tax costs of potential price discounts from non-family shareholders, the potential penalty imposed by the IRS, and the potential damage on family reputation. Liu (2011) find that cash holdings are significantly lower at family firms than in nonfamily firms. Examining the relationship between founding family ownership and compensation practice in Swiss Exchange listed firms, Weisskopf (2012) reports that founding family firms use cash compensation as a substitute for equity-based pay in most cases.

In a similar vein, we are interested in studying the mergers and acquisitions decisions made by family versus non-family firms and the effect of such decisions on their long run performance. This investigation is interesting, particularly, because mergers and acquisitions are major restructuring events that have long-term implications for the firm. Furthermore, previous researchers have documented the agency problems which can affect takeover decisions. The literature argues that members of the founding families value control of the firm and they avoid becoming a takeover target. Also, as Liu (2011) notes, these firms quickly utilize cash, mostly on projects profiting the controlling family owners. Thus, family firms might be tempted to make acquisitions to deploy cash quickly and to avoid being taken over themselves.

Data

Anderson and Reeb (2003) provide the original sample of family and non-family firms in the S&P 500 universe. The sample begins with the companies in the S&P 500 index as of the end of 1992 and continues through 1999. Anderson and Reeb (2003) categorize a firm as family owned if the members of the instituting families of a US public company still maintain share ownership in the firm or if family members still serve as board of directors. The sample for the period 2000-2006 is generously made available by Liu (2011), who expanded the sample until 2006 using a variety of sources such as proxy statements of the firms, 10-Ks, histories of the companies, and different web sources.

We obtained mergers and acquisitions data from Thompson Reuters' SDC Database. Only completed acquisitions with majority stakes are considered. That is, buybacks, acquisitions of assets, minority stake acquisitions, exchange offers etc. are excluded from the sample. We have also omitted the firms in highly regulated industries, utilities and financials. Further, to capture deals with a significant economic impact on the bidder, we only include transactions with a value greater than $100 million.

In order to study long-run performance, we include only the first acquisition (satisfying the above mentioned criterion) made by a firm within three years. As stated in Lyon, Barber, and Tsai (1999), the process of avoiding overlapping returns addresses the concern of cross-sectional dependence caused by overlapping observations. Loughran and Vijh (1997) point out that no look-ahead bias is present in this restriction. Also, we omit the year 1992 in the classification of family and non-family firm, to make sure that the firm was already classified under that type

before they started the acquisition process. With this selection procedure, we obtained 226 acquisitions made by family and non-family S&P 500 firms.

Finally, our source of financial data is COMPUSTAT and the source of return data is CRSP. We hand-collected Institutional ownership (INSOWN) and age of the CEO (CEOAGE) variables. The financial data was not available for 10 firms. Thus, our final sample consists of 213 acquisitions from 1993 to 2006. Among those, 67 acquisitions are made by family firms, and 146 are made by non-family firms.

Table 9 Panel A provides a breakdown of the sample of 213 acquisitions by year, and Panel B shows the industry distribution. The percentage in Panel A is the percentage of family firms in a given year out of the total number of acquisitions in the sample in that year. In Panel B, percentages in the fourth column provide the percentage of acquisitions in that industry by both family and non-family firms. Columns 2 and 3 show that acquisitions by family firms are proportionately higher in industries like: Printing and Publishing, Consumer goods, Business Services, Machinery, and Restaurants, Hotels and Motels. Given the distribution of these acquisitions in years and industries, we control for year fixed effects and industry fixed effects in the multivariate analysis.

Table 10 provides descriptive statistics for the control variables used in the multivariate analysis. Panel A provides the summary statistics for the continuous variables, and Panel B shows the percentage of family versus non family firms in different groups used as dummy variables. In panel A, we find that the mean transaction value (TVAL) for family firm acquisitions is $752 million whereas it is $2.34 billion for non-family firms. However, after scaling the transaction value by the bidder's total assets, the values (TVAT) are 0.54 and 0.56 for family and non-family firms, respectively, and the difference is insignificant. Similarly, the

market value of equity for family and non-family firms are respectively $18 billion and $23 billion. While the descriptive statistics are generally not significantly different for family versus non family firms, two notable exceptions are the level of cash holdings (CHLD), which is 0.36 for family firms and 0.21 for non-family firms, and institutional ownership (INSOWN), which is 56.54% for family firms and 66.35% for non-family firms. The difference between family and non-family firms in these two characteristics is significant at the 1% level. These descriptive variables are measured as of the fiscal-year end before the effective date of the acquisition.

Panel B shows that the percentage of acquisitions involving public targets is larger for family acquirers (about 40%) than for non-family acquirers (about 27%). The percentage of focus-increasing mergers, stock offers, and tender offers are similar for both types of firms. Almost half of the deals made by non-family acquirers are in high tech industries (based on SDC definitions), as compared to 42% for family acquirers. The full description of variables is provided in Appendix A.

Table 11 presents the correlation coefficients of the variables used in empirical studies in the article. Our variable of interest, FAM, is a dummy variable equal to one if the firm is a family firm and zero if the firm is a non-family firm. The correlation coefficient between FAM and any of the other control variables is generally small.

Multivariate Analysis

Buy-and-Hold Abnormal Returns (BHARs)

We calculate the buy and hold abnormal returns (BHAR) for each firm i for the period t=1 to t=T in the following way:

$$BHAR_{i,T} = \prod_{t=1}^{T}(1 + R_{i,t}) - \prod_{t=1}^{T}(1 + R_{benchmark,t})$$

where the mean buy and hold abnormal return is the value weighted average of the individual BHARs:

$$\overline{BHAR} = \sum_{i=1}^{N} w_i * BHAR_i$$

In order to test our hypothesis, we estimate the following cross-sectional regression:

$$\begin{aligned}\mathrm{BHAR_{i,t+k}} = {} & \alpha_0 + \beta_1 \mathrm{FAM_{i,t}} + \beta_2 \mathrm{LMVL_{i,t-1}} + \beta_3 \mathrm{TVAT_{i,t}} + \beta_4 \mathrm{PUB} + \beta_5 \mathrm{SHR} + \beta_6 \mathrm{ROA_{i,t}} \\ & + \beta_7 \mathrm{DIVR} + \beta_8 \mathrm{CHLD_{i,t}} + \beta_9 \mathrm{TO} + \beta_{10} \mathrm{INSOWN_{i,t}} + \beta_{11} \mathrm{CEOAGE_{i,t}} \\ & + \mathrm{YearDummies} + \mathrm{IndustryDummies} + \varepsilon_{i,t}\end{aligned}$$

where $\mathrm{BHAR_{i,t+k}}$ is the buy-and-hold abnormal return k year(s) after the effective date of acquisition. The two benchmarks used when measuring BHAR are: style-adjusted (size and book-to-market adjusted) returns and market adjusted returns. Benchmark returns for style-adjusted BHARs are the returns of 25 size and book to market matched portfolios obtained from 20 size and 20 book to market Fama-French portfolios: 20 size portfolios are grouped into 5 portfolios based on size and similarly, 20 portfolios based on book-to-market of the firms are grouped into 5 book-to-market portfolios and finally we have 5*5=25 size and book-to-market matched portfolios. The benchmark returns for market-adjusted BHARs are the CRSP valued-weighted market returns. $\mathrm{FAM_{i,t}}$ is a dummy variable equal to 1 if firm i is a family firm in year t and zero otherwise. $\mathrm{LMVL_{i,t}}$ is the common logarithm of the market value for firm i in the last

trading day of the month before the effective date of the merger. $TVAT_{i,t}$ is the SDC deal value (in millions) of the merger (TVAL) for firm i in year t ,scaled by lagged assets. PUB is a dummy variable equal to 1 if the target firm is public and zero otherwise. SHR is a method of payment variable equal to 1 if the transaction is paid with stock only and zero otherwise. $ROA_{i,t}$ is the operating income before depreciation for firm i in year t scaled by lagged asset. DIVR is a dummy variable equal to 1 if the acquirer and target are not in the same 2-digit industry and zero otherwise. $CHLD_{i,t}$ is the sum of the Cash and Short term investments for firm i in year t scaled by lagged assets. TO is a tender offer indicator variable. $INSOWN_{i,t}$ is the percentage of institutional ownership of firm i in the year t. $CEOAGE_{i,t}$ is the age of the CEO of the firm i in year t.We also provide the definitions of these variables in Appendix C.

