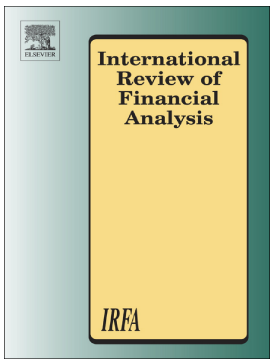

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PII: S1057-5219(19)30078-X
DOI: https://doi.org/10.1016/j.irfa.2019.101373
Article Number: 101373
Reference: FINANA 101373

To appear in: *International Review of Financial Analysis*

Received date: 2 February 2019
Revised date: 4 July 2019
Accepted date: 6 July 2019

Please cite this article as: Y. Fan, A. Boateng, T. King, et al., Board-CEO friendship ties and firm value: Evidence from US firms, International Review of Financial Analysis, https://doi.org/10.1016/j.irfa.2019.101373

Board-CEO friendship ties and firm value: Evidence from US firms

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Acknowledgement:

We are grateful to the Editor Professor Brian Lucey and the anonymous reviewer for their guidance and helpful comments.

Board-CEO friendship ties and firm value: Evidence from US firms

Abstract

This study examines the impact of board-CEO friendship ties on firm value and explores potential channels through which changes in firm value may be conveyed, based on a sample of 1,696 publicly listed firms in U.S. over the period of 2000-2014. The study reveals that board-CEO friendship ties have a negative and economically meaningful impact on firm value, as measured by Tobin's Q and Total Q. Regarding potential channels of firm value, we show that the negative influence of board-CEO friendship ties on firm value is reduced in firms with greater board advising requirements but intensified in firms with higher board monitoring needs. We also find social ties tend to destroy firm value whereas professional ties do not. Our results are robust to endogeneity concerns, and after controlling for board-CEO professional ties.

Keywords: Board-CEO friendship ties; Firm value; Agency theory, Directors

JEL Classification: G30; M41

1. Introduction

Board directors fulfil an important corporate governance role. They contribute advice and counsel as well as overseeing and monitoring CEO behaviour on behalf of firm shareholders and wider stakeholders (Westphal, 1999; Hillman and Dalziel, 2003; Adams and Ferreira, 2007; Linck et al., 2008; Hwang and Kim, 2009; Zorn et al., 2017; Talavera, 2018). While, standard agency theoretical predictions stress a crucial role of corporate boards in reducing costs associated with the separation of firm ownership and control, the resource-based view (RBV) focuses on value added to the firm through the strength of directors' social capital (e.g. formal and informal network ties and external contingencies) and human capital (e.g. expertise, and reputation) (Hillman and Dalziel, 2003)[1]. Together these theories posit that heterogeneity in board composition should have significant implications for firm value. It is therefore not surprising that the impact of board heterogeneity on firm-level outcomes has been the subject of increasing attention in the academic literature (Linck et al., 2008; Stevens and Radin, 2009; Adams and Ferreira, 2009; Fracassi and Tate, 2012; Falato et al., 2014; Armstrong et al., 2014; Guo and Masulis, 2015; Zorn et al. 2017; Talavera et al., 2018; Kang et al., 2018)[2].

Despite this attention, most studies focus on the effects of board-CEO social ties on board effectiveness, board selection, and the performance of new product introduction (Westphal, 1999; Wu, 2008; Hoitash, 2011; Hwang and Kim, 2009; Krishnan et al., 2011; Nguyen, 2012; Bruynseels and Cardinaels, 2014; Rose et al., 2014; Khanna et al., 2015; Schmidt, 2015; Houson et al., 2017). Relatively, little attention has been given to the effects of friendship ties between board directors and CEOs on firm value, including the channels

[1] The value that individual directors can potentially contribute is highlighted in survey-based evidence, which suggests that institutional investors are willing to pay a premium for effective board governance (Investor Relations Business, 2000).

[2] Extant empirical evidence supports the assertion that heterogeneity in board composition has significant implications for corporate actions and that board effectiveness varies with, for example, social connections with the CEO (Westphal, 1999; Nguyen, 2012; Rose et al., 2014), board independence (Nguyen, 2012; Zorn et al., 2017), directors current and past appointments on corporate boards (Sundaramurphy et al., 2014), and whether directors possess financial and/or scientific backgrounds (Sundaramurphy et al., 2014).

through which firm value may occur (Adams and Ferreira, 2007; Fracassi and Tate, 2012)[3]. Yet researchers such as Raheja (2005); Harris and Raviv (2006) and Adams at al. (2010) argue that the way boards are composed may bolster the credibility of the firm to outside investors, reduce cost of capital and increase firm value. For example, it may be argued that board-CEO social ties[4] may send a negative signal to the market because such ties may reduce effective monitoring, thereby engendering agency costs and resulting in erosion of firm value (Daily and Dalton, 1994).

Another argument why social ties should matter is given by RBV, which supports the assertion that social network capabilities of top management teams can provide an important basis for firms' competitive advantages (Shrader and Siegel, 2007; Daily, Certo and Dalton, 2000; Hambrick and Mason, 1984). In turn, these competitive advantages are conjectured to be determinants of firm value because they influence a firm's strategy and decision-making (Peteraf, 1993; Pennings et al., 1998). Emphasizing the importance of board-CEO relationships, Leana and Van Baren (1999: 539) contend such relationships serve as "*a resource reflecting members' level of collective goal orientation and shared trust, which creates value by facilitating successful collective action*". Several studies (Barney, 1991; Amit and Schoemaker, 1993; Peteraf, 1993) argue that board-CEO social ties are likely to produce a competitive advantage and improve firm value because they are intangible, rare, and socially complex, which makes them difficult to imitate. Moreover, it is argued that board-CEO social ties should matter for firm value because they influence board advising and monitoring functions. In particular, the board's advising role, which is often limited by information asymmetries, may be reduced due to pre-existing network connections between

[3] Board-CEO friendship ties are common in large U.S. firms, with existing evidence highlighting that CEOs regularly nominate friends to become firm directors (Westphal and Stern, 2006). In our sample, a typical CEO has a mean (median) 0.2371 (0.2737) director friendship ties.

[4] Board-CEO social ties refer to *Friendship Tie Breadth* and *Friendship Tie Depth* (Fracassi and Tate, 2012).

the board and the CEO. Consequently, board-CEO social ties may improve the board's advising role, leading to increases in firm value. Conversely, from an agency cost perspective such social ties could be associated with lower firm value. For example, Fracassi and Tate (2012) demonstrate that CEO-board network ties weaken the intensity of board monitoring.

