

Revisiting the Effect of Family Involvement on Corporate Social Responsibility: A Behavioral Agency Perspective

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Abstract This paper sheds light on the incongruent findings concerning the relationship between family involvement and firms' corporate social responsibility (CSR). While prior studies have mainly taken the perspective of families' socioemotional wealth preservation, we approach this relationship from the perspective of behavioral agency theory, highlighting the important role played by CEOs' family memberships. Specifically, we posit that family firms are more likely to invest in CSR when their CEOs are members of the controlling families. Furthermore, we examine how family firms can employ long-term incentives to encourage non-family CEOs to act in the interests of the controlling families to preserve SEW and thus enhancing family firms' CSR performance. We tested our hypotheses using hand-collected data of family firms included in the S&P 500 index, in the period of 2003–2010. The empirical findings support our hypotheses that (a) family firms with family members as the CEOs have better CSR performance and (b) family firms tend to provide a high level of long-term incentives to non-family than family CEOs. In addition, long-term incentives strongly

motivate CEOs to improve firms' CSR performance, regardless of their family memberships.

Keywords Corporate social responsibility · Family involvement · Behavioral agency theory · CEOs' family membership · Long-term incentives · Socioemotional wealth

Introduction

Over the past two decades, there has been a growing interest in factors and mechanisms that promote firms' Corporate Social Responsibility (CSR). CSR is defined as “context-specific organizational actions and policies that take into account stakeholders' expectations and the triple bottom line of economic, social, and environmental performance” (Aguinis 2011, p. 855). Researchers find that firms' CSR engagement can be attributed to a wide range of antecedents, including firms' instrumental motivation—such as perceived contribution of CSR to firms' competitiveness and legitimacy (Bansal and Roth 2000; Sharma 2000), normative reasons—such as a sense of responsibility and duty, high-order calling for morality, and stewardship (Bansal and Roth 2000; Aguilera et al. 2007; Davis et al. 1997), and firm-specific factors—such as long-term institutional ownership (Neubaum and Zahra 2006) and top management equity (Johnson and Greening 1999).

In particular, legitimacy has been found to be an important account for firms' CSR behaviors. Organizational legitimacy is defined as “the degree of cultural support for an organization—the extent to which the array of established cultural accounts provides explanations for its existence, functioning, and jurisdiction” (Meyer and Scott 1983, p. 201). CSR activities can help firm obtain

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legitimacy because CSR build firms' reputation (Du and Vieira 2012; Panwar et al. 2014) and align them with the sociocultural norms of their institutional environment (Du and Vieira 2012; Palazzo and Scherer 2006). Along this line of research, scholars have investigated the extent to which family involvement in a firm could influence its CSR performance.

Family firms typically refer to those organizations with heavy involvement of founding or controlling families (Chua et al. 1999, 2011). Family firms differ from other types of firms in that they prioritize families' socioemotional wealth (SEW) preservation. SEW emphasizes the continuation of family values and reputation through the firm, and the perpetuation of family control over the firm for future generations (Gómez-Mejía et al. 2007; Zellweger et al. 2012). Because of the family's preference for SEW preservation, which places great value on building a family firm's social legitimacy, the family firm should be more motivated than non-family firms to conduct CSR activities (Berrone et al. 2010, 2015).

Empirical evidence, however, suggests that family firms do not always perform better than their non-family counterparts in CSR activities (Chen et al. 2010; Chen and Hsu 2009; Munari et al. 2010; Gómez-Mejía et al. 2011; Chrisman and Patel 2012). For instance, while some studies find that family firms are more likely to donate to charity (e.g., Dou et al. 2014) and to reduce environmental concerns (Berrone et al. 2010), other studies find that family firms can be even less likely to focus on CSR activities such as environmental protection (Dekker and Hasso 2014). What cause these discrepancies in research findings? What are the conditions under which CSR is perceived by family firms as an impetus for investment, and how could family firms promote CSR? While most studies have taken the SEW preservation perspective in examining this relationship, this paper builds on behavioral agency theory to shed light on these issues. We focus on the role played by CEOs' family memberships in the relationship between family involvement and family firms' CSR performance.

Behavioral agency theory combines traditional agency theory and the SEW perspective (Chua et al. 2011; Chrisman and Patel 2012), using the family's SEW preservation as a reference point in addressing potential conflicts between agents and various stakeholders (Gómez-Mejía et al. 2007). This theory suggests that family versus non-family CEOs differ in their preference for SEW preservation. While family CEOs have intrinsic motivation to preserve the families' SEW, such objectives are not necessarily internalized by non-family CEOs. Consequently, they differ in their preference for CSR activities, which build social legitimacy of the family firms, a core value to the families' SEW preservation. Thus, we posit that the relationship between family involvement and

family firms' CSR performance is contingent on CEOs' family memberships, with family CEOs being more likely to promote CSR activities. In addition, to strengthen the alignment between agents' decision-making choices and controlling families' interest in SEW preservation, family firms are likely to provide higher proportions of long-term incentives (such as stock options) to non-family CEOs than to family CEOs.