Calendar-Time Portfolio Regression

In addition to the cross-sectional approach described above, we also evaluate the long-term returns using Calendar-time factor model regressions. The returns of the acquiring family and non-family firms are the value-weighted average of returns for firms in the sample. The value weighted averaging is performed separately for family and non-family firms for three years after the acquisition, and the models are also run separately.

We start with a four factor model including the traditional Fama French three factors plus the momentum factor. We obtain the three factor data from Kenneth French's website. We also include a liquidity factor of Pastor and Stambaugh (2003). The two models we use are as follows:

$$R_{pt} - r_{ft} = AR_t + \alpha_1\left(R_{mt} - r_{ft}\right) + \alpha_2 SMB_t + \alpha_3 HML_t + \alpha_4 UMD_t \qquad (A)$$

and

$$R_{pt} - r_{ft} = AR_t + \alpha_1\left(R_{mt} - r_{ft}\right) + \alpha_2 SMB_t + \alpha_3 HML_t + \alpha_4 UMD_t + \alpha_5 LIQ_t \qquad (B)$$

Where:

R_{pt} = monthly return on a value-weighted calendar time portfolio of family (non-family) firms.

r_{ft} = monthly return on three-month T-bill.

AR_t = intercept term, or the mean monthly abnormal return for the calendar time portfolio.

R_{mt} = monthly return on a value-weighted market index.

SMB_t = monthly difference in the returns of a value-weighted portfolio of small and big stocks.

HML_t = monthly difference in the returns of a value-weighted portfolio of high book-to-market stocks and low book-to-market stocks.

UMD_t = monthly difference in the returns of a value-weighted portfolio of past winner stocks and past loser stocks.

LIQ_t = the value-weighted return on the 10-1 portfolio from a sort on historical liquidity betas, as defined in Robert F. Stambaugh's website.

Multivariate Results

Buy-and-hold abnormal returns (BHARs). Table 12 provides the results of the cross sectional analysis of buy-and-hold abnormal returns (BHARs). In Panel A, the dependent variable is the 1-year buy-and-hold abnormal return of the whole sample of firms, where the returns are calculated from the month after the effective date of the acquisition through the next

twelve months. After controlling for firm and deal characteristics as well as year and industry fixed effects, we see that family firms have around 15 to 18 % higher returns (significant at the 5% level) than non-family firms in the first year after the merger, based on style adjusted and market adjusted benchmark returns.

In Panel B of Table 12, the dependent variable is the 3-year buy-and-hold abnormal return, where the returns are calculated from the month after the effective date through the next thirty-six months. Using the same specification as in Panel A, we find that family firms have around 40% higher returns than the non-family firms in the three years following the merger based on style-adjusted returns. Similarly, using market-adjusted returns, the three year post-merger returns are 36% higher for family acquirers than for non-family acquirers. The coefficient of the family firm dummy (FAM) is significant at the 5% level in the style-adjusted specification, and at 10% in the market-adjusted specification. Thus, our results are in line with other studies such as Anderson and Reeb (2003); Villalonga and Amit (2006) who have found better long term performance for family firms as compared to non-family firms.

The control variables are not significant in explaining the acquirers' three year post-merger performance, with the one exception of the public target indicator variable, which is negative and significant. The lower announcement period abnormal return associated with purchasing public, as opposed to non-public, targets is a well-known phenomenon. For example, Fuller, Netter, and Stegemoller (2002) find that bidder abnormal returns around the merger announcement are significantly higher when the target is private than when the target is public. However, this finding has not been well-established in the long-run. Thus, our result provides long-run evidence to support the short-run findings, highlighting the importance of the target's public status in acquisitions.

Calendar-time portfolio regression. In Table 13, we report the results of the four-factor model and five-factor model, which are run separately for family and non-family firms. Panel A shows that the average monthly abnormal return for non-family acquirers is 0.21%, with a t-statistic of 1.15 (p-value 0.25). In contrast, the monthly abnormal return is 0.75% for the portfolio of family firms, with a t-statistic of 2.34 (p-value 0.02). The other factors have generally the expected signs.

In Panel B of Table 13, we report the results for the five factor model (including Pastor and Stambaugh's liquidity factor). In this case, the intercept for the non-family acquirers is 0.25%, with a t-statistic of 1.40 (p-value 0.16). The average monthly abnormal return for family acquirers is 0.69%, with a t-statistic of 1.98 (p-value 0.04). These time-series results help to confirm the cross-sectional findings showing better post-merger performance for family acquirers as compared to non-family acquirers.

Family firms, diversifying mergers, and firm value. Given the potential increased diversification incentives of family firms, we also study the long-run value implications of diversifying and focus-increasing acquisitions by family and non-family firms in Table 6. In Panel A of Table 6, we provide results of regressions with year and industry fixed-effects. The dependent variables are one-year style-adjusted and market-adjusted (respectively in first and second models) buy and hold abnormal returns (BHARs) measured after the effective date of acquisition. The variables of interest are the family firm dummy (FAM) and the interaction term between family firm dummy and the dummy for diversifying merger (DIVR), that is FAM_DIVR. We consider an acquisition as diversifying, that is DIVR=1, if the acquiring and the target firms are not in the same two-digit (four-digit) industry. In the first model, we calculate style-adjusted buy and hold abnormal returns (BHARs): the large positive sum of the

coefficients of FAM and FAM_DIVR (that is 5.80+26.35= 32.15) implies that diversifying acquisitions by family firms do not destroy value in the long-run. In the second model, we calculate market-adjusted buy and hold abnormal returns (BHARs). Again, the large positive sum of the coefficients of FAM and FAM_DIVR (that is 2.50+27.72= 30.22) reconfirms that diversifying acquisitions by family firms do not destroy value in the long-run. These results are based on two-digit definition of the DIVR dummy. We get qualitatively similar results when we use a four-digit SIC code definition of the DIVR dummy.

In Panel B of Table 14, our dependent variable is the three-year buy and hold abnormal returns (BHARs). In Model 1, we use the style-adjusted BHARs as dependent variables and in Model 2; we use the market-adjusted BHARs as dependent variables. The results suggest that the three year stock-return performance (as measured by BHARs) is positively related (with large coefficients: 9.27+58.87=68.14and 8.32+54.62=62.94 for style-adjusted and market adjusted respectively) for diversifying mergers by family firms. The results indicate that the diversifying acquisitions by family firms do not destroy value in such undertakings.

Overall, our results do not support the risk minimization via diversification motive of family firms during major corporate takeovers. That is, the results imply that family firms do not acquire firms from other industries just to diversify the portfolio of their personal wealth. Rather, the results are consistent with Stein's model that diversification helps firms to create value by the lowering cost of capital. Graham, Lemmon, and Wolf (2002) find that, on average, corporate diversification do not destroy value. They provide evidence that the occurrence of much of the excess value reduction of acquiring firms is because they acquire already discounted business units and not because the acquisitions are diversifying. They suggest that the practice of using stand-alone firms as a benchmark for valuing the conglomerate needs to be reconsidered. In our

tests, we compare only acquiring firms and our benchmarks are from the universe of all US firms. Further, our findings are also consistent with the argument of DeLong (2001) that diversified firms can choose a good project from the pool of many unrelated projects so that they can create value in the long-run.

Conclusion

The value of the family firm structure, as compared to the non-family structure, has been the subject of much debate in the literature, which has shown largely mixed findings. There is relatively little evidence on the performance implications of these two different types of ownership structures for U.S. firms, especially in the long-run. Using a sample of 213 S&P 500 family and non-family firms, we compare the long-run acquisition performance of family firms versus non-family firms. We employ cross-sectional regression models using buy-and-hold abnormal returns, as well as calendar time portfolio regression models too. We find that family acquirers perform significantly better than their non-family counterparts when performance is measured as style-adjusted or market-adjusted buy-and-hold abnormal returns in the three years following the merger. Calendar time portfolio regression models also show that the average monthly abnormal return for family acquirers is significantly positive, while it is insignificant for non-family acquirers. These results are consistent with recent literature that has found that family firms tend to perform better than non-family firms. These results imply that the agency problem between shareholders and managers in traditional non-family firms might be more severe than the agency conflict between large and small shareholders in family firms. This line of research provides a rich source for future investigation.