Operationalizations of board-CEO relationships, which rely on both agency theory and RBV assumptions, offer interesting and seemingly conflicting predictions as to how they might impact firm value. They also yield two key questions: 1) what are the firm value implications of board-CEO social ties?; and 2) assuming such ties matter, through which channels do board-CEO network connections influence firm value? Wu (2008) points out that the effects of the relationship between the board and top executives on organisational outcomes remains inconclusive and under-researched. More recently, Kumar and Zattoni (2018) called for investigation of factors that may impede boards' efficacy and the implication of these for firm value. Unfortunately, with the exception of Fracassi and Tate (2012) and Kang et al. (2018), no systematic attention has been given to the effects of board-CEO friendship ties on firm value. It is pertinent to note that, Fracassi and Tate (2012) and Kang et al (2018) examined the effects of CEO-director social connection on board selection, firm value and firm innovation respectively. However, they ignored the channels through which such connections affect firm value. Crucially, it remains unclear, how friendship ties between board directors and CEOs may impact firm value, and, assuming such ties matter for firm value, through which channels[5] (Adams and Ferreira, 2007). This study attempts to address this gap.

We address these two key research questions using a rich dataset containing 14,433 firm-year observations drawn from 1,696 publicly listed U.S. firms from 2000 to 2014. To

[5] Following prior theoretical work (Adams and Ferreira, 2007; Linck et al., 2008) we identify board monitoring and advising as two channels through which changes in firm value may occur.

examine how board-CEO friendship ties impact firm value, we follow recent studies (Fracassi and Tate, 2012; Khanna et al., 2015; Schmidt, 2015), in specifying two friendship tie measures: *Friendship Tie Breadth*, defined as the number of directors with friendship ties to the CEO divided by the total number of board directors, and, *Friendship Tie Depth*, computed as the number of friendship ties a CEO has with board directors divided by the total number of board directors. We specify *Tobin's Q*[6] as our main proxy for firm value and check the robustness of our results using alternative performance measures (including, Total Q, the volatility of firm profitability, the Demerjian et al. (2012) measure of managerial ability and using various proxies for board advising and monitoring functions).

By way of preview, our main results reveal that both the breadth and depth of board-CEO friendship ties are negatively and significantly related to firm value, although the impact of breadth ties appears stronger. Regarding the channels through which board-CEO network ties matter, we find the effects of interactions between CEO-board friendship ties and monitoring variables (i.e., CEO duality, tenure and CEO share ownership) to be negative, which suggests that such ties lead to loss of firm value through the monitoring channel. However, interactions between CEO-board friendship ties and proxies representing the need for advising (i.e. size, firm diversification and research & development intensity) are positive and significant, which indicate that such ties can contribute positively to firm value by improving the quality of board advising. Our results are robust to further tests, including the use of alternative model specifications that control for professional ties, additional variables, as well as for sources of endogeneity.

Our study makes three primary contributions. First, by combining agency theory and RBV, it furthers our understanding on how social ties between boards and managers

[6] Variable definitions can be found in Appendix A.

influence firm value. More specifically, we show that board-CEO friendship ties are associated with firm value. Over the past two decades, the press, academics and practitioners have raised concerns about board composition, monitoring and advising roles of the board, due to the waves of corporate scandals and frauds that continue to destroy firm value. The findings of our study yield fresh insight on the consequences of board-CEO social ties on firm value. In particular, our results reinforce the view that, whereas social ties may lead to effective counsel, such ties work to undermine the monitoring effectiveness of boards, leading to negative implications for firm value. We provide incremental evidence with respect to the direct value relevance of board-CEO social ties; extending the studies by Westphal (1999), Kang et al. (2018) and Fracassi and Tate (2012) by showing that social ties are associated with losses in firm value whereas professional ties are not. Specifically, exploiting exogenous departures of friendship-tied directors attributable to retirements or deaths, our findings reveal that director deaths or retirements linked to the loss of CEO friendship tied directors are associated with an increase of 3.21% in firm value, relative to the departures of non-friendship-tied directors or unconnected directors.

Second, we contribute evidence as to how CEO-board friendship ties impact firm value by analysing the role of board advising and monitoring as potential channels through which board-CEO friendship ties may impact firm value. Theoretically, it is unclear whether board advisory and monitoring functions are complementary or conflicting (Adams and Ferreira, 2007). However, exploration of these channels is important because the impact of the board on firm value is likely to be heterogeneous across firms (Adams and Ferreira, 2009). Our evidence suggests that both board advising and monitoring are plausible mechanisms through which board-CEO friendship ties affect firm value, and that they are generally complementary. In this regard our paper adds to theoretical understanding as to how CEO-director friendship ties impact firm performance.

Lastly, we reconcile ambiguous predictions in the literature regarding relations between CEO-board ties and firm-level outcomes by demonstrating that friendship ties have a negative impact on firm value, but that this negative impact is mitigated in firms with higher advising needs. Our results here speak to the heterogeneous impact of such ties across firms (Adams and Ferreira, 2009). In short, we show that the negative influence of board-CEO friendship ties on firm value is reduced in complex firms with higher advising needs but amplified in less complex firms with higher monitoring requirements. Assessing the relative strength of both channels, we further reveal that board monitoring is the strongest channel through which declines in firm value attributable to board-CEO friendship ties occur.

The remainder of the paper proceeds as follows. Section 2 reviews relevant theoretical literature and develops the hypothesis of the study. Section 3 describes the data, introduces variables and presents descriptive statistics. Section 4 presents our empirical findings. Section 5 concludes.

2. Hypothesis development

Theoretical explanations of the effects of the board-CEO relationship, which may be formal (professional) or informal (social network connections), are rooted in two perspectives, namely, agency theory and RBV. From an agency standpoint, effective boards independently monitor and evaluate strategic decisions and performance of the firm (Fama and Jensen, 1983). Research evidence support the notion that competent monitoring is achieved by the board whose composition is dominated by outside directors (Zahra and Pearce, 1989; Dalton et al., 1998). In this study, we argue that friendship ties may exert a negative influence on firm value because such ties imply a similarity of beliefs, attitudes, traits and a strong psychological bond between individuals (Allan, 1979). Friendship ties therefore lead to a heightened sense of trust and favourable interpretation of others' actions.

Thus, friendship ties may lead to familiarity bias and undermine the quality of board monitoring and directors' fiduciary duties (Boeker, 1992; Linck et al., 2008; Bruynseels and Cardinaels, 2014), including board effectiveness in monitoring corporate strategy and decisions (Westphal, 1999; Fracassi and Tate, 2012). Boeker (1992) and Fahlenbrach and Stulz (2009) offer support for this view and suggest CEO- board social ties should not only serve as a signal of weak corporate governance to the market, but also tend to exacerbate agency costs - leading to erosion in firm value.