This research makes two theoretical contributions to the literature on the relationship between family involvement and firms' CSR commitment. First, this research provides more nuanced insights on why family's preference for social legitimacy does not always lead to higher CSR performance in family firms. Different from prior studies, this study adopts the behavioral agency perspective, focusing on the alignment between family's SEW preservation and the prospect of family firm's decision-makers. This research thus extends this line of literature from being family-value-centric to emphasizing value match between families and agents in understanding a family firm's commitment to CSR. Second, this research also largely enriches our understanding on the incentive design of decision-makers in family firms vis-a-vis their CSR investment. We maintain that CSR commitment can be fostered by alternative incentive systems depending on CEOs' family memberships: while SEW preservation serves as an effective non-financial incentive for family CEOs, financial incentives such as stock options may be a better mechanism when families' SEW preservation and decision-makers' values are decoupled.

This study provides clear ethical implications for family firms pursuing superior CSR performance. As family firms seek to establish their legitimacy by being good corporate citizens to internal and external stakeholders, they need guidance regarding the mechanisms through which they can improve their CSR. One way they might pursue is through appointing CEOs whose values align with the families' SEW preservation or compensating them to increase such an alignment.

The remainder of the paper proceeds as follows. We review the literature and develop our hypotheses in the next section. It is followed by a description of data and methodology. We then report and discuss our empirical results, followed by limitations, future research and the conclusion of the paper.

Theoretical Background and Hypotheses

Family Involvement and Corporate Social Responsibility

Behavioral theorists have established that firms have both economic objectives such as reducing cost and increasing

cash flow, as well as non-economic objectives, which reflect the values, attitudes, and intentions of internal stakeholders (Argote and Greve 2007; Cyert and March 1963). Consistent with the behavioral tradition, recent research has posited that in family firms, non-economic goals related to the controlling family is of special importance (Westhead and Howorth 2007). The pursuance of such goals creates emotional value (e.g., Astrachan and Jaskiewicz 2008; Zellweger and Astrachan 2008) or socioemotional wealth (Gómez-Mejía et al. 2007). Zellweger et al. (2012, pp. 852–853) summarize that socioemotional wealth includes

“fulfilling needs for belonging, affect, and intimacy; continuation of family values through the firm; perpetuation of the family dynasty; preservation of family firm social capital; discharge of family obligations based on blood ties; ability to act altruistically toward family members using firm resources (Gómez-Mejía et al. 2007); and social status (Zellweger and Astrachan 2008).”

Dyer and Whetten (2006) were among the first to directly address the question of how family involvement influences a firm’s CSR performance. Although the SEW concept had not been introduced to the family business management literature when Dyer and Whetten (2006) carried out their study, their theoretical underpinnings are in full alignment with the SEW perspective introduced by Gómez-Mejía et al. (2007). They argue that family firms are concerned with preserving their social status, recognition in the business community, and family reputation (Dutton et al. 1994; Gioia et al. 2000). These concerns are consistent with the legitimacy account for CSR activities. As a result, they found that family firms tend to invest more than non-family firms in CSR activities, and particularly with respect to reducing social concerns on products and environment. Berrone et al. (2010) found that, among S&P 500 firms—US public companies listed in Standard and Poor’s 500 Index—family firms are more likely to pursue strategies to improve environmental performance “to avoid jeopardizing being stigmatized as irresponsible corporate citizens” (p. 87). In addition, Dou et al. (2014) found that family involvement positively affects a firm’s charitable donations using a sample of privately held companies.

Despite the legitimacy building effect of CSR, which aligns with controlling families’ SEW preservation, family firms may pursue activities that sacrifice social benefits (Banfield 1958; Morck and Yeung 2004; Dekker and Hasso 2014). Banfield (1958), for instance, described a phenomenon called “amoral familism,” arguing that the behaviors of family firms are very self-centered, with the outcomes being at the expenses of the broader society. Similarly, Morck and Yeung (2004) argued that large

family firms are responsible for poorer public goods, such as worse healthcare, education, and infrastructure. They further posited that family firms may pay corrupt officials to seek “political rent” at the expense of the broader society, with the objective to protect their own interest. These findings regarding the socially irresponsible behaviors of large family firms were complemented by Dekker and Hasso (2014), which found that small and medium-sized family firms place less emphasis on CSR than their non-family counterparties, with respect to environmental protection performance.

Scholars have started to reconcile these inconsistent findings in the relationship between family involvement and CSR performance by taking into considerations the role of various contingency factors, such as family management, internal coalition, and transgenerational succession intention (Dou et al. 2014; Sharma and Sharma 2011). Dou et al. (2014), for instance, found that potential transgenerational succession may strengthen the positive effects of family ownership on proactive CSR performance. Notably, researchers argued that families’ SEW preservation is better translated into firms’ CSR investment when family values are unified with the guiding policies of the firm (Aldrich and Cliff 2003; Sharma and Sharma 2011). This argument suggests that the extent to which controlling families and decision-makers of family firms are congruent in values and incentives plays an important role in determining the level of family firms’ CSR commitment. Such argument is in line with the more recently developed behavioral agency theory for understanding family firms’ behaviors.