Conflicting hypotheses motivate us to study diversifying versus focus-increasing acquisitions by family firms. One line of research suggests that family firms undertake value-destroying diversifying acquisitions to reduce the risk of their wealth concentrated in the firm. An alternative argument is that diversification has positive aspects such as reduction in cost of capital and the ability to choose the most valuable projects from a wide set of uncorrelated projects. Our empirical analysis implies that, on average, family firms do not make value-destroying diversifying acquisitions, suggesting that family firms do not pursue acquisitions simply to diversify the personal portfolios of the founding family members. The argument that diversifying acquisitions assist firms to reduce their cost of capital and enable firms to improve value is consistent with this finding. Our result is also in line with the logic that diversification provides firms with a set of uncorrelated projects so that firms may enhance value by selecting some of the most promising among them.

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APPENDIX A:

DEFINITION OF VARIABLES

Variables	**Definitions**
DUAL	A dummy variable equal to one if the acquirer is a dual-class firm and 0 if it is a single-class acquirer.
SIZE	Logarithm of the market value of equity of the firm in the year prior to the acquisition (in case the firm going public and making an acquisition are in the same year, we use the market value of the same year).
TOBINQ	The Tobin's Q of the acquiring firm
SLACK	Cash and short-term investments of the firm divided by the total assets of the firm in the year prior to the acquisition.
DEBTRATION	The total long-term debt of the firm divided by the market value of equity of the firm.
CRISIS	A dummy variable equal to one if the year is 2001, 2002, 2007, or 2008 and zero otherwise.
INTCOV	The ratio of the earnings-before-interest and taxes (EBIT) divided by the net interest paid by the firm.
IPOPRO	Logarithm of the IPO Proceeds value net of fees and expenses scaled by total assets.
VCBACKED	A dummy variable equal to one if the firm had VC backing before the IPO and zero otherwise.
RDEALSIZE	The transaction value of the acquisition divided by market value of equity of the firm in the year prior to the acquisition.
RELATED	A dummy variable equal to one if both the acquirer and the target are in the same four-digit industry and zero otherwise.
TECH	A dummy variable equal to one if the acquiring firm is in a high tech industry (details of SIC codes is provided in Appendix A) and zero otherwise.
TENDER	A dummy variable equal to one if the deal is a tender offer and zero otherwise.
SUBS	A dummy variable equal to one if the target is a subsidiary and zero otherwise.
ASSET	A dummy variable equal to one if the deal is an acquisition of assets and zero otherwise.
INNOT	A dummy variable equal to one if the target is in one of the top sixteen industries by cite/pat from the table in Appendix B (reproduced from Sevilir and Tian, 2012).
INNOTA	A dummy variable equal to one if the target is in one of the top 16 industries by cite/pat from the table in Appendix B (reproduced from Sevilir and Tian, 2012).
MOPC	A dummy variable equal to one if the method of payment is Cash.
PUBTAR	A dummy variable equal to one if the target is a public firm.
DUAL_MOPC	Interaction term between DUAL and MOPC.
DUAL_INNOT	Interaction term between DUAL and INNOT.
DUAL_INNOA	Interaction term between DUAL and INNOT.
CEOAGE	Age of the acquiring CEO in the year of acquisition.

APPENDIX B:

Panel B: Industry Distribution of Key Variables by Fama-French Industry Classifications

Industry	Pats	Cites/Pat	M&A volume	R&D intensity	N
Aircraft	142.13	6.56	0.024	0.059	545
Defense	110.05	6.66	0.021	0.030	190
Chemicals	103.10	4.02	0.021	0.048	2,569
Automobiles and trucks	91.40	5.45	0.019	0.042	2,030
Shipbuilding, Railroad eq.	83.82	4.09	0.024	0.014	264
Electronic Equipment	76.22	6.13	0.028	0.124	7,631
Electrical Equipment	66.88	5.6	0.020	0.054	2,272
Computers	63.27	5.00	0.033	0.147	6,174
Machinery	58.93	5.11	0.023	0.055	4,195
Consumer goods	56.16	3.49	0.018	0.032	2,068
Business supplies	46.94	4.14	0.022	0.010	1,707
Pharmaceutical products	39.01	3.17	0.024	0.281	7,503
Recreation	34.42	2.88	0.021	0.049	1,321
Medical equipment	31.61	7.01	0.026	0.144	4,528
Measuring and control eq.	28.63	5.06	0.028	0.134	2,914
Construction materials	21.51	2.68	0.016	0.010	2,336
Shipping containers	21.14	3.19	0.024	0.022	391
Agriculture	20.78	1.45	0.019	0.024	465

Petroleum and natural gas	19.20	0.97	0.038	0.006	5,981
Food products	16.82	1.60	0.021	0.008	2,067
Beer & Liquor	17.90	1.31	0.020	0.011	461
Steel works etc.	16.55	2.13	0.019	0.011	1,957
Other	14.34	1.59	0.015	0.052	2,694
Tobacco products	11.32	1.15	0.028	0.007	187
Communication	10.28	1.18	0.032	0.013	5,923
Rubber & Plastic products	7.51	3.03	0.020	0.024	1,319
Business services	6.87	1.83	0.039	0.105	17,689
Textiles	4.30	1.77	0.019	0.006	697
Construction	3.84	0.68	0.018	0.003	1,725
Wholesale	3.76	0.82	0.022	0.006	5,281
Apparel	2.21	1.37	0.019	0.002	1,720
Non-metallic & metal min.	1.48	0.55	0.018	0.001	1,028
Trading	1.45	0.28	0.024	0.013	7,380
Fabricated products	1.35	1.79	0.024	0.007	535
Transportation	1.10	0.43	0.015	0.002	3,526
Coal	1.04	0.12	0.023	0.002	187
Utilities	0.44	0.40	0.013	0.002	6,579
Banking	0.41	0.11	0.005	0.001	15,055
Healthcare	0.32	0.40	0.035	0.015	2,562
Entertainment	0.31	0.41	0.021	0.010	2,694
Retail	0.30	0.30	0.016	0.005	6,603
Printing & Publishing	0.19	0.34	0.030	0.014	1,070
Restaurants, hotels, motels	0.15	0.10	0.016	0.001	2,809
Personal services	0.12	0.76	0.028	0.011	1,373
Precious Metals	0.04	0.25	0.032	0.001	1,525
Insurance	0.02	0.17	0.012	0.003	4,469
Real estate	0.02	0.13	0.017	0.007	1,680
Candy & Soda	0.01	0.02	0.023	0.019	358

Source: Sevilir and Tian (2012)

APPENDIX C:

DESCRIPTION OF THE VARIABLES

TVAL = Deal value (in million) of the merger from SDC

TVAT = TVAL/ Total Asset

MVAL = (closing price of the stock in the last trading day of the month before the effective date of the merger) * Number of shares outstanding (in millions).

LMVL = Common logarithm of MVAL.

ROA = Operating income before depreciation/Total Assets.

CHLD = Cash and Short term investments/Total Assets.

INSOWN = Institutional ownership (in the percentage) in the acquiring firm in the year of acquisition.

CEOAGE = Age of the CEO of the acquiring firm in the year of acquisition.

All of the above variables are constructed for the acquiring firms.

Dummy Variables

FAM = One if the firm is a family firm and zero if it is a non-family firm.

PUB= One if the target corporation is public and zero otherwise (non-public).

DIVR = One if the acquirer and target are not in the same two-digit (four-digit) industry, else zero (focus increasing).

SHR =One if the transaction is paid by stocks only, else zero (other payments).

TO = One if the bid is a tender offer, else zero (Non-tender offer).

Table 1. Descriptive Statistics
Panel A. Distribution of Single and Dual-Class IPOs

This table provides the number of firms going public with single and dual-class of shares between 1990 and 2008. All the issues are from U.S. markets. The financial firms (SIC 6000-6999), REITS, and issues with less than $5.00 issue prices are excluded. IPO year is the year of issue date.

IPO Year	Single-Class	Dual-Class	Total
1990	99	6	105
1991	238	20	258
1992	349	17	366
1993	427	28	455
1994	336	28	364
1995	381	26	407
1996	556	55	611
1997	374	36	410
1998	220	24	244
1999	390	31	421
2000	318	19	337
2001	61	6	67
2002	47	9	56
2003	43	6	49
2004	135	11	146
2005	111	16	127
2006	128	6	134
2007	127	12	139
2008	16	3	19
Total	**4356(92.4%)**	**359(7.6%)**	**4715(100%)**

Table 1. Descriptive Statistics
Panel B.