In contrast, and drawing on RBV, researchers assert that social capital, defined as an asset that resides in a social relationship (Burt, 1992; Tsai and Ghoshal, 1998), constitutes a valuable resource for the conduct of a firm's strategy and hence impacts firm value (Nahapiet and Ghoshal, 1998; Blyler and Coff, 2003). In this respect, corporate boards are viewed as providers of resources as they advise CEOs and executive management on firm strategy and other managerial issues (Wu, 2008; Johnson et al., 1996). This strand of literature argues that board-CEO friendship ties promote greater board involvement in corporate decision-making, which can contribute positively to firm value. For example, friendship-tied directors may be better positioned to signal discontent with firms' corporate strategies; because a shared common background may make it easier for CEOs and directors to share information, which would have been more difficult to communicate without such connections (Houston et al., 2018). Consistent with this, several studies (Hoitash, 2011; Fracassi and Tate, 2008; Raheja, 2005; Harris and Raviv, 2006) view board-CEO friendship ties as a vehicle through which valuable information can flow between CEOs and directors.

Overall, theoretical arguments infer that board-CEO friendship ties may, on one hand, weaken the monitoring role of the board, whilst, conversely, improve the board advising role. Consequently, the net effect of board-CEO friendship ties on firm value and the channels

through which such ties influence, remains unclear. Moreover, the dynamic nature of board-CEO relationships and their uncertain firm value effects, calls for a multi-theoretical perspective and rigorous empirical analyses to disentangle their effect (Finkelstein and Hambrick, 1996; Wu, 2008). This study attempts to address this gap. In light of the above, we formulate the following hypotheses:

Hypothesis 1a: Board-CEO friendly ties are associated with loss of firm value.

Hypothesis 1b: Board-CEO friendly ties are associated with increases in firm value.

Hypothesis 2: Board-CEO friendship ties will serve to strengthen the quality of board advising, leading to increases in firm value.

Hypothesis 3: Board-CEO friendship ties will serve to undermine the quality of board monitoring, leading to losses in firm value.

3. Data and variable measurement

3.1 Data

Our sample of U.S. firms is derived from BoardEx, Compustat, and CRSP databases. We begin by sourcing information on the biographical characteristics of directors and CEOs of publicly listed U.S. firms from BoardEx. This rich dataset provides demographic information such as age, gender, and historical activities such as employment record, social activity engagement (e.g., charity and leisure clubs), education background (including degree, graduation year and institution names) for each board director and CEO. Our initial sample consists of 18,432 firm-years observations from firms with complete information on social tie connections between 2000 and 2014[7]. To this dataset, we match firm financials and market data from Compustat and CRSP databases, excluding financial and public utility firms from

[7] Like Francassi and Tate (2012), to avoid issues with survivorship bias, we do not include observations before 2000 because of incomplete information on board composition prior to this period.

our sample. Our matched sample includes 2,786 unique CEOs and 20,487 directors drawn from 1,696 U.S. firms. The final unbalanced dataset boasts 14,433 firm-year observations from 2000-2014.

3.2 Variable descriptions

3.2.1 Dependent variable

Our main dependent variable is firm value and we specify *Tobin's Q* as our first measure of firm value following previous studies (Kiel and Nicholson, 2003; Coles et al., 2008; Hwang and Kim, 2009; Carter et al., 2010; Fracassi and Tate, 2012; Khanna et al., 2015). Widely-employed as a measure of firm value, *Tobin's Q* is calculated as the ratio of the market value of assets[8] to book value of assets, computed at an annual frequency (Coles et al., 2008; Fracassi and Tate, 2012). Our second measure of firm value is *Total Q* (as introduced by Peters and Taylor (2017))[9], which is computed as a firm's market value divided by its total capital: where total capital is defined as the sum of its physical and intangible capital, both measured at replacement cost. In this calculation, the replacement cost of a firm's intangible capital is computed by accumulating prior investments in research and development and selling, general and administrative expenses. Peters and Taylor (2017) demonstrate that their new measure, which incorporates intangible capital in the denominator (i.e., the replacement cost of a firm's capital), is a superior proxy for firm value than Tobin's Q, in terms of capturing firms' physical and intangible investment opportunities.

3.2.2 Explanatory variables

[8] We calculate a firm's market value as the book value of assets minus the book value of equity, plus the market value of equity.
[9] We download this data directly from Wharton Research Data Services (WRDS).

In line with recent studies (e.g., Schmidt, 2015; Kang, et al., 2018), we classify a director as friendship-tied to the CEO if she has shared educational background or memberships of social organizations, such as golf clubs, fraternities, charitable organizations, trusts and university boards, during overlapping years with the CEO. Our focus is on non-professional ties, since professional ties established through shared past and present employment outside the firm tend to be transactional and competitive in nature (Khanna et al., 2015; Kang et al., 2018). In contrast, non-professional ties are more likely to foster friendship (trust and loyalty) between these two parties and this plays an important role in information sharing (Adams and Ferreira, 2009; Westphal, 1999; Westphal, et al., 2006; Kroll et al., 2008).

We employ two principal friendship tie measures: *Friendship Tie Breadth* and *Friendship Tie Depth* (Fracassi and Tate, 2012; Khanna et al., 2015; Schmidt, 2015). *Friendship Tie Breadth* is defined as the number of directors with friendship-ties to the CEO divided by the total number of board directors. The value of *Friendship Tie Breadth* ranges from zero to one. A value of zero would mean that no board directors have CEO friendship ties, whilst a value of one would indicate that all board directors possess friendship ties with the CEO. *Friendship Tie Depth* is computed as the total number of friendship ties the CEO has with board directors divided by the total number of board directors. The value of *Friendship Tie Depth* ranges from zero at the lower bound and rises with the number of connections. For instance, *Friendship Tie Depth* would exceed a value of one if individual directors have multiple sources of friendship ties with the CEO, which would imply a stronger strength of the friendship-tie. While we expect tie breadth and depth to impact on firm value, we are theoretically agonistic regarding the strength and direction of their effects on firm value.

3.2.3 Control Variables

For CEO characteristics, we employ *CEO Duality*, a dummy variable equal to one if the CEO also serves as chairman of the board. Stevenson and Radin (2009) find that CEO friendship-tied directors wield greater board power and that their influence is strongest if the CEO also serves as board chair. Since the manager fixed effects literature attributes differences in firm performance according to whether CEOs were externally, or internally recruited (Custodio and Metzger, 2014), we also include: *CEO Outside*, a dummy variable equal to one if the CEO was recruited from outside the focal firm, and *CEO Age*, the natural logarithm of CEO age, to proxy for proximity to retirement age (Linck et al., 2008; Custodio and Metzger, 2014). We control for CEOs implicit equity based risk-taking incentives (Custodio and Metzger, 2014; Ali and Zhang, 2015) with *CEO Stock Option*, the value of in-the-money stock options owned by the CEO, comprising exercisable and un-exercisable stock options (Custodio and Metzger, 2014); *CEO Share Ownership*, calculated as the percentage of outstanding common shares held by the CEO (Ali and Zhang, 2015; Schmidt, 2015; Khanna et al., 2015).