Derived from the prospect theory, the behavioral agency model suggests that executives’ behavioral preferences are shaped by problem framing and loss aversion (Kahneman et al. 1991; Wiseman and Gómez-Mejía 1998). In family firms, the decision choices of executives may be viewed from the perspective of losses and gains with reference to the SEW of the controlling family (Gómez-Mejía et al. 2007). While CSR is likely to be viewed as a potential gain by a family CEO, owing to its importance to the controlling family’s SEW preservation (Naldi et al. 2013), it is likely to be viewed as a potential loss by a non-family CEO because of its cost and debatable impact on the firm’s immediate financial performance (Wang et al. 2008). The behavioral agency perspective suggests that if families’ SEW preservation is not aligned with the agents’ interest, family firms may not invest much in improving their CSR performance. This behavioral perspective thus complements prior studies that approached the relationship between family involvement and CSR performance merely from the SEW perspective. Prior studies implicitly assume that family SEW preservation alone determines where family firms go in CSR activities, while overlooking the

role played by agents who actually make CSR investment decisions. From the behavior agency perspective, we argue that the extent to which family firms improve CSR performance depends on whether CEOs are family members. Because family CEOs tend to internalize the important values core to family's SEW (Wu et al. 2007), the effect of family involvement on firms' CSR performance is likely to be higher when CEOs are family members. We therefore hypothesize the following.

Hypothesis 1 Family CEOs strengthen the effect of family ownership on firms' CSR performance.

Long-term Incentive Compensation to Family Versus Non-family CEOs

What could a family firm do to promote CSR activities when the CEO is not a family member? Prior research has suggested important ways to align the interests between non-family CEOs and the controlling families. In particular, researchers have established that long-term incentives such as stock options can mitigate agency problems (Shleifer and Vishny 1997; Laffont and Martimort 2002a, b). Such incentives can motivate executives to act in accordance with the social and environmental objectives of the firm (Johnson and Greening 1999). While prior research has examined executive pay in a wide range of family business settings (e.g., Combs et al. 2010; Michiels et al. 2012; Gómez-Mejía et al. 2003; McConaughy 2000; Carlson et al. 2006; Combs et al. 2010; Michiels et al. 2012), it has been relatively under-studied whether family firms should apply the same compensation design to all types of CEOs. Following our previous argument, family and non-family CEOs clearly have distinctive value and incentive preferences. Should long-term compensation design differ between these two types of CEOs in family firms?

Behavioral agency theory provides important insights for understanding executive compensation structure in family firms. As previously discussed, family CEOs are more likely to view families' SEW preservation as an achievement for themselves and for the families. They are more internally driven than non-family CEOs to promote the long-term success of family firms. As a result, the principal-agent conflict in family firms with family CEOs is much less severe than in those with non-family CEOs (Jensen and Meckling 1976; Schulze et al. 2002, 2003; Chrisman et al. 2007). As a matter of fact, researchers found that family CEOs even require lower level of total compensation than their non-family counterparts (Gómez-Mejía et al. 2003). To the extent that family CEOs are more intrinsically motivated, they may require fewer long-term incentives than non-family CEOs to act in the interests of the controlling families. In other words, more long-term incentives

are likely to be applied to motivating non-family CEOs. Therefore, we hypothesize the following.

Hypothesis 2 The effect of a firm's family ownership on the proportion of long-term incentives in a CEO's compensation package is stronger if the CEO is not a family member than otherwise.

Long-term Incentives of CEOs and Firms' CSR Performance

Do long-term incentives provided to CEOs lead to high CSR performance of firms? Researchers have provided some insights on whether executives can be incentivized to invest in CSR activities. Mahoney and Thorne (2005, 2006), for instance, investigated the relationship between executives' salary, bonus, and stock options and firms' social responsibilities, using a sample of Canadian firms. They found positive associations between these dimensions of compensation structure and CSR performance. However, while they identified a strong relationship between executives' stock options and firms' total CSR activities (Mahoney and Thorne 2006), they found this relationship only marginally significant, using a larger sample (Mahoney and Thorne 2005). The relationship between executive long-term incentives and firms' total CSR activities has not been well established in the US context.

Following the behavioral agency theory, we argue that long-term incentives pose risks to agents' compensation, rendering such compensation contingent upon the outcomes of CEO performance desired by principals (Baiman 1990; McGuire 1988; Riordan and Sappington 1987). Long-term incentives thus provide CEOs with greater motivation to make decisions in accordance with the welfare of those principles (Tosi et al. 1997). Because CSR activities can boost family firms' reputation and benefits in the long run (Gómez-Mejía et al. 2007), CEOs who are motivated by long-term incentives may very well allocate resources to carry out activities that enhance their firms' social performance. We therefore expect that CEOs who are compensated with more long-term incentives are likely to invest more in CSR activities than those who are paid with fewer long-term incentives, which leads us to our third hypothesis.

Hypothesis 3 Long-term incentives in a CEO's compensation package are positively related to the firm's CSR performance.