This table provides the difference in mean test of some important variables used in empirical examination. *SIZE* is logarithm of the market value of equity of the firm in the year prior to the acquisition (in the case of the firm going public and making an acquisition in the same year, we use the market value of the same year). *TOBINQ* is the Tobin's Q of the acquiring firm measured as the ratio of the market value of equity to the book value of assets. *VCBACKED* is a dummy variable equal to one if the firm had VC backing before the IPO and zero otherwise. *RDEALSIZE* is the transaction value of the acquisition divided by the market value of equity of the firm in the year prior to the acquisition. *RELATED* is a dummy variable equal to one if both the acquirer and the target are in the same four-digit industry and zero otherwise. *DEBTRATION* is the total long-term debt of the firm divided by the market value of equity of the firm.

Variables	**Dual-Class**	**Single-Class**	**p-value**
Number of firms	113	1,266	
SIZE (in millions)	3,122.5	1,654.8	0.05
TOBINQ	1.29	2.94	<0.001
VCBACKED	0.26	0.51	<0.001
RDEALSIZE	2.35	2.98	0.67
RELATED	0.5	0.36	0.01
DEBTRATIO	0.63	0.45	0.09

Table 2: Distribution of Acquirers

Panel A provides the distribution and Chi-squared test of the method of payment in acquisitions by IPO firms. The columns with Year 0-3 list the acquisitions made within three years of going public, the columns with Year 0-4 list the acquisitions made within four years of going public, and the columns with Year 0-5 list the acquisitions made firms within five years of going public. The acquirers are the IPOs between 1990 and 2008 from Table 1, Panel A. *CASH*, *HYBRID*, and *SHARES* are the method of payment used in the acquisitions and are obtained from the SDC database. Similarly, Panel B provides the distribution and Chi-squared test of the types of acquisitions. The columns with Year 0-3 list the acquisitions made within three years of going public, the columns with Year 0-4 list the acquisitions made within four years of going public, and the columns with Year 0-5 list the acquisitions made firms within five years of going public. The acquirers are the IPOs between 1990 and 2008 from Table 1, Panel A. *MERGER*, *ACQ ASSET*, and *OTHER* are the merger, acquisition of assets, and other types of acquisitions, respectively. In both panels, we have included acquisitions from 1990 to 2012; thus, if the IPO year is 2008, the Year 0-5 column includes acquisitions within four years only for those particular IPOs.

Panel A: Methods of payment for single and dual-class acquirers

Method of Payment	**Year 0-3**				**Year 0-4**				**Year 0-5**			
	Single	**%**	**Dual**	**%**	**Single**	**%**	**Dual**	**%**	**Single**	**%**	**Dual**	**%**
CASH	724	35.6	96	51.9	890	36.7	126	55.0	1025	37.1	149	55.6
HYBRID	582	28.6	54	29.2	669	27.6	62	27.1	758	27.4	70	26.1
SHARES	728	35.8	35	18.9	865	35.7	41	17.9	982	35.5	49	18.3
TOTAL	2,034	100.0	185	100.0	2,424	100.0	229	100.0	2765	100.0	268	100.0
Chi-Squared		28.5 (<0.001)				41.3 (<0.001)				49.1 (<0.001)		

Table 2: Distribution of Acquirers (Continued)

Panel B: Distribution of types of acquisitions												
Types of Merger	**Year 0-3**				**Year 0-4**				**Year 0-5**			
	Single	**%**	**Dual**	**%**	**Single**	**%**	**Dual**	**%**	**Single**	**%**	**Dual**	**%**
MERGER	985	48.4	76	41.1	1189	49.1	89	38.9	1356	49.0	107	39.9
ACQ ASSET	1031	50.7	108	58.4	1214	50.1	139	60.7	1382	50.0	158	59.0
OTHER	18	0.9	1	0.5	21	0.8	1	0.4	27	1.0	3	0.1
TOTAL	2,034	100.0	185	100.0	2,424	100.0	229	100.0	2765	100	268	100.0

Table 3: Method of Payment

In Panel A, the dependent variable is *STOCK*, which is equal to one if the method of payment is *STOCK* and zero if the method of payment is *CASH* or *HYBRID*. The regression model is described in Section 4.2. The definitions of the control variables are provided in Appendix A. Acquisitions with all three types of methods of payment are included. In Panel B, we exclude acquisitions with *HYBRID* as a method of payment.

Panel A: Acquirers including *HYBRID* method of payment						
	MODEL 1		**MODEL 2**		**MODEL 3**	
Variables	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**
INTERCEPT	0.33	0.58	1.47	0.09	1.01	0.25
DUAL	-0.66***	0.01	-0.90***	<.001	-0.86***	<.001
SIZE	-0.07	0.14	0.01	0.92	0.00	1.00
TOBINQ	0.05***	<.001	0.04**	0.02	0.04**	0.02
SLACK	0.99***	<.001	1.34***	<.001	1.40***	<.001
CRISIS	1.00***	<.001	0.82***	0.01	0.85***	<.001
DEBTRATIO	0.21*	0.07	0.25**	0.05	0.25**	0.05
INTCOV	0.01	0.88	-0.01	0.74	-0.01	0.71
IPOPRO	-0.08	0.15	-0.01	0.88	-0.01	0.94
VCBACKED	0.46***	<.0001	0.45***	<.001	0.46***	<.001
RDEALSIZE	0.01	0.63	0.01	0.29	0.00	0.31
RELATED	0.10	0.42	0.03	0.85	0.02	0.88
INNOA			-0.50***	<.001		
INNOT					-0.44***	0.01
CEOAGE			-0.04***	<.0001	-0.04***	<.001
TECH	-0.71***	<.001				
TENDER	-2.48***	<.001	-1.93***	0.01	-1.97***	0.01
SUBS	-0.57***	<.001	-0.83***	<.001	-0.82***	<.001
ASSET	-2.08***	<.001	-2.03***	<.001	-2.04***	<.001
N	1,977			1,185		1,185
R2	0.28			0.30		0.30

Table 3 (Continued)

Panel B: Acquirers excluding HYBRID method of payment						
	MODEL 1		**MODEL 2**		**MODEL 3**	
Variables	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**
INTERCEPT	2.77***	0.01	4.53***	0.01	4.48	0.01
DUAL	-0.64**	0.03	-0.75***	0.04	-0.72***	0.05
SIZE	-0.13**	0.03	-0.11	0.17	-0.11	0.17
TOBINQ	0.14**	0.04	0.07**	0.04	0.07**	0.04
SLACK	1.20***	<.001	2.59***	<.001	2.59***	<.001
CRISIS	0.60**	0.04	0.74*	0.06	0.80***	0.051
DEBTRATIO	0.23*	0.07	0.27**	0.05	0.26**	0.05
INTCOV	0.01	0.55	-0.13	0.40	-0.13	0.40
IPOPRO	-0.16**	0.02	-0.16*	0.08	-0.14	0.11
VCBACKED	0.70***	<.001	0.81***	<.001	0.89***	<.001
RDEALSIZE	-0.01	0.59	-0.01	0.37	-0.01	0.39
RELATED	0.16	0.30	0.05	0.79	0.03	0.88
INNOA			-0.61***	0.01		
INNOT					-0.60***	0.01
CEOAGE			-0.04***	0.01	-0.04***	0.01
TECH	-0.93***	<.001				
TENDER	-3.92***	<.001	-3.94***	<.001	-3.98***	0.01
SUBS	-1.40***	<.001	-2.33***	<.001	-2.32***	<.001
ASSET	-2.38***	<.001	-2.40***	<.001	-2.41***	<.001
N		1,408		865		865
R2		0.40		0.44		0.44

Table 4: Effect of Cash-Flow Right, Voting Right, and the Wedge on Method of Payment

In Panel A, we test the effect of cash-flow rights *(CFR)* on the Choice of Method of Payment. The dependent variable is *STOCK*, which is equal to one if the method of payment is *STOCK* and zero if the method of payment is *CASH*. The logit regression model is described in Section 4.2. The definitions of the control variables are provided in Appendix A. Acquisitions with *STOCK* or *CASH* as the method of payment are included. In Panel B, we test the effect of voting rights *(VOTER)* on the Choice of Method of Payment. The dependent variable is *STOCK*, which is equal to one if the method of payment is *STOCK* and zero if the method of payment is *CASH*. The logit regression model is described in Section 4.2. The definitions of the control variables are provided in Appendix A. Acquisitions with *STOCK* or CASH as the method of payment are included. In Panel C, we test the effect of Wedge *(WEDGE)* on the Choice of Method of Payment. *WEDGE* is measured as the difference between voting rights and cash-flow rights. That is, *WEDGE=VOTER-CFR.* The dependent variable is *STOCK*, which is equal to one if the method of payment is *STOCK* and zero if the method of payment is *CASH*. The logit regression model is described in Section 4.2. The definitions of the control variables are provided in Appendix A. Acquisitions with *STOCK* or *CASH* as the method of payment are included. Panel D is similar to Panel C, but *WEDGE* is measured as the ratio of voting rights to cash-flow rights.