To control for board structure, we include *Board Size*, the natural logarithm of the total number of directors on the board (Schmidt, 2015, and *Board Independence %*, computed as the number of independent directors divided by the total number of directors on the board (Linck et al., 2008; Fracassi and Tate, 2012; Ali and Zhang, 2015; Schmidt, 2015; Kang et al., 2018). Linck et al. (2012) show that board size and structure has evolved over time - especially between pre- and post-SOX periods. Existing studies offer generally conflicting evidence as to how board size and board independence influence firm performance. Ali and Zhang (2015) find that a CEOs' propensity to overstate firm earnings varies with CEO tenure, and that this variation is reduced with increases in the extent of board independence. Fracassi

and Tate (2012) show that larger boards are associated with lower firm valuations but find no significant effects attributable to board independence.

Finally, following prior studies (e.g., Cornett et al., 2009; Fracassi and Tate, 2012) we also employ several additional common controls for firm characteristics; *Stock Volatility*: the annualized variance of daily stock returns as a measure of total risk; *Leverage*: the total debt over total assets to control for differences in firms' capital structure; *Sales Growth*: the annual growth rate of sales; and *Total Assets*: the natural logarithm of total assets as a measure of firm size. The manner in which these variables are measured is provide in Appendix A.

3.3 Descriptive statistics

Table 1 displays descriptive statistics for the main variables and all sample firms[10]. Beginning with dependent variables, shown in Panel A, *Tobin's Q* has a slightly right skewed distribution with a mean (median) of 1.41 (1.02). Total Q, similarly, has a slight right skewed distribution with a mean (median) of 1.77 (0.94). These statistics are consistent with recent studies (Faleye, 2007; Fahlenbrach and Stulz, 2009; Peters and Taylor, 2017). In terms of board-CEO friendship, *Friendship Tie Breadth* indicates that a mean (median) 8% (6%) of board directors have friendship ties with the CEO. At the maximum, 80% of board directors are friendship-tied to the CEO. *Friendship Tie Depth* has a mean of 0.24, indicating that each CEO has an average 0.24 friendship ties with each director. A median value of 0.27 implies that each CEO has at least one friendship tie with one out of four directors. Regarding control variables, a quarter of firms have a CEO who serves in a dual capacity as both CEO and board Chairman. A typical CEO is aged 56 years old and holds stock options with a value of $26 million dollars. Firms exhibit a preference for internally hired CEOs, with only 20% of

[10] We winsorize all continuous variable at the first and ninety-ninth percentile to control for potential outliers. We also obtain qualitatively the same results if instead we employ non-winzorized variables in our analysis.

CEOs being externally recruited. Boards have a mean (median) of 10 (9) directors, and independent directors account for 76.1% of board seats. With respect to firm characteristics, firms have total assets around $5,000 million dollars at the mean, and book leverage of 20%. Firms have stock volatility with a mean value of 0.2648 and average growth in sales of 30%. These figures are similar to those reported in other studies (Fracassi and Tate, 2012; Armstrong et al., 2014; Kim et al., 2014; Ali and Zhang, 2015).

[Insert Table 1 here]

In Appendix B, we present the correlation matrix for all independent variables. *Friendship Tie Breadth* and *Friendship Tie Depth* are positively and significantly related, suggesting that a board with more friendship-tied directors tends to have a higher number of friendship ties between directors and the CEO. *CEO Duality CEO Age* and *CEO Share Ownership* are positively correlated to *Friendship Tie Breadth* and *Friendship Tie Depth*, indicating that more experienced and powerful CEOs are more likely to gain external friendship ties with existing board members. Outside CEOs tend to have less friendship ties with directors. Firms with more directors on the board, and larger firms, tend to have broader and deeper friendship ties between the board and the CEO. Other correlation coefficients between independent variables are small on average, with average correlation coefficients below 0.05 on average, suggesting that multicollinearity is unlikely to be a significant concern in the multivariate analysis[11].

[11] Variable inflation factor scores range from 2.978-7.482 and well below a cut-off point of 10, indicating that multicollinearity appears not to be a problem in this study (Neter et al., 1985).

4. Results and discussion

4.1 Board-CEO ties and firm value

To examine the impact of board-CEO friendship ties on firm value, we estimate the following fixed-effect panel model:

$$
\begin{aligned}
Firm\ Value_{i,t} \\
&= \beta_0 + \beta_1(Friendship\ Tie\ Measures_{i,t}) + \beta_2(CEO\ Characteristics_{i,t}) \\
&+ \beta_3(Board\ Characteristics_{i,t}) + \beta_4(Firm\ Characterstics_{i,t}) \\
&+ \beta_5(Firm\ FE_i) + \beta_6(Year\ FE_t) + \varepsilon_{i,t} \qquad (1)
\end{aligned}
$$

Where *Firm Value*, is *Tobin's Q* or *Total Q*. *Friendship Tie Measures* are captured by our two principal measures of board-CEO friendship ties: *Friendship Tie Breadth* or *Friendship Tie Depth*. We include three vectors of control variables that control for *CEO Characteristics*, *Board Characteristics*, and *Firm Characteristics*. Firm fixed-effects (*Firm FE*) and year fixed-effects (*Year FE*) are included to help mitigate endogeneity concerns from omitted variables. The error term is $\varepsilon_{i,t}$, and we cluster model standard errors at the firm-level to account for serial correlation of the error term.

Table 2 reports estimates from our fixed-effect regressions, which include both friendship tie measures: *Friendship Tie Breadth* and *Friendship Tie Depth*. Columns (1) and (2) show that *Friendship Tie Breadth* is negatively and significantly related to *Tobin's Q* and *Total Q* at the 5% level or above. The economic magnitude is substantial. For example, in column (1), the coefficient of *Friendship Tie Breadth* (-0.3022) on *Tobin's Q* implies that a one standard deviation increase in *Friendship Tie Breadth* leads to a decrease of 4.05 percentage points in *Tobin's Q*. Given the sample mean of *Tobin's Q* of 1.41, this effect

induces a decrease of approximately 2.87% ($281 million) in firm value. *Friendship Tie Breadth* has an even more substantial impact on *Total Q* (column (2)). In column (2), the coefficient of *Friendship Tie Breadth* (-1.3033) on *Total Q* implies that a one standard deviation increase in *Friendship Tie Breadth* leads to a decrease of 17.46 percentage points in *Total Q*. Given the sample mean of *Total Q* of 1.77, this effect induces a decrease of approximately 9.88% in firm value.

In terms of depth of board-CEO friendship ties, Columns (3) and (4) show that *Friendship Tie Depth* has a negative and statistically significant influence on firm value. In terms of economic magnitude, given a *Friendship Tie Depth* coefficient of -0.0022 (in column (5)), a one standard deviation increase of *Friendship Tie Depth* leads to a decrease of 0.02% in *Tobin's Q*, which translates as a $1.64 million value reduction in firm value. Given a *Friendship Tie Depth* coefficient of -0.0145 (in column (5)), a one standard deviation increase of *Friendship Tie Depth* leads to a decrease of 0.87% in *Total Q*. Taken together, our results are supportive of the conjecture that board-CEO friendship ties, are associated with increased agency cost, and reduction in firm value. Hypotheses 1a and 1b are therefore supported. The logic of our findings complies with those of Hwang and Kim (2009), Fracassi and Tate (2012), and Nguyen (2012).