The role of long-term incentives in promoting family firms' CSR performance may differ between family and non-family CEOs. Long-term incentives play a significant role when the interests of the agents and principals are not aligned (Laffont and Martimort 2002a, b). As previously discussed, family CEOs share the family's SEW

preservation goal. They are more intrinsically motivated to promote that goal than their non-family counterparts (Jensen and Meckling 1976; Chrisman et al. 2007). Compared with non-family CEOs, long-term financial incentives added to the compensation package of family CEOs may not motivate them more significantly to pursue such a goal, to which they have already committed themselves. To that extent, we expect that long-term incentives in a CEO's compensation package play a larger role in promoting a firm's CSR performance, when the CEO is not a family member than when the CEO is.

Hypothesis 4 The CEO's family membership moderates the relationship between long-term incentives in the CEO's compensation package and the firm's CSR performance, such that the relationship is more significant when the CEO is not a family member.

Data and Methodology

Sample

While some studies have examined family firms' CSR by focusing on CSR in small firms (e.g., Ding et al. 2014; Panwar et al. 2015), we followed the line of literature that focuses on publicly traded family firms. We compiled a panel data composed of firms included in the S&P 500 list from 2003 to 2010. We measured family involvement by calculating the family ownership of each of these firms (Weber et al. 2003). One hundred and seventy-seven family firms were identified in S&P 500 in 2003 (Anderson et al. 2003; Anderson and Reeb 2003; Dyer and Whetten 2006; Weber et al. 2003). To avoid potential survivorship bias resulting from changes in the list of companies included in S&P 500, or in ownership structure and managerial characteristics, we kept the 2003 lists of S&P 500 companies and family firms over the entire sample period. If a new firm was added to either list during the sample period, it was not included in our sample. We updated the characteristics of these family firms (e.g., family ownership, CEOs' family membership, and family representation on the board of directors) for each year of our sample period. We initially had 4000 observations, among which 1416 were from family firms. We then merged these observations with other datasets: Kinder, Lydenberg, and Domini (KLD STATS; KLD hereafter), Execucomp, and Compustat for CSR ratings, CEO compensation and firm financial information. KLD is recognized as one of the most widely used databases for CSR measures for its validity and comprehensiveness (e.g., Dhaliwal et al. 2011; Ge and Liu 2015; Sharfman 1996). After combining these datasets, our sample size was reduced to 3079 observations. We eliminated observations with missing variables, and

were left with a final sample of 2950 observations, among which 1034 were from family firms.

Measures

CSR Performance

While there are different measures of CSR performance, we measured this variable (i.e., dependent variable for **Hypotheses 1, 3, and 4**) as total CSR performance (*TCSR*), which is defined as total CSR strength score (*TSTR*) minus total CSR concern (*TCON*) score (Dhaliwal et al. 2011; Ge and Liu 2015; Kim et al. 2012). *TSTR* measures a firm's proactive investment in CSR, while *TCON* indicates that a firm does not spend enough resources to deal with social and environmental issues that it might need to solve, both of which are measured using the following seven dimensions of CSR performance ratings included in KLD: environment, community, product, diversity, employee relations, human rights, and governance. The merit of this aggregated measurement lies in its ability to capture an overall level of CSR performance in one variable. Since a firm can be rated high (or low) on both *TSTR* and *TCON* dimensions, it may be biased to use one score to measure a firm's total CSR performance (Dyer and Whetten 2006). The drawback of this measurement, however, is that it may overlook the idiosyncratic characteristics of each of the CSR dimensions, with respect to their relationships with family involvement, CEO family membership, and long-term incentives paid to CEOs. To develop more insights in the relationship between family involvement and CSR performance, we ran additional tests on our hypotheses using two alternative measures of CSR performance, including the dual-dimensional measure (i.e., *TSTR* and *TCON*) and the seven dimensional measure of CSR performance. The results are presented and discussed in the following sections.

CEOs' Long-term Incentive

CEOs' long-term incentive (*Incentive*) is the dependent variable in the model testing Hypothesis 2 and the independent variable in the model testing Hypotheses 3 and 4. Following the executive compensation literature, we measured *Incentive* as the Black–Scholes value of stock options granted scaled by total compensation (e.g., Daily et al. 1998; Sanders 2001). For robustness, we used the value of shares and stock options granted scaled by total compensation as an alternative measure (*Alternative Incentive*).

Family Involvement

Consistent with prior studies, we used the percentage of shares held by family members (*FamHold*), as the

independent variable for Hypotheses 1 and 2 (e.g., Gómez-Mejía et al. 2003; Dyer and Whetten 2006), which provides richer information than using a family firm dummy variable. This information was hand-collected from the firms' annual proxy statements.

CEO Family Membership

We measured CEOs' family membership (*CEOFam*), as a dummy variable, which equals one if the CEO is a family member and zero otherwise. *CEOFam* is the moderator for Hypotheses 1, 2, and 4. Such information was manually retrieved from the firms' proxy statements.