Panel A: Effect of Cash-flow Rights (CFR) on the Choice of Method of Payment

	Year 0-3		**Year 0-4**		**Year 0-5**	
Variable	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**
INTERCEPT	2.86	0.54	6.73*	0.07	9.08***	0.01
CFR	0.08	0.96	-0.98	0.51	-1.57	0.28
SIZE	-0.37	0.25	-0.51**	0.08	-0.67***	0.01
TOBINQ	0.02	0.95	-0.06	0.85	0.04	0.89
SLACK	-3.98**	0.06	-3.71*	0.08	-4.27**	0.03
CRISIS	1.51	0.12	0.56	0.44	0.38	0.64
VCBACKED	2.93***	<0.001	2.38***	<0.001	2.40***	<0.001
RELATED	0.13	0.88	-0.24	0.75	-0.06	0.94
TECH	-1.84*	0.07	-1.39	0.15	-1.86**	0.04
SUBS	-0.31	0.75	-1.41*	0.09	-1.39*	0.09
	N=88		N=107		N=118	
	$AdjR^2$=0.50		$AdjR^2$=0.44		$AdjR^2$=0.46	

Table 4 (Continued)

Panel B: Effect of Voting Rights (VOTER) on the Choice of Method of Payment

	Year 0-3		Year 0-4		Year 0-5	
Variable	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**
INTERCEPT	10.53	0.13	13.29**	0.02	14.90***	0.01
VOTER	-3.16*	0.09	-3.75**	0.03	-4.02**	0.02
SIZE	-0.71	0.11	-0.81	0.03	-0.92	0.01
TOBINQ	-0.03	0.96	-0.05	0.89	0.02	0.96
SLACK	-4.39**	0.05	-4.61**	0.04	-5.00***	0.02
CRISIS	0.76	0.48	-0.04	0.96	0.20	0.80
VCBACKED	2.67***	<0.001	2.25***	<0.001	2.37***	<0.001
RELATED	0.33	0.71	0.18	0.82	0.37	0.64
TECH	-2.79**	0.03	-2.30*	0.06	-2.58**	0.03
SUBS	-0.70	0.45	-1.57*	0.06	-1.61*	0.06
	N=88		N=107		N=118	
	$AdjR^2$=0.49		$AdjR^2$=0.49		$AdjR^2$=0.51	

Table 4 (Continued)

Panel C: Effect of *WEDGE* on the Choice of Method of Payment *Wedge= VOTER-CFR*						
	Year 0-3		**Year 0-4**		**Year 0-5**	
Variable	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**
INTERCEPT	5.00	0.25	7.60	0.03	9.85	0.01
WEDGE	-3.90**	0.04	-3.48*	0.07	-3.79**	0.05
SIZE	-0.46	0.34	-0.56**	0.05	-0.74***	0.01
TOBINQ	0.07	0.84	-0.01	0.97	0.11	0.66
SLACK	-4.78**	0.03	-4.61**	0.03	-5.27***	0.01
CRISIS	1.13	0.23	0.37	0.62	0.06	0.93
VCBACKED	2.87***	<0.001	2.41***	<0.001	2.49***	<0.001
RELATED	0.27	0.74	0.03	0.97	0.26	0.73
TECH	-1.87*	0.07	-1.40	0.15	-1.92**	0.04
SUBS	-0.18	0.83	-1.17	0.13	-1.07	0.15
	N=88		N=107		N=118	
	$AdjR^2$=0.50		$AdjR^2$=0.47		$AdjR^2$=0.48	

Table 4 (Continued)

Panel D: Effect of *WEDGE* on the Choice of Method of Payment *WEDGE= VOTER/CFR*						
	Year 0-3		**Year 0-4**		**Year 0-5**	
Variable	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**
INTERCEPT	3.71	0.33	6.41	0.04	9.02	0.01
WEDGE	-1.05**	0.04	-0.89**	0.05	-0.90*	0.08
SIZE	-0.30	0.30	-0.43*	0.08	-0.62***	0.01
TOBINQ	0.06	0.86	-0.03	0.90	0.12	0.62
SLACK	-5.35**	0.02	-4.91	0.02	-5.60	0.01
CRISIS	1.32	0.17	0.63	0.40	0.20	0.79
VCBACKED	3.00***	0.01	2.48***	<0.001	2.48***	<0.001
RELATED	0.40	0.61	0.08	0.91	0.25	0.72
TECH	-1.60	0.11	-1.12	0.24	-1.81**	0.04
SUBS	-0.07	0.94	-1.10	0.15	-0.95	0.20
	N=88		N=107		N=118	
	$AdjR^2$=0.53		$AdjR^2$=0.50		$AdjR^2$=0.50	

Table 5: Effect of High Low Wedge *(HW)* on the Choice of Method of Payment

In Panels A, B, and C, the results are from the logit regression model. The dependent variable is *STOCK*, which is equal to one if the method of payment is *STOCK* and zero if the method of payment is *CASH*. The samples for Panels A, B, and C are acquisitions within three, four, and five years by dual-class IPOs, respectively.

Panel A: Acquisitions within three years of going public (With Metrick data) (*HW*: 5%, 10%, 15%)						
	Year 0-3 (5%)		**Year 0-3 (10%)**		**Year 0-3 (15%)**	
Variable	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**
INTERCEPT	7.19	0.18	4.47	0.37	6.99	0.22
HW	-1.02	0.39	-2.84**	0.03	-4.72***	0.01
SIZE	-0.62	0.14	-0.46	0.27	-0.58	0.19
TOBINQ	0.15	0.73	0.15	0.76	0.12	0.84
SLACK	-1.53	0.55	-0.13	0.97	1.27	0.71
CRISIS	0.09	0.94	0.95	0.52	1.18	0.52
VCBACKED	2.13	0.06	2.62	0.06	2.56	0.16
RELATED	0.33	0.76	0.01	0.99	2.12	0.23
TECH	-2.73	0.07	-2.51	0.10	-5.63	0.01
SUBS	-0.87	0.36	-0.86	0.40	-1.14	0.41
	N=80		N=80		N=80	
	$AdjR^2$=0.44		$AdjR^2$=0.52		$AdjR^2$=0.62	

Table 5 (Continued)

Panel B: Acquisitions within four years of going public (With Metrick data)						
	Year 0-4 (5%)		**Year 0-4 (10%)**		**Year 0-4 (15%)**	
Variable	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**
INTERCEPT	9.00**	0.05	7.94*	0.07	9.76**	0.04
HW	-0.65	0.59	-1.86**	0.08	-2.97***	0.01
SIZE	-0.70*	0.06	-0.62*	0.08	-0.63*	0.10
TOBINQ	0.10	0.80	0.21	0.60	0.17	0.73
SLACK	-2.07	0.41	-1.34	0.59	-0.04	0.99
CRISIS	-0.45	0.68	-0.26	0.81	-0.80	0.50
VCBACKED	1.95*	0.06	1.92*	0.07	1.27	0.28
RELATED	0.14	0.89	-0.08	0.94	0.77	0.53
TECH	-2.30	0.13	-2.12	0.15	-3.35*	0.06
SUBS	-1.57*	0.06	-1.51*	0.08	-2.22**	0.04
	N=99		N=99		N=99	
	$AdjR^2$=0.46		$AdjR^2$=0.50		$AdjR^2$=0.57	

Table 5 (Continued)

Panel C: Acquisitions within four years of going public (With Metrick data) (High Low wedge: 5%, 10%,15%)*						
	Year 0-5 (5%)		**Year 0-5 (10%)**		**Year 0-5 (15%)**	
Variable	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**
INTERCEPT	10.40***	0.01	9.69***	0.01	11.07***	0.01
HW	-0.75	0.54	-1.84**	0.08	-3.06***	0.01
SIZE	-0.81**	0.02	-0.75**	0.02	-0.73**	0.04
TOBINQ	0.20	0.55	0.32	0.38	0.26	0.55
SLACK	-2.12	0.40	-1.50	0.54	-0.08	0.98
CRISIS	-0.74	0.46	-0.64	0.51	-1.10	0.31
VCBACKED	1.85*	0.07	1.77*	0.08	1.10	0.33
RELATED	0.37	0.69	0.23	0.80	1.06	0.35
TECH	-2.78**	0.04	-2.74**	0.03	-3.85***	0.01
SUBS	-1.49*	0.07	-1.37*	0.10	-2.13**	0.04
	N=110		N=110		N=110	
	$AdjR^2$=0.48		$AdjR^2$=0.52		$AdjR^2$=0.59	

Table 6: Acquisition Tendency of Single and Dual-Class IPO Firms

Panels A and B compare the acquisition activities of single and dual-class IPOs within the first two years of going public. In Panel A, we consider acquisitions with at least 1 million dollars of transaction value and 1% of the market capitalization. In Panel B, we consider any qualified acquisitions. In Panel C, we compare acquisitions in innovative industries (top one-third from Sevilir and Tian, 2012).