Regarding control variables, *CEO Duality* has a positive influence on firm value at the 5% level in the case of *Tobin's Q*. This is interesting from the perspective that duality is often associated with greater CEO power and weakening of board monitoring (Cornett et al., 2009; Akbar et al., 2017). However, *CEO Duality* is not significant in the case of *Total Q*. As noted by Bartlett and Partnoy (2018), some of the observed relations for governance variables observable for Tobin's Q may not hold for Total Q because this measure serves to address some of the potential measurement errors of the simple Tobin's Q firm value proxy. We find

similar results for CEOs equity pay (as proxied by *CEO Stock Option*). In particular, we observe weak evidence that increases in *CEO Stock Option* is associated with a decline in *Tobin's Q* but not *Total Q*. However, the coefficients for *CEO Stock Option* imply no material impact on firm value. In contrast, point estimates for *CEO Share Ownership* imply a loss in firm value (*Tobin's Q*) in line with increases in CEOs share ownership. Prior studies provide evidence that CEOs have stronger incentives to manipulate earnings when their total compensation is more closely tied to the value of stock and option holdings (e.g., Cornett et al., 2009), which results in erosion of firm value. *Board Size* and *Board Independence percentage* have negative impacts on firm value but only in the case of *Total Q*. Our findings with respect to the impact of board size and independence on firm value, may tentatively imply that board-CEO friendship ties capture true independence (and incentives to monitor) better than conventional independence. We also find that firm size ((*Log (Total Assets)*) and *Leverage* are both significantly and negatively related to firm value in all regressions. This may imply that greater size and higher financial distress could hamper the firms' development and growth in the future. *Stock Volatility* and *Sales Growth* (in the case of *Tobin's Q*), reflecting a higher growth potential, have a positive impact on firm value.

[Insert Table 2 here]

4.2 Channels through which friendship ties matter

In this section, we explore potential channels through which these losses may be conveyed. Consistent with existing theory (Adams and Ferreira, 2007; Linck et al., 2008), we consider board advising and monitoring, as two, and to some extent mutually exclusive channels, through which board-CEO friendship ties may generate changes in firm value (Linck et al., 2008). First, board advising involves provision of advice and counsel to CEOs (Westphal, 1999; Adams and Ferreira, 2007; Franassi and Tate, 2012). Friendship connections between

board members and CEOs may encourage active dialogue between CEOs and directors, and increase the quality of board advising (Westphal, 1999; Adams and Ferreira, 2007). Prior studies suggest that increases in the quality of board advising may positively impact on firm performance (Ingram and Roberts, 2000; Adams and Ferreria, 2007; Schmidt, 2015). Schmidt (2015) finds that merger announcement market returns are largest in firms with greater board advising needs. In addition, the impact of board advising on firm operations is expected to vary considerably among firms. One important reason being that the need for board advising increases with the complexity of a firm's operations advising needs (Coles et al., 2008; Linck et al., 2008, Faleye et al., 2011). Considering these findings, we conjecture that the board advising channel should work to mitigate the negative impact of CEO friendship-tied directors on firm value. Furthermore, that this mitigating effect will vary with respect to the extent of a firm's complexity.

Following convention in the literature (Coles et al., 2008; Faleye, 2011) we proxy for firm complexity using the following three proxies: *Sales* (total firm sales), *Diversified Firm* (whether a firm operates in more than two industry segments according to SIC digit classification), and *R&D Intensity* (ratio of R&D expenses to total assets). The intuition is thus. First, because larger firms tend to have more outside contracting relationships and higher co-ordination needs, they require more board advising (Coles et al., 2008)[12]. Second, since firms operating in multiple industry segments face multi-dimensional operating challenges and competition, they stand to benefit most from board advising (Yermack, 1996). Third, because R&D intensive firms face higher project verification costs, they are expected to have greater board advising needs.

[12] Furthermore, and as argued in Adams and Ferreira (2003), cited in Markarian and Parbonetti (2007), controlling for firm diversification is further important for isolating the effect of CEO-director ties on firm value is further important because investors tend to discount the cash flows of poorly diversified firms relative to peers, partially because of inefficient allocation of firm resources.

A second important channel through which directors may matter is the board monitoring function. For instance, it is widely documented that a primary duty of the board is to monitor (and potentially discipline) CEOs. Friendship connectedness between boards and CEOs could impair directors' willingness to monitor CEOs and to 'blow the whistle' on issues with management integrity and competence (Hwang and Kim, 2009; Nguyen, 2012; Fracassi and Tate, 2012; Bruynseels and Cardinaels, 2014; Rose, 2014; Wilbanks et al., 2017). Previous studies find that ineffective board monitoring induces CEOs' self-seeking behaviours, such as: excessive level of executive consumption and earnings management (Rose et al., 2014; Bruynseels and Cardinaels, 2014; Krishnan et al., 2011; Armstrong et al., 2014), which could result in firm efficiency, fraud or even corporate bankruptcy (Khanna et al., 2015). For example, Armstrong et al. (2014) find that increases in board monitoring can effectively reduce agency costs through greater management disclosure and improved analyst following. Moreover, since previous studies generally associate poor corporate governance (higher agency costs) with reduced firm performance (Bhagat and Bolton, 2013), we expect that board-CEO friendship ties exacerbate losses in firm value when agency conflicts are more severe.

Based on previous studies, we utilize CEO duality, independent board proportion and board appointed after CEO ratio to proxy for firm corporate governance (Westphal and Zajac, 1995; Pathan, 2009; Morse et al., 2011; Fracassi and Tate, 2012; Baldenius et al., 2014; Coles et al., 2014; Khanna et al., 2015). CEO duality limits the information flow to other board directors and then decreases the efficiency of board monitoring, and thus firms with the CEO as the chairman of the board need the board to put more efforts on monitoring. Independent directors are generally believed to be better monitors of CEOs since they attempt to maintain their reputation in directorship market. So, firms with larger percentage of independent directors can benefit more due to the significant increase of board monitoring. When directors

are appointed during a CEO's tenure, directors tend to be beholden to the CEO because the CEO is heavily involved in recruiting, nominating and appointing them, and then they are less likely to discipline the CEO. So, firms with higher percentage of directors appointed after the CEO tend to less effective in board monitoring.