Control Variables

Following the literature on CSR, executive compensation, and family firms, we included a comprehensive set of control variables in our regression models. First, we controlled for firm size (*Size*), measured as the natural logarithm of a firm's total assets. It is a widely recognized determinant of both CSR investment and CEO incentives (Dyer and Whetten 2006; Berrone and Gomez-Mejia 2009). Fang et al. (2015) also pinpointed the importance of firm size in family firms' decisions to hire non-family managers. We also controlled for firm performance using industry-adjusted return on assets (*AdjROA*), sales growth (*Growth*), and loss occurrence (*Loss*) (Gómez-Mejía et al. 2003; Berrone and Gomez-Mejia 2009). Return on assets (ROA) was measured as income before extraordinary items scaled by lagged total assets, adjusted at two-digit SIC level. *Growth* captures firms' sales growth rate, and *Loss* is a dummy variable, which equals one if the net income is negative and zero otherwise. It is expected that firm performance is positively associated with CSR investments and CEO incentives. In addition, we also controlled for firm financial risk proxied by leverage (*Leverage*), market-to-book ratio (*MTB*), and standard deviation of stock returns (*StdRet*) (Sanders 2001). *Leverage* is defined as long-term debt scaled by total assets, *MTB* is the market value of equity scaled by the book value of equity, and *StdRet* is the standard deviation of stock returns during the 60 months prior to the end of the current fiscal period. It is argued that firms' financial risk may motivate them to provide more compensation incentives to retain CEOs (Carter et al. 2009). Firms with higher financial risk may pay less attention on CSR investments or use CSR investment to cover up such risk (Chang et al. 2014). Finally, we controlled for audit quality using a dummy variable (*Big4*) that equals one if a firm is audited by a big-4 auditor and zero otherwise (Kim et al. 2012). Auditor quality could serve as external governance mechanism (Francis et al. 2003). Firms with stronger governance are expected to invest more on CSR activities and provide more long-term incentives in CEO

compensation (Walls et al. 2012). We included two control variables capturing CEO attributes, CEO's age (*CEOAge*), and CEO's tenure (*CEOTenure*), defined as the number of years s/he has served as a CEO (Sun and Rakhman 2013; Dikolli et al. 2014). CEO age indicates whether the CEO is close to retirement. CEOs who are close to retirement are less likely to invest in long-term-oriented activities such as CSR. CEO tenure indicates a CEO's power over firm owners, and it reflects weak corporate governance. Thus, we expect a negative association between CEO tenure and CSR performance. Finally, we controlled two family attributes: *FamBoard* defined as the percentage of family members on the board of directors and *ChairFam*, a dummy variable that equals one if the board chair is a founding family member and zero otherwise (Chua et al. 2011). It is expected that firms with more family board members or board chairs from family member are more likely to invest in CSR activities due to the SEW preservation consideration.

Empirical Models

Consistent with prior research (Sanders 2001; Gómez-Mejía et al. 2003; Dyer and Whetten 2006; Berrone and Gomez-Mejia 2009), we developed the following regression models to test our hypotheses. Hypotheses 1, 3, and 4 were tested using Model (1), and Hypothesis 2 was tested using model (2). We allowed a one-year lag between dependent and explanatory variables. For instance, in testing Hypothesis 1, we used *FamHold* (*t*) to predict *TCSR* (*t* + 1).

$$\begin{aligned} CSR = & \beta_0 + \beta_1 FamHold + \beta_2 CEOFam + \beta_3 Incentive \\ & + \beta_4 FamHold * CEOFam + \beta_5 Incentive * CEOFam \\ & + \beta_6 ChairFam + \beta_7 FamBoard + \beta_8 Size \\ & + \beta_9 Leverage + \beta_{10} MTB + \beta_{11} AdjROA \\ & + \beta_{12} StdRet + \beta_{13} Growth + \beta_{14} Loss + \beta_{15} Big4 \\ & + \beta_{16} CEOAge + \beta_{17} CEOTenure + \varepsilon \end{aligned} \quad (1)$$

$$\begin{aligned} Incentive = & \beta_0 + \beta_1 FamHold + \beta_2 CEOFam \\ & + \beta_3 FamHold * CEOFam \\ & + \beta_4 ChairFam + \beta_5 FamBoard + \beta_6 Size \\ & + \beta_7 Leverage + \beta_8 MTB + \beta_9 AdjROA \\ & + \beta_{10} StdRet + \beta_{11} Growth + \beta_{12} Loss \\ & + \beta_{13} Big4 + \beta_{14} CEOAge + \beta_{15} CEOTenure \\ & + \varepsilon. \end{aligned} \quad (2)$$

We adopted the Fama–MacBeth (1973) approach to test our hypotheses. This approach is recommended as a preferred choice for analyzing panel data due to its strengths in correcting for cross-sectional correlation and producing