Panel A: Acquisitions with at least 1 million dollars of transaction value and 1% of the market capitalization

	No. of Firms	Acquiring Within First Year of IPO				Acquiring Within Two Years of IPO			
IPO Type		**Acq Firms**	**%**	**Total M&As**	**Ratio**	**Acq Firms**	**%**	**Total M&As**	**Ratio**
Single	4,356	589	13.52	801	1.36	969	22.2	1506	1.55
Dual	359	47	13.09	59	1.26	83	23.1	125	1.51
Total	4,715	636	13.49	860	1.35	1,052	22.3	1631	1.55

Panel B: Any qualified acquisition

	No. of Firms	Acquiring Within First Year of IPO				Acquiring Within Two Years of IPO			
IPO Type		**Acq Firms**	**%**	**Total M&As**	**Ratio**	**Acq Firms**	**%**	**Total M&As**	**Ratio**
Single	4,356	1,098	25.20	1745	1.59	1,637	37.58	3191	1.95
Dual	359	91	25.34	157	1.73	144	40.11	322	2.23
Total	4,715	1,189	25.22	1902	1.60	1,781	37.77	3513	1.97

Table 6 (Continued)

Panel C: Acquisition of innovative targets by single and dual-class IPO firms

IPO Type	No. of Firms	Acquiring within first year of IPO				Acquiring within two years of IPO			
		Acq Firms	Total M&As	INNOT	% INNOT	Acq Firms	Total M&As	INNOT	% INNOT
Single	4,356	1,098	1,745	901	51.63	1,637	3,191	1,681	52.68
Dual	359	91	157	88	56.05	144	322	196	60.87
Total	4,715	1,189	1,902	989	52	1,781	3,513	1,877	53.43

Table 7: Buy-and-Hold Abnormal Returns

In Panel A, the dependent variable is style-adjusted one-year BHAR. The sample of firms consists of single and dual-class acquirers making acquisitions within three years of going public. Targets in innovative industries are the targets in the top one-third of the industries in Table 1, Panel B of Sevilir and Tian's (2012) paper, "Acquiring Innovation," which is reproduced in Appendix B.

Panel A: One year buy-and-hold abnormal return *(BHAR)*								
Variable	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**
INTERCEPT	-0.07	0.79	-0.08	0.76	-0.02	0.94	-0.11	0.69
DUAL	0.13*	0.07	0.20*	0.06	-0.09	0.43	0.01	0.96
DUAL_MOPC			-0.13	0.36				
DUAL_INNOT					0.39***	0.01		
DUAL_INNOA							0.19	0.18
PUBTAR	0.01	0.91	0.01	0.92	0.01	0.91	-0.02	0.78
SIZE	-0.01	0.51	-0.01	0.5	-0.01	0.55	0.01	0.83
TOBINQ	0.01	0.24	0.01	0.23	0.01	0.25	0.00	0.18
VCBACKED	0.05	0.23	0.05	0.22	0.06	0.15	0.05	0.20
RDEALSIZE	0.01	0.57	0.01	0.58	0.01	0.49	0.00	0.44
RELATED	0.01	0.79	0.01	0.77	0.02	0.71	0.03	0.47
DEBTRATIO	0.02	0.69	0.02	0.68	0.01	0.81	0.02	0.60
TENDER	0.21	0.22	0.22	0.21	0.18	0.28	0.24	0.17
ASSET	-0.05	0.21	-0.06	0.2	-0.05	0.22	-0.05	0.26
MOPC	0.03	0.46	0.05	0.33	0.03	0.45	0.03	0.56
INNOT	0.02	0.68	0.02	0.68	-0.01	0.9		
INNOA							-0.10	0.23
INDUSTRY	YES		YES		YES		YES	
YEAR	YES		YES		YES		YES	
R-squared	10.8		10.86		11.28		11.17	
N	1,379		1,379		1,379		1,379	

Table 7 (Continued)

Panel B: Two year buy-and-hold abnormal return *(BHAR)*								
Variable	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**
INTERCEPT	-0.27	0.51	-0.29	0.48	-0.21	0.62	-0.26	0.52
DUAL	0.27***	0.01	0.40***	0.01	0.01	0.99	0.07	0.67
DUAL_MOPC			-0.23	0.29				
DUAL_INNOT					0.49**	0.03		
DUAL_INNOA							0.36*	0.09
PUBTAR	-0.01	0.92	-0.01	0.91	-0.01	0.92	-0.03	0.77
SIZE	0.01	0.67	0.01	0.68	0.01	0.63	0.01	0.53
TOBINQ	0.01	0.85	0.01	0.87	0.01	0.84	0.00	0.96
VCBACKED	0.18***	0.01	0.18***	0.01	0.19***	0.01	0.19	0.00
RDEALSIZE	0.01	0.11	0.01	0.12	0.01*	0.09	0.00	0.08
RELATED	0.01	0.99	0.01	0.97	0.01	0.92	0.03	0.60
DEBTRATIO	-0.02	0.79	-0.02	0.81	-0.03	0.69	-0.02	0.80
TENDER	0.3	0.25	0.31	0.24	0.26	0.32	0.31	0.24
ASSET	-0.1	0.11	-0.11	0.1	-0.1	0.12	-0.10	0.11
MOPC	0.11	0.13	0.13	0.08	0.11	0.13	0.09	0.21
INNOT	-0.01	0.86	-0.01	0.86	-0.05	0.54		
INNOA							-0.23	0.06
INDUSTRY	YES		YES		YES		YES	
YEAR	YES		YES		YES		YES	
R-squared	10.27		10.35			10.61	10.64	
N	1,379		1,379		1,379		1379	

Table 7 (Continued)

Panel C: Three year buy-and-hold abnormal return *(BHAR)*								
Variable	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**
INTERCEPT	-0.14	0.78	-0.15	0.76	-0.06	0.90	-0.15	0.76
DUAL	0.29**	0.03	0.37**	0.05	-0.02	0.91	0.08	0.68
DUAL_MOPC			-0.16	0.52				
DUAL_INNOT					0.55**	0.04		
DUAL_INNOA							0.36	0.16
PUBTAR	-0.08	0.55	-0.08	0.54	-0.08	0.55	-0.11	0.41
SIZE	0.02	0.38	0.02	0.38	0.02	0.35	0.02	0.24
TOBINQ	0.01	0.75	0.01	0.76	0.01	0.74	0.00	0.89
VCBACKED	0.18**	0.02	0.18**	0.02	0.19***	0.01	0.18**	0.02
RDEALSIZE	0	0.78	0	0.77	0.00	0.85	0.00	0.92
RELATED	0.01	0.9	0.01	0.89	0.01	0.84	0.04	0.60
DEBTRATIO	-0.11	0.14	-0.11	0.15	-0.12	0.11	-0.11	0.16
TENDER	0.41	0.19	0.42	0.19	0.37	0.24	0.43	0.17
ASSET	-0.18**	0.02	-0.18**	0.02	-0.18**	0.02	-0.17	0.03
MOPC	0.25***	0.01	0.26***	0.01	0.25***	0.01	0.22	0.01
INNOT	0.01	0.9	0.01	0.9	-0.03	0.77		
INNOA							-0.22	0.13
INDUSTRY	YES		YES		YES		YES	
YEAR	YES		YES		YES		YES	
R-squared	9.21		9.24		9.52		9.30	
N	1,379		1,379		1,379		1,379	

Table 7 (Continued)