Based on the discussion of advising and monitoring channels we specify six proxies for monitoring channels and three for advising channels motivated by recent studies. In particular we specify the following 'monitoring' variables: *CEO Duality* (Cornett et al., 2009; Akbar et al., 2017), *Founder CEO* (Antia et al. 2010), *CEO Tenure, CEO Share Ratio* (Ali and Zhang, 2015; Schmidt, 2015; Khanna et al., 2015), *CEO Education* (King et al., 2016), and *CEO Decision Horizon* (Antia et al. 2010), and the following 'advising' proxies: *Firm* Sales, *Firm Diversification*, and *R&D Intensity* (Coles et al., 2008), respectively[13]

In Table 3, we begin by running alternative regressions, specifying the various monitoring and advising proxies as moderating factors that may influence the impact of board-CEO friendship ties on firm value, and accordingly interact each proxy with Friendship-Tie Breadth[14]. In columns (1)-(6), which examine the monitoring channel, we observe consistently, irrespective of specific proxy, negative and significant interactions between monitoring proxies and *Friendship Tie Breadth*. Our results suggest that one important mechanism through which friendship ties reduce firm value is by weakening the board monitoring function. In columns (7)-(9) of the same table we consider the proxies for the board advising channel. We find that each of the interactions between advising proxies and friendship ties is positive and significant. Interestingly the results suggest, consistent with an RBV, that there is an 'upside' to friendship ties between CEOs and directors. In particular,

[13] We also conducted analyses using alternative monitoring proxies including founder CEOs and firm Cash Flows and obtain similar results.
[14] For brevity we do not show results for the Friendship Tie Depth measure. However we obtain similar results. These results are available on request.

the results suggest that such ties strengthen the quality of board advising, which can generate increases in firm value. Hypotheses 2 and 3 are therefore supported.

[Insert Table 3 here]

Whilst the monitoring and advising proxies used in this study are widely established in the literature, it may be the case that some of our proxies may not sufficiently capture monitoring and advising functions. We employ factor analysis to further investigate the extent to which these variables explain advising and monitoring roles of the board. Table 4 Panel A reports the results of the factor analysis. The results indicate that *monitoring* and *advising factors have* eingenvalues of 2.6134 and 1.8884 respectively and are greater than one. The variables which include: *CEO Duality*, *CEO Tenure*, *CEO Share Ownership*, *CEO Education*, *CEO Decision Horizon* (the Monitoring factor), and *Firm Sales*, *Firm Diversification* and *R&D Intensity* (the Advising index), account for a total of 89.46 percent of observed variance in monitoring and advising roles of the board. Indeed, the results confirm that these variables capture about 90 percent of the monitoring and advising functions of the board.

Panel B of the same table presents the results of interaction between friendship tie breadth, monitoring and advising (*Friendship Tie Breadth*Monitoring index* and *Friendship Tie Breadth*Advising index)*. We document that board friendship ties reduce firm value through the monitoring channel whilst they can potentially improve firm value by improving the quality of board advising. We carried out similar analysis for friendship tie depth, monitoring and advising but the results not reported here appear the same.

[Insert Table 4 here]

4.3 Controlling for board-CEO professional ties

Although we have shown that board-CEO friendship ties can lead to reductions in firm value and the channels through such value changes occur, a remaining concern is that our board-CEO friendship tie measures may be correlated with professional ties. We therefore explore how professional ties differ from friendship ties by focusing on the advising channel, which the results thus far have shown to be positive. For instance, it may be the case that professional ties between CEOs and directors, rather than friendship ties, are driving the positive changes in firm value through the advising channels. To address this concern, we introduce controls for board-CEO professional ties to our regression framework, whilst including the proxies for board advising (*Firm Sales*, *Firm Diversification*, and *R&D Intensity*) explored in the previous section.

Following recent studies (Fracassi and Tate; 2012; Khanna et al., 2015; Schmidt, 2015), we classify a director as having professional ties with the CEO if she has shared past and present employments outside the firm with the CEO. Thus, we specify *Professional Tie Breadth*, computed as the number of board directors with professional ties to the CEO divided by the number of directors on the board.

Table 5 reports the results of the fixed-effect regressions that examine the impact of friendship ties on firm value (proxied by *Tobin's Q*)[15] and which explicitly control for board-CEO professional ties. Examining the results for the singular effects of friendship ties, we continue to find that our measures of friendship ties are significant and negative in sign (across all regressions), and in fact become larger in magnitude. In contrast, we find some

[15] We exclude analysis using *Total Q* as the measure of firm value in this table for reasons of brevity. However, our results are quantitatively unchanged if we instead specify *Total Q* as the outcome variable. We also focus on *Friendship Tie Breadth* and *Friendship Tie Depth* measures in this table for reasons of brevity. Alterative results using *Total Q* and *Friendship Tie Depth* and *Professional Tie Depth* (calculated as the number of professional ties that the CEO has with directors divided by the total number of board directors) are available from the author's on request.

weak evidence that professional ties may yield positive changes in firm value (in one out of three regressions at a 10 percent level of significance). Considering the results for interactions between friendship and professional ties with the proxies for board advising we find that both friendship and professional ties can contribute more positively to firm value in firms with higher sales, greater diversification and in more R&D intensive firms.

Our evidence indicates that board-CEO friendship ties have their own independent influence on firm value, and thus should be considered distinct from board-CEO professional ties. From a board monitoring point of view, the impact of friendship ties on firm value supports an agency cost view, whereas professional ties, which have a weak positive effect on firm value, offer greater support for a RDV of such ties. This interesting result tentatively implies that directors with professional ties to CEOs contribute positively to firm value, and to some extent serve to offset the negative influence of board-CEO friendship ties on firm value (Ingram and Roberts, 2000; Adams and Ferreira, 2007).

[Insert Table 5 here]

4.4. Endogeneity concerns

So far we employed fixed-effect regressions to address issues with unobserved heterogeneity if it is attributable to a firm fixed effect. However, the use of fixed effects do not explicitly address further sources of endogeneity, namely: simultaneity and reverse causality (Wintoki et al., 2012). For example, friendship ties between board members and CEOs may be a function of past firm performance, i.e. reverse causality. Furthermore, board-CEO friendship tie measures may be correlated with other variables and also mechanically related to firm performance. We take several steps to address the potential endogeneity of

board-CEO friendship ties. First, we employ the fixed effects 2SLS (FE-2SLS) estimator and instrument for board-CEO friendship-ties using deaths and retirements of directors (Fracassi and Tate, 2012; Falato et al., 2014). Second and thirdly, we exploit the exogenous shock of the passage of the Sarbanes-Oxley Act (SOX) as well as the 2007-2009 financial crisis, in order to more clearly show whether friendship ties negatively impact firm value following a regulatory shock that impacts firms differentially dependent upon existing board structure and following a significant negative economic shock, respectively.