Table 1 Descriptive statistics

Variable	<i>N</i>	Mean	Median	SD	25th Pctl	75th Pctl
TCSR	2950	0.8353	0	4.0899	−2	3
TSTR	2950	4.6085	4	3.9695	2	6
TCON	2950	3.7732	3	2.8010	2	5
Incentive	2950	0.2882	0.2652	0.2438	0.0312	0.4359
FamHold	2950	0.0251	0	0.0751	0	0
FamFirm	2950	0.3505	0	0.4772	0	1
CEOFam	2950	0.1014	0	0.3019	0	0
FamBoard	2950	0.0360	0	0.0692	0	0.0714
ChairFam	2950	0.1763	0	0.3811	0	0
Size	2950	9.4984	9.4293	1.4405	8.3974	10.3552
Leverage	2950	0.1983	0.1760	0.1495	0.0916	0.2794
MTB	2950	3.5175	2.5516	19.6554	1.6531	3.9353
AdjROA	2950	0.3483	0.3095	0.2810	0.1055	0.5218
StdRet	2950	0.0971	0.0844	0.0487	0.0656	0.1132
Growth	2950	0.0745	0.0647	0.3152	−0.0101	0.1347
Loss	2950	0.1129	0	0.3165	0	0
Big4	2950	0.9753	1	0.1554	1	1
CEOAge	2950	55.7976	56	6.3562	52	60
CeoTenure	2950	6.6851	5	5.9866	3	9

This table reports the descriptive statistics of variables used in our primary tests. $TCSR = TSTR - TCON$, where $TSTR$ is the total CSR strength score from seven qualitative dimensions and $TCON$ is the total CSR concern score from the same seven dimensions. $Incentive$ is the Black–Scholes value of stock options granted scaled by total CEO compensation. $FamHold$ is the percentage of shares holds by family members. $FamFirm$ is a dummy variable, one for family firms and zero otherwise. $CEOFam$ is a dummy variable, one if CEO is a family member and zero otherwise. $ChairFam$ is a dummy variable, one if chair of board is a founding family member and zero otherwise. $FamBoard$ is the percentage of family members on board of director. $Size$ is the natural logarithm of total assets. $Leverage$ is long-term debt scaled by total assets. MTB is market value of equity scaled by book value of equity. $AdjROA$ is industry-adjusted ROA, where ROA is income before extraordinary items scaled by lagged total assets. $StdRet$ is the standard deviation of stock returns during 60 months before current fiscal period end. $Growth$ is sales growth rate. $Loss$ is a dummy variable, one if net income is negative and zero otherwise. $Big4$ is dummy variable, one if a firm is audited by a big 4 auditor and zero otherwise. $CEOAge$ is the age of CEO in years and $CEOTenure$ is the number of years served as CEO

unbiased standard errors (Petersen 2009; Chava 2014; Li and Mohanram 2014). We conducted additional tests to address the potential limitation of this approach in the section on Results and Discussion.

Results and Discussion

Results

Table 1 summarizes the descriptive statistics of the variables. The average scores for the three CSR performance measures— $TCSR$, $TSTR$, and $TCON$ —are 0.8353, 4.6085, and 3.7732, respectively. The t test results suggest that, on average, our sample firms exhibit significantly more positive than negative CSR initiatives ($t = 11.09$, $p < 0.001$). They also show that 10.14 % of the CEOs and 17.63 % of

the board chairs in our sample are family members. The average CEO age and CEO tenure are 55.80 and 6.69 years, respectively.

Table 2 is the correlation matrix of the variables used in the regression analyses. The correlation between total CSR performance ($TCSR$) and the percentage of family member holding ($FamHold$), and that between CEO long-term incentive ($Incentive$) and $FamHold$, are non-significant. These results are consistent with our expectation that these relationships depend on whether the CEO is a family member. The correlation matrix confirms that firms with less leverage, higher industry-adjusted ROA, and weaker sales growth tend to hire younger CEOs, to be larger, and to exhibit better CSR performance. The correlations related to CEO compensation incentives suggest that firms with CEOs who are family members tend to have a higher percentage of board representatives who are also family