Panel D: Four year buy-and-hold abnormal return *(BHAR)*								
Variable	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**	**Coefficient**	**p-value**
INTERCEPT	-0.62	0.23	-0.62	0.23	-0.59	0.25	-0.67	0.19
DUAL	0.24*	0.09	0.28	0.17	-0.11	0.62	0.03	0.90
DUAL_MOPC			-0.08	0.78				
DUAL_INNOT					0.59**	0.04		
DUAL_INNOA							0.35	0.20
PUBTAR	-0.03	0.83	-0.03	0.83	-0.03	0.83	0.01	0.92
SIZE	0.04*	0.07	0.04*	0.07	0.04*	0.06	0.05**	0.04
TOBINQ	0.01	0.67	0.01	0.66	0.01	0.67	0.00	0.58
VCBACKED	0.07	0.38	0.07	0.37	0.09	0.28	0.09	0.24
RDEALSIZE	0.01	0.39	0.01	0.38	0.01	0.45	0.00	0.48
RELATED	-0.05	0.55	-0.05	0.56	-0.04	0.61	0.00	0.96
DEBTRATIO	-0.05	0.53	-0.05	0.53	-0.06	0.44	-0.06	0.48
TENDER	0.3	0.35	0.3	0.35	0.25	0.43	0.25	0.44
ASSET	-0.12	0.15	-0.12	0.15	-0.12	0.16	-0.12	0.15
MOPC	0.18**	0.04	0.19**	0.04	0.18**	0.04	0.17*	0.05
INNOT	0.02	0.84	0.02	0.84	-0.02	0.83		
INNOA							-0.16	0.30
INDUSTRY	YES		YES		YES		YES	
YEAR	YES		YES		YES		YES	
R-squared	8.2		8.21		8.52		8.43	
N	1,346		1,346		1,346		1,346	

TABLE 8: Acquirers in First Year and Non-Acquirers in First Year

The acquirers are the dual-class IPO firms acquiring within one-year of going public and the non-acquirers are dual-class IPOs that do not acquire within one-year of going public. *BHAR* is the style-adjusted buy-and-hold returns. Acquirers are the firms that acquire another firm within one year of going public and non-acquirers are those that do not acquire any firm within one year of going public.

	Dual-class			**Single-class**		
	Acquirers	**Non-Acquirers**	**Difference Test**	**Acquirers**	**Non-Acquirers**	**Difference Test**
	N=82	**N=233**	**p-value**	**N=978**	**N=2849**	**p-value**
BHAR(0,1)	2.04	-6.56	0.25	5.96	0.01	0.03
BHAR(0,2)	18.36	0.00	0.23	-1.11	-8.25	0.01
BHAR(0,3)	11.68	-3.14	0.40	-15.16	-2.73	0.01
BHAR(0,4)	14.95	-4.31	0.39	-24.21	-4.72	0.01
BHAR(1,2)	12.8	2.04	0.23	-11.61	4.14	0.01
BHAR(1,3)	11.6	-2.85	0.24	-7.14	0.15	0.01
BHAR(1,4)	6.55	0.05	0.70	-15.57	2.97	0.01

Table 9: Distribution of Family and Non-Family Firms by Years and Industries

Panel A provides the frequency distribution of non-family and family acquirers by year of the effective date of acquisition. Only the first acquisition (satisfying all screening criterion) within three years is taken into consideration. Percentage is the percentage of family firms in the given year out of total acquisitions. Panel B provides the distribution of 213 acquisitions by the industry of the acquirers. Industry classification is based on Fama -French 48 industries.

Panel A: By Years				
Year	**Non-family Acquirers**	**Family Acquirers**	**Total**	**Percentage**
1993	6	3	9	33.33
1994	12	6	18	33.33
1995	11	5	16	31.25
1996	15	6	21	28.57
1997	21	7	28	25.00
1998	10	6	16	37.50
1999	27	9	36	25.00
2000	12	6	18	33.33
2001	8	3	11	27.27
2002	1	7	8	87.50
2003	6	3	9	33.33
2004	8	4	12	33.33
2005	7	1	8	12.50
2006	2	1	3	33.33
Total	**146**	**67**	**213**	**31.46**

Table 9 (Continued)

Panel B: By Industries				
Industry	**Non-Family Frequency**	**Family frequency**	**Total**	**Percentage**
Food Products	4	3	7	3.29
Candy & Soda	1	0	1	0.47
Beer & Liquor	0	1	1	0.47
Recreation	3	2	5	2.35
Printing and Publishing	4	5	9	4.23
Consumer Goods	6	4	10	4.69
Apparel	1	2	3	1.41
Healthcare	1	0	1	0.47
Medical Equipment	11	1	12	5.63
Pharmaceutical Products	16	2	18	8.45
Chemicals	5	2	7	3.29
Rubber and Plastic Products	0	1	1	0.47
Textiles	0	1	1	0.47
Construction Materials	7	0	7	3.29
Steel Works Etc	3	2	5	2.35
Machinery	6	5	11	5.16
Electrical Equipment	2	0	2	0.94
Automobiles and Trucks	2	2	4	1.88
Aircraft	5	0	5	2.35
Shipbuilding, Railroad Equipment	0	3	3	1.41
Defense	3	0	3	1.41
Precious Metals	1	0	1	0.47
Non-Metallic and Industrial Metal Mining	2	0	2	0.94
Petroleum and Natural Gas	10	1	11	5.16
Personal Services	0	1	1	0.47
Business Services	8	8	16	7.51
Computers	10	6	16	7.51
Electronic Equipment	10	5	15	7.04
Measuring and Control Equipment	3	0	3	1.41
Business Supplies	8	0	8	3.76
Wholesale	2	0	2	0.94
Retail	11	6	17	7.98
Restaurants, Hotels, Motels	1	4	5	2.35
Total	**146**	**67**	**213**	**100**

Table 10: Summary Statistics

Panel A of this table provides the summary statistics of the variables used in the regression specifications. The definition of the variables and their units are provided in Appendix C. Panel B provides the number of observations for both categories of the dummy variables used in the study. The details of the dummies are also provided in Appendix C. Transaction value (TVAL) and Market value (MVL) are expressed in millions of dollars.

Panel A

Variable	Family	Non-family	Difference test
Transaction Value (**TVAL)**	752	2342.6	0.09
Transaction Value/Asset (**TVAT)**	0.54	0.56	0.93
Market Value (**MVL)**	17,967.2	23,037.2	0.33
Log(Market Value) (**LMVL)**	15.72	16.01	0.16
Return on Asset (**ROA)**	0.34	0.32	0.60
Cash holding (**CHLD)**	0.36	0.21	0.00
Insti Ownership (**INSOWN**)	0.53	0.49	0.66
Age of the CEO (**CEOAGE**)	56.54%	66.35%	< 0.001
	54	55	0.91

Panel B:

Dummy Variables	Categories	Family		Non-family	
		Number	**Percentage**	**Number**	**Percentage**
Public target (PUB)	Public	27	40.30	40	27.40
	Non-public	40	59.70	106	72.60
Diversifying (DIVR)	Focus Increasing	28	41.79	76	52.05
	Non-focus Increasing	39	52.21	70	47.97
Share (SHR)	Share Payment	18	26.87	44	30.14
	Other payments	49	73.13	102	69.86
Tender Offer (TO)	Tender Offer	17	25.37	30	20.55
	Non-Tender Offer	50	74.63	116	79.45

Table 11: Correlation Matrix

This table reports the correlation coefficients for the key variables used in the regressions. TVAL= Deal value (in millions) of the merger from SDC. TVAT= TVAT/Total Assets. MVAL= (closing price of the stock in the last trading day of the month before the effective date of the merger)*Number of shares outstanding. LMVL= Common logarithm of MVAL. ROA= operating income before depreciation/Total Assets. MB = (MVAL +Book value of equity)/Total Assets. CHLD = Cash and Short-term investments/Total Assets. LTD = Total long-term debt/Total Assets, INSOWN = institutional ownership in the acquiring firm in the year of acquisition, and CEOAGE = Age of the CEO of the acquiring firm in the year of acquisition. All of the above variables are constructed for the acquiring firms. PUB is equal to one if the target firm is public, zero otherwise (non-public). DIVR is equal to one if the acquirer and target are not in the same two-digit industry, and zero otherwise (Non-focus increasing). SHR is equal to one if the transaction is paid by stocks only and is zero otherwise (other payments). TO is equal to one if the bid is a tender offer and zero otherwise (Non-tender offer). HI is equal to one if the deal is classified as Hi-tech in SDC and zero otherwise (Non Hi-Tech).