Deaths and retirements of directors: Instrumental variables

We first address endogeneity concerns by introducing instrumental variables (IV) into our fixed-effect framework and employing the fixed effects-2SLS (FE-2SLS) estimator. A specific challenge we face is in identifying suitable instruments that are exogenous to firm performance but strongly correlated with our board-CEO friendship tie measures. We propose the retirements and deaths of directors who have friendship ties with the CEO as two suitable instruments, and define two dummy variables: *Death of Director* as a variable equal to one if a director with friendship ties dies, and *Retirement of Director*, which is equal to one if a departing director with friendship ties is at, or above, a firm's mandatory retirement age (Fracassi and Tate, 2012). This identification strategy draws on the notion that director departures, owing to retirement or death, are not plausibly driven by changes in firm value itself (Fracassi and Tate, 2012; Falato et al., 2014). However, it could be argued that the possible anticipation of some director deaths and retirements could violate the above assumption. On one hand, director deaths include not only sudden deaths due to heart attack, stroke, accident or murder, defined by Nguyen and Nielsen (2010), but also deaths due to prolonged illnesses, complications from specified diseases and surgery, which can be expected. To mitigate this issue, we only choose the directors that are still on boards in the

year of their deaths or one year before because it indicates at least some surprises or un-expectations in their passing (Fracassi and Tate, 2012).

On the other hand, although the fact that some directors still remain on boards when they have reached firms' mandatory retirement ages creates some surprises of their final retirement dates, director retirements are still easier to anticipate. This is because directors' final retirement dates are probably not only influenced by age and personal considerations, but also by firm performance. For instance, during the underperformance periods, directors might be more likely to retire. The study of Fracassi and Tate (2012) has eliminated this probability by showing the evidence that directors with friendship ties tend to retire when firms perform well, while firm performance is not related to the retirement times of directors with no friendship ties. Further, our evidence regarding the F-test and the Sargan-Hansen test suggests the validity of these two instrumental variables to some extent.

To construct our instruments, we identify all director retirements and deaths within our sample, and observe 658 director deaths and 2976 retirements. Of the directors who died during our sample period, 83 are friendship-tied to the CEO. Of the directors who retired during our sample period, 296 are friendship-tied to the CEO. In terms of predicted signs, we anticipate that our instruments will reduce both *Friendship Tie Breadth* and *Friendship Tie Depth* significantly. One important reason that it seems implausible that CEOs can immediately replace friendship-tied directors with equally friendship-tied new directors.

Table 6 presents the results of the 2SLS-FE estimator. Columns (1) and (4) present first stage regression results. The coefficients for *Death of Director* and *Retirement of Director* are negative and statistically significant at the 1% level, indicating that the unexpected departures of directors who are friendship-tied to the CEO, due to deaths or retirements have a negative impact on board-CEO friendship ties. In terms of the validity of

our instruments, values for the F-test on the significance of our instruments exceed the critical value of 10% suggested by Staiger and Stock (1997) [16] the instruments are uncorrelated with the endogenous regressors. The Sargan-Hansen test of overidentifying restrictions lends further support to the validity of our instruments, since we observe that p-values are statistically insignificant at conventional levels in all regressions.

In the second stage results, we regress firm value on the predicted values of *Friendship Tie Breadth* (columns (2) and (3)) and *Friendship Tie Depth* (columns (5) and (6)) from the first-stage regressions. Consistent with our earlier results, we observe that the predicted values for *Friendship Tie Breadth* and *Friendship Tie Depth* are negative and statistically significant at the 1% level. In addition, IV estimates of the coefficients for *Friendship Tie Breadth* (*Depth*) are larger than the baseline estimates. For example, the coefficient of *Friendship Tie Breadth* (*Depth*) on *Tobin's Q* is almost one times (three times) larger than that in the baseline regressions. This fact suggests that our baseline fixed-effect regressions likely underestimate the true causal negative effect of board-CEO friendship ties on firm value.

[Insert Table 6 here]

In unreported tests we also probe the robustness of our difference-in-difference analysis by examining the post-effect of departures of friendly-tied directors from the board on firm value (proxied by *Tobin's Q* and *Total Q*) using actual departures and using 'falsified' placebo departure events. Our results show a significant positive impact on firm value following departures of friendly-tied directors but an insignificant effect in the case of placebo departure events.

[16] Our instruments also exceed critical values according to Stock and Yogo (2005) bias and size methods. We suppress these results for brevity.

Sarbanes-Oxley Act (SOX) and the 2007-2009 Financial Crisis

To further mitigate the endogeneity issues, we examine the impact of CEO-director friendship ties on firm value following the passage of SOX and during the recent 2007-2009 financial crisis. We begin by exploiting the new listing rules enacted by Sarbanes–Oxley Act (SOX) in 2002 and correspondingly implemented by NYSE and NASDAQ (Linck et al., 2008). Specifically, the firms listed in NYSE and NASDAQ are required by the new rules to have a majority of the board of directors to be independent, thus forcing an exogenous change in board composition. Non-compliant firms are mandated to enhance the board independence, which creates an exogenous change in board composition (or board-CEO friendship ties[17]) and enables us to identify the causal effect of board-CEO friendship ties on firm value.

Following Coles et al. (2014) and Chang and Wu (2017), we employ a modified DID specification to isolate the clean effect of board-CEO friendship ties on firm value[18], which is presented below:

[17] Krishnan et al. (2011) find that the number of directors with social connections to CEOs has experienced an increase in the post- SOX period.

[18] The main difference from the normal DID is that we can differentiate or isolate the clean effect of board composition (or board-CEO friendship ties) on firm value from the direct effect of other new rules enacted by SOX on firm value. The reason is that other new rules or regulations brought by SOX might have impacted monitoring or firm value through numerous channels other than board-CEO friendship ties. For instance, the audit committee is required to directors with financial expertise, and CEOs are required to disclosure internal control statements.

$$
\begin{aligned}
Firm\ Value_{i,t} \\
&= \beta_0 + \beta_1(Friendship\ Tie\ Meausres_{i,t}) \\
&+ \beta_2(Friendship\ Tie\ Meausres_{i,t} * \ Post\ SOX_t) \\
&+ \ \beta_3(Non-compliant\ Firms_i * Friendship\ Tie\ Measures_{i,t}) \\
&+ \ \beta_4(Non-compliant\ Firms_i * Friendship\ Tie\ Meausures_{i,t} \\
&* Post\ SOX_t) \\
&+ \beta_5(Post\ SOX_t) + \beta_6(Non-compliant\ Firms_i) \\
&+ \beta_7(CEO\ Characteristics_{i,t}) \quad + \beta_8(Board\ Characteristics_{i,t}) \\
&+ \ \beta_9(Firm\ Characterstics_{i,t}) \ + \beta_{10}(Firm\ FE_i) + \beta_{11}(Year\ FE_t) \\
&+ \varepsilon_{i,t} \qquad (2)
\end{aligned}
$$

Where *Firm Value* is proxied by *Tobin's Q* or *Total Q*. *Friendship Tie Measures* is represented by *Friendship Tie Breadth* or *Friendship Tie Depth*. *Non-compliant Firms* is a dummy variable that equals one for those firms that had independent board ratios below 50% before the introduction of SOX in 2002, or zero otherwise. *Post SOX* is a dummy variable that equals one if year is after 2002, or zero otherwise. In equation (2), β_1 is the constant component that captures the impact of board-CEO friendship ties on firm value for compliant firms in the pre-SOX period, while $\beta_1+\beta_3$ captures the impact of board-CEO friendship ties for non-compliant firms in the pre-SOX period. Both impacts include the bias due to endogeneity. $\beta_1+\beta_2$ captures the effect of board-CEO friendship ties for compliant firms in the post-SOX period. This impact includes not only the effect of bias but also the direct effect of SOX (through channels other than board-CEO friendship ties).