Table 2 Correlation matrix

	TCSR	TSTR	TCN	Incentive	FamHold	CEOFam	ChairFAM	FamBoard	Size
TCSR	1.0000								
TSTR	0.75881***	1.0000							
TCN	-0.3848***	0.3092***	1.0000						
Incentive	0.0187	-0.0350**	-0.0768***	1.0000					
FamHold	0.0004	-0.0297	-0.0423**	0.0242	1.0000				
CEOFam	-0.0469**	-0.0894***	-0.0582***	0.0454**	0.3825***	1.0000			
ChairFam	-0.0086	-0.0631***	-0.0769***	0.0449**	0.5106***	0.6258***	1.0000		
FamBoard	0.0020	-0.0993***	-0.1436***	0.0469**	0.5782***	0.5406***	0.7252***	1.0000	
Size	0.0964***	0.4152***	0.4476***	-0.0928***	-0.1035***	-0.0506***	-0.1054***	-0.1904***	1.0000
Leverage	-0.1131***	-0.0478***	0.0974***	-0.11362***	-0.0990***	-0.0123	-0.0733***	-0.1039***	0.0169
MTB	0.0038	-0.0149	-0.0267	-0.0027	0.0108	0.0016	0.0015	0.0124	-0.0575***
AdjROA	0.1135***	0.1480***	0.0441**	0.1232***	-0.0204	-0.0559***	-0.0315*	-0.0094	-0.2392***
Growth	-0.0448**	-0.0529***	-0.0094	0.0272	0.0140	0.0240	0.0300	0.0112	0.0453**
Loss	-0.0448**	-0.0466**	-0.0006	0.0053	-0.0415**	-0.0098	-0.0020	-0.0351*	-0.0544***
Big4	0.0133	0.0624***	0.0689***	-0.0300	0.0072	0.0029	-0.0008	0.0151	-0.0607***
StdRet	-0.0163	-0.1297***	-0.1601***	0.1463***	0.0060	0.0394**	0.0562***	0.0355*	-0.2267***
CEOAge	-0.0308*	0.0559***	0.1241***	-0.0619***	0.0231	0.1053***	0.0077	-0.0593***	0.1555***
CEOTenure	-0.0279	-0.0898***	-0.0865***	0.0286	0.2029***	0.4438***	0.2535***	0.2077***	-0.0619***
	Leverage	MTB	AdjROA	Growth	Loss	Big4	StdRet	CEOAge	CEOTenure
Leverage	1.0000								
MTB	0.0369**	1.0000							
AdjROA	-0.1658***	0.0305*	1.0000						
Growth	-0.0534***	0.0019	0.0606***	1.0000					
Loss	0.1029***	-0.0475**	-0.1586***	-0.0859***	1.0000				
Big4	0.0821***	0.0126	0.0626***	0.0256	0.0155	1.0000			
StdRet	-0.0105	-0.0201	-0.0076	0.0769***	0.3361***	-0.0150	1.0000		
CEOAge	0.0155	-0.0145	-0.0516***	0.0237	-0.0611***	-0.0964***	-0.0791***	1.0000	
CEOTenure	-0.0799***	0.0228	0.0719***	0.0130	-0.0378**	-0.0962***	0.0219	0.4042***	1.0000

This table reports the correlation matrix of key variables used in our primary tests. *TCSR* = *TSTR* - *TCN*, where *TSTR* is the total CSR strength score from seven qualitative dimensions and *TCN* is the total CSR concern score from the same seven dimensions. *Incentive* is the Black-Scholes value of stock options granted scaled by total CEO compensation. *FamHold* is the percentage of shares holds by family members. *CEOFam* is a dummy variable, one if CEO is a family member and zero otherwise. *ChairFam* is a dummy variable, one if chair of board is a founding family member and zero otherwise. *FamBoard* is the percentage of family members on board of director. *Size* is the natural logarithm of total assets. *Leverage* is long-term debt scaled by total assets. *MTB* is market value of equity scaled by book value of equity. *AdjROA* is industry-adjusted ROA, where ROA is income before extraordinary items scaled by lagged total assets. *StdRet* is the standard deviation of stock returns during 60 months before current fiscal period end. *Growth* is sales growth rate. *Loss* is a dummy variable, one if net income is negative and zero otherwise. *Big4* is dummy variable, one if a firm is audited by a big 4 auditor and zero otherwise. *CEOAge* is the age of CEO in years, and *CEOTenure* is the number of years served as CEO. *, **, *** Indicate significance at the 10, 5, and 1 % levels, respectively

members; these firms also have higher financial performance, and offer higher percentage of stock option incentives to CEOs. To check for potential multicollinearity among the tested and control variables, we conducted variance inflation factor (VIF) tests for all our regression models. These tests produced VIF values ranging from one to three for all the variables, which are much lower than the threshold value of 10, suggesting that multicollinearity was not a major concern.

Columns (1) of Table 3 reports the results of testing Hypotheses 1 and 3 with total CSR performance as the dependent variable. The coefficient of the interaction term between family ownership (*FamHold*) and CEO family membership (*CEOFam*), i.e., *FamHold*CEOFam*, is positive ($b = 7.5269$, $p < 0.01$). This indicates that when a firm's CEO is a family member of the controlling family, family ownership is positively associated with the firm's CSR performance, supporting Hypothesis 1. As expected, the coefficient of CEO long-term incentive (*Incentive*) is positive ($b = 0.7670$, $p < 0.05$), supporting Hypothesis 3. Column (4) reports the results of testing Hypothesis 4. The coefficient of the interaction term between *Incentive* and *CEOFam*, i.e., *Incentive*CEOFam*, is not significant ($b = 1.6978$, *n.s.*). This result indicates that CEOs' family membership does not moderate the relationship between CEOs' long-term incentives and firms' CSR performance. Thus, Hypothesis 4 is not supported.

Column (2) of Table 4 reports the results of testing Hypothesis 2 with CEOs' long-term incentive as the dependent variable. The coefficient of the interaction term (*FamHold*CEOFam*) is negative ($b = -0.4828$, $p < 0.05$), indicating that when the CEO is not a family member of the controlling family, family firms tend to apply a higher percentage of long-term incentives in the CEO's compensation package, supporting **Hypothesis 2**.