Variables	**LMVL**	**FAM**	**TVAT**	**PUB**	**SHR**	**ROA**	**DIVR**	**CHLD**	**TO**	**INSOWN**	**CEOAGE**
LMVL	1.00										
FAM	-0.11	1.00									
TVAT	-0.10	-0.01	1.00								
PUB	0.11	-0.12	0.23	1.00							
SHR	0.07	-0.04	-0.03	-0.09	1.00						
ROA	0.27	0.03	0.20	0.05	0.02	1.00					
DIVR	0.17	-0.12	-0.22	0.01	-0.11	-0.17	1.00				
CHLD	0.06	0.18	-0.16	-0.07	0.12	-0.14	-0.18	1.00			
TO	-0.05	0.03	-0.08	0.37	-0.31	0.01	0.14	-0.03	1.00		
INSOWN	-0.18	-0.32	-0.01	0.11	0.03	-0.12	-0.02	-0.10	-0.05	1.00	
CEOAGE	0.04	0.01	0.11	0.03	-0.04	-0.01	0.04	-0.09	0.03	0.03	1.00

Table 12: Buy and Hold Abnormal Returns

This table presents the coefficients and the p-values for the independent variables used to explain the buy-and hold abnormal returns (BHARs) for the combined samples of family and non-family acquirers. The dependent variable is BHAR for the 12 months (for Panel A) and 36 months (for Panel B) after the month of the effective date of the acquisition and the variable of interest is the dummy variable FAM, which is equal to one if the acquirer is a family firm in that year and zero otherwise. Style-adjusted return uses the returns of the 25 size and book-to-market portfolios as the benchmark return and market-adjusted return uses the value-weighted market return for that month. The definition of other variables can be obtained in Appendix C.

Panel A: 1-year Buy and hold abnormal returns				
Dependent variable: 1-year buy-and-hold abnormal returns				
Variable	**Style-adjusted**		**Market Adjusted**	
	Coefficient	**p-value**	**Coefficient**	**p-value**
Intercept	-89.69	0.11	-74.88	0.14
FAM	**17.95**	**0.02**	**15.28**	**0.05**
LMVL	2.59	0.38	2.07	0.50
TVAT	1.97	0.55	2.66	0.44
PUB	-13.10	0.09	-11.10	0.16
SHR	-5.17	0.48	-2.10	0.78
ROA	-2.27	0.90	6.35	0.73
DIVR	8.55	0.22	8.63	0.23
CHLD	-7.21	0.49	-8.39	0.44
TO	-0.66	0.94	6.54	0.49
INSOWN	2.72	0.91	-4.68	0.85
CEOAGE	0.23	0.43	0.11	0.70
Year Fixed Effect	Yes		Yes	
Industry fixed Effect	Yes		Yes	
R^2	18.09%		15.34%	
N	213		213	

Table 12: Buy and Hold Abnormal Returns

Panel B: 3-year Buy and hold abnormal returns				
Dependent variable: 3-year buy-and-hold abnormal returns				
Variable	**Style-adjusted**		**Market Adjusted**	
	Coefficient	**p-value**	**Coefficient**	**p-value**
Intercept	-115.63	0.33	-9.83	0.93
FAM	**39.56**	**0.04**	**35.55**	**0.07**
LMVL	-1.24	0.86	-5.98	0.41
TVAT	9.18	0.26	11.67	0.16
PUB	-32.46	0.08	-30.49	0.10
SHR	-22.50	0.20	-13.94	0.44
ROA	-8.21	0.85	-9.36	0.83
DIVR	33.41	0.05	26.17	0.12
CHLD	12.33	0.63	3.91	0.88
TO	-24.42	0.27	-7.15	0.75
INSOWN	13.55	0.82	-7.74	0.90
CEOAGE	0.64	0.36	0.16	0.82
Year Fixed Effect	Yes		Yes	
Industry fixed Effect	Yes		Yes	
R^2	18.42%		14.22%	
N	207		207	

Table 13: Calendar Time Portfolio Regressions

This table reports the results from the four- and five-factor calendar time portfolio regression as specified in Equations (A) and (B) in Section 3.2. Intercept is the mean monthly return on the calendar time portfolio given by AR_t; MKT is $R_{mt} - r_{ft}$, which is the abnormal return on the value-weighted market index; SMB is the monthly difference in the returns of a value-weighted portfolio of small and big stocks; HML is the monthly difference in the returns of a value-weighted portfolio of high book-to-market; UMD is the monthly difference in the returns of a value-weighted portfolio of past winner stocks and past loser stocks; and LIQ is the value-weighted return on the 10-1 portfolio from a sort on historical liquidity betas, as defined in Robert F. Stambaugh's website.

Panel A: Calendar time four factor model regression						
Variable	**Non-Family Acquirers**			**Family Acquirers**		
	Estimate	**t-value**	**p-value**	**Estimate**	**t-value**	**p-value**
Intercept	**0.21**	**1.15**	**0.251**	**0.75**	**2.35**	**0.0204**
MKT	0.80	18.65	<.0001	0.97	12.7	<.0001
SMB	-0.34	-6.56	<.0001	-0.03	-0.28	0.7835
HML	-0.05	-0.89	0.3757	-0.4	-3.95	0.0001
UMD	-0.10	-3.09	0.0023	-0.32	-5.34	<.0001
Number of months		190			190	
Adjusted R-squared		72.49%			64.17%	
Panel B: Calendar time five factor model regression						
Variable	**Non-Family Acquirers**			**Family Acquirers**		
	Estimate	**t-value**	**p-value**	**Estimate**	**t-value**	**p-value**
Intercept	**0.25**	**1.40**	**0.1629**	**0.69**	**1.98**	**0.0493**
MKT	0.78	15.92	<.0001	1.01	10.49	<.0001
SMB	-0.32	-6.45	<.0001	-0.01	-0.09	0.925
HML	-0.07	-1.12	0.2664	-0.38	-3.03	0.0028
UMD	-0.13	-3.90	0.0001	-0.38	-5.65	<.0001
LIQ	0.06	1.25	0.2139	0.07	0.77	0.4424
Number of months		178			178	
Adjusted R-squared		72.67%			62.71%	

Table 14: Diversifying and Non-diversifying Acquisitions

In Panel A, the dependent variables are style-adjusted and market adjusted one-year BHARs. In Panel B, the dependent variables are style-adjusted and market adjusted t-year BHARs. FAM is a dummy variable equal to one if the firm is a family firm and zero otherwise. DIVR is a dummy variable equal to one if acquirers and targets are not in the same two-digit SIC industry.

Panel A: 1-year buy-and-hold abnormal returns				
Dependent variable: 1-year buy-and-hold abnormal returns				
Variable	**Style-Adjusted**		**Market Adjusted**	
	Coefficient	**p-value**	**Coefficient**	**p-value**
Intercept	-70.63	0.15	-54.84	0.28
FAM	**5.80**	**0.58**	**2.50**	**0.82**
FAM_DIVR	**26.35**	**0.07**	**27.72**	**0.07**
LMVL	2.08	0.48	1.53	0.61
TVAT	1.75	0.60	2.44	0.48
PUB	-10.80	0.10	-8.68	0.21
SHR	-5.41	0.45	-2.36	0.75
ROA	-0.14	0.99	8.59	0.64
DIVR	0.94	0.91	0.62	0.94
CHLD	-9.61	0.36	-10.91	0.31
TO	-1.15	0.90	6.03	0.52
INSOWN	-1.35	0.96	-8.97	0.72
CEOAGE	0.23	0.43	0.11	0.70
Year Fixed Effect	Yes		Yes	
Industry Fixed Effect	Yes		Yes	
R^2	19.09%		18.37%	
N	213		213	

Table 14 (Continued)

Panel B: 3-year buy-and-hold abnormal returns				
Dependent variable: 3-year buy-and-hold abnormal returns				
Variable	**Style-adjusted**		**Market Adjusted**	
	Coefficient	**p-value**	**Coefficient**	**p-value**
Intercept	-107.21	0.41	1.33	0.99
FAM	**9.27**	**0.69**	**8.32**	**0.72**
FAM_DIVR	**58.87**	**0.06**	**54.62**	**0.08**
LMVL	-0.24	0.97	-5.52	0.45
TVAT	5.68	0.50	8.94	0.30
PUB	-29.48	0.09	-27.31	0.10
SHR	-22.28	0.21	-13.94	0.44
ROA	-18.53	0.68	-16.25	0.72
DIVR	9.87	0.56	8.60	0.61
CHLD	4.71	0.85	-2.14	0.93
TO	-22.25	0.31	-6.04	0.79
INSOWN	0.85	0.99	-18.93	0.75
CEOAGE	0.65	0.35	0.16	0.82
Year Fixed Effect	Yes		Yes	
Industry Fixed Effect	Yes		Yes	
R^2	19.44%		16.77%	
N	207		207	