Because SOX imposes an exogenous shock on board composition of non-compliant firms, $\beta_1+\beta_2+\beta_3+\beta_4$ captures both the clean effect of board-CEO friendship ties on firm value, and the direct impact from SOX (through other channels). Thus, we can obtain the

clean estimates of the effect of board-CEO friendship ties ($\beta_1 + \beta_3 + \beta_4$) by subtracting the direct effect of SOX (β_2) from the combined effect ($\beta_1 + \beta_2 + \beta_3 + \beta_4$). Specifically, since non-compliant firms are forced to enhance board independence after SOX, $\beta_1 + \beta_3 + \beta_4$ represents the clean estimates of the impact of board-CEO friendship ties on firm value following the exogenous change in board-CEO network ties induced by SOX (see Coles et al. (2014) for a thorough elaboration). Finally, equation (2) includes our vectors of control variables (*CEO characteristics*, *Board Characteristics*, and *Firm Characteristics*) as well as firm and year fixed effects. The error term is $\varepsilon_{i,t}$, and model standard errors are clustered at the firm-level.

The estimation results are reported in Panel A of Table 7. First, we calculate the sum of $\beta_1 + \beta_3 + \beta_4$ at the bottom of the table, which reflects the clean estimates of the total impact of board-CEO friendship ties on our two measures of firm value (Tobin's Q and Total Q). As can be seen, the clean estimates of board-CEO friendship ties on firm value remain negative and statistically significant. In addition, the economic magnitudes of our clean estimates are similar to those in the baseline regressions. Therefore, these results further corroborate our earlier findings, that, in order to maintain friendship ties directors are reluctant to monitor and challenge the CEO since this reduces the effectiveness of board monitoring and is associated with declines in firm value.

Secondly, we calculate the sum of $\beta_1 + \beta_2$ (not presented in this table for brevity), and obtain negative and significant coefficients, which indicate that the negative impact of board-CEO friendship ties on firm value for compliant firms is strengthened post-SOX. Thirdly, we calculate the sum of $\beta_1 + \beta_3$(not presented in this table for brevity) and also obtain negative and significant coefficients. This suggests that the negative effect of board-CEO friendship ties on firm value for non-compliant firms, is also stronger after the passage of SOX. Taken

together, this evidence is consistent with the evidence of Krishnan et al. (2011) that after a compulsory increase in board independence, both compliant and non-compliant firms use friendship ties between the independent directors and the CEO as an alternative way to circumvent overly restrictive board monitoring.

Next, in Panel B of Table 7, we explicitly control for the 2007-2009 financial crisis period and adopt a similar DID design. This is an important test since, for example, the negative impact of friendship ties on firm value via the monitoring channel may be intensified during adverse economic conditions. In support, Boeker (1992) argues that a friendly director is unlikely to challenge and/or contribute to the dismissal of a CEO especially during periods of financial crisis. To implement our test, we include a crisis dummy equal to 1 if the year is equal to 2007, 2008, or 2009 and interact the dummy with the friendship tie measures. As shown in Panel B, we find that firm value is significantly reduced during the crisis period and that friendship-ties contribute significantly to the losses in firm values.

[Insert Table 7 here]

4.5 Other tests

To demonstrate the robustness of our main findings, in unreported tests, available on request, we consider the impact of friendship ties on the volatility of firm performance as measured by the standard deviation of ROE and ROA based on the Demerjian et al. (2012) measure of managerial performance. The results remain similar to our main results, and that friendship ties increase the volatility of firm performance and decrease managerial ability.

5. Conclusion

This study explores the effects of board composition and structure on firm value and the channels through which boards' composition impact on firm value. We do so by employing a rich dataset of 14,433 firm-year observations over the period 2000-2014. Our analysis documents a number of interesting results. First, we find both the breadth and depth of board-CEO friendship ties are negatively and significantly related to firm value, although the impact of breadth ties appears stronger. Second, our results indicate that the board's monitoring and advising as the main channels through which the board-CEO friendly ties affect firm value. Specifically, we find the effects of interactions between board-CEO friendship ties and board monitoring to be negative. However, interactions between board-CEO friendship ties and board advising appear to be positive and significant indicating that such ties increase firm value by improving the quality of board advising. This finding is in line with predictions given by RBV. The finding that board-CEO friendship ties weaken the monitoring function of the board and reduce firm value renders support to the agency theoretical interpretations that such ties engender agency costs and reduce firm value.

Furthermore, assessing potential channels through which friendship ties may influence firm value, we show that the negative impact of board-CEO friendship ties is mitigated in complex firms with higher advising needs but intensified in firms with lower corporate governance quality who have higher monitoring needs. Further analysis reveals that social ties tend to destroy firm value whereas professional ties do not. The study also reveals that departures of friendship-tied directors are associated with significant and economically

meaningful improvements in firm value, compared to departures of non-friendship-tied directors. Our results are robust to further tests, including endogeneity, unobserved heterogeneity, simultaneity, and reverse causality.

Taken together, our results imply that friendship ties are of considerable importance and have potential implications for corporate governance reforms. In particular, they suggest that regulators, legislators and investors should consider the impact of board-CEO social ties, particularly, friendship ties, when evaluating the efficacy of firm corporate governance structures.

Finally, we acknowledge some limitations of our study. First, despite the fact that our proxies for monitoring and advising have been extensively used in prior studies, they still may not fully capture a board's monitoring and advising functions. Second, while our single country setting provides some potential interesting lessons to other developed and emerging economies it is unlikely to fully capture heterogeneity that may exist in the influence of social ties between countries. For example, prior studies have widely documented that in emerging countries such as China and India, board appointments are driven by social networks given the markedly fewer restrictions on board composition, particularly, the types of board connections (Rajagopalan and Zhang, 2008). We contend that the effects of board-CEO social ties may be even more severe in these countries. Future studies may therefore wish to investigate whether and how board-CEO friendly ties, operationalized in the present study, impact firm value in cross-country settings.

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Highlights

- We examine the impact of board-CEO friendship ties on firm value and explore the channels of firm value.
- Board-CEO friendship ties have a negative and economically meaningful impact on firm value.
- Social ties tend to destroy firm value whereas professional ties do not.
- We contribute to recent literature on how board-CEO network ties influence firm value.