Furthermore, we conducted several additional tests. First, we replaced total CSR performance (*TCSR*) with total CSR strength (*TSTR*) and total CSR concern (*TCON*). We re-ran the tests for Hypotheses 1, 3, and 4 on these two dimensions of CSR separately. We found that while the moderating effect of CEO family membership on the relationship between family involvement and a firm's TSTR is significant ($b = 8.5747$, $p < 0.01$; Column (2), Table 3), its moderating effect on the relationship between family involvement and a firm's TCON is not significant ($b = 1.0477$, *n.s.*; Column (3), Table 3). The main effect of CEO's long-term incentive on a firm's TSTR is not significant ($b = 0.2354$, *n.s.*; Column (2), Table 3), but it is significant on TCON ($b = -0.5316$, $p < 0.01$; Column (3), Table 3). In addition, CEOs' family membership does not moderate the relationship between CEOs' long-term incentives and firms' TSTR ($b = 0.8624$, *n.s.*; Column (5), Table 3); while its moderating effect on the relationship

between long-term incentives to CEOs and the firm's TCON is marginally negative ($b = -0.8353$, $p < 0.1$; Column (6), Table 3).

Second, we replaced total CSR performance (*TCSR*) with seven CSR dimensions: governance, community, diversity, employee, environment, human right, and product. We then re-ran the analyses for Hypotheses 1, 3, and 4. The results are presented in Table 5. As shown in Panel A of Table 5, CEOs' family memberships positively moderate the relationships between family involvement and the governance ($b = 1.2988$, $p < 0.01$), community ($b = 0.8599$, $p < 0.05$), diversity ($b = 1.4979$, $p < 0.01$), and employee ($b = 2.8652$, $p < 0.01$) dimensions of CSR. Its moderating role is not significant for the environment ($b = 0.9755$, *n.s.*) and human right ($b = 0.1645$, *n.s.*) dimensions of CSR, and negative for the product dimension ($b = -1.4566$, $p < 0.01$) of CSR. As shown in Panel A of Table 5, long-term incentive to CEOs positively influences the community ($b = 0.1124$, $p < 0.05$), employee ($b = 0.3020$, $p < 0.05$), and environment ($b = 0.2293$, $p < 0.05$) dimensions of CSR, but has no significant effect on the governance ($b = 0.0026$, *n.s.*), diversity ($b = 0.0717$, *n.s.*), human right ($b = 0.0633$, *n.s.*), and product ($b = 0.0821$, *n.s.*) dimensions of CSR. As presented in Panel B of Table 5, CEOs' family memberships positively moderate the relationships between CEOs' long-term incentives and the community ($b = 0.7047$, $p < 0.05$) and human right ($b = 0.2069$, $p < 0.1$) dimensions of CSR, but do not significantly moderate the relationships between CEOs' long-term incentives and the governance ($b = 0.1735$, *n.s.*), diversity ($b = 0.4038$, *n.s.*), employee ($b = 0.2419$, *n.s.*), environment ($b = 0.3418$, *n.s.*), and product ($b = -0.0955$, *n.s.*) dimensions of CSR.

Third, to study whether the effect of CEOs' long-term incentives on firms' CSR activities differ across different types of firms, we re-tested Hypothesis 3 by splitting the sample into two groups, with one group containing only family firms and the other containing only non-family firms. Columns (1) and (2) of Table 6 report the results. We find that the effect of CEOs' long-term incentives on firms' CSR performance is significant in the family-firm subsample ($b = 0.7519$, $p < 0.01$), but not in the non-family firm subsample ($b = 0.2244$, *n.s.*).

Fourth, we examined the extent to which family firm heterogeneity may affect family firms' CSR activities (Chua et al. 2012), by using the subsample containing only family firms. We examined whether our findings of testing Hypotheses 1, 3, and 4 vary across family firms with different family-related characteristics. We specifically focused on such characteristics as family ownership, CEOs' family membership, and family board representation. Column (4) of Table 6 reports that family ownership alone has a negative impact on family firms' CSR performance ($b = -6.6031$, $p < 0.01$). But the interaction

Table 3 Family involvement, long-term incentives, and corporate social responsibility

Model	1	2	3	4	5	6
Dependent variable	TCSR	TSTR	TCON	TCSR	TSTR	TCON
FamHold	−4.0531 (−7.17***)	−2.3422 (−6.48***)	1.7109 (3.97***)	−4.3110 (−7.25***)	−2.4950 (−7.47***)	1.8160 (4.05***)
CEOFam	−1.6022 (−3.49**)	−1.2606 (−3.22**)	0.3416 (1.68)	−1.9243 (−2.49**)	−1.3464 (−1.91*)	0.5779 (3.02**)
Incentive	0.7670 (2.44**)	0.2354 (0.87)	−0.5316 (−4.58***)	0.5570 (1.18)	0.1312 (0.33)	−0.4258 (−3.38**)
FamHold*CEOFam	7.5269 (6.56***)	8.5747 (10.22***)	1.0477 (1.39)	7.6619 (6.04***)	8.5121 (8.69***)	0.8502 (1.21)
Incentive*CEOFam				1.6978 (1.10)	0.8624 (0.72)	−0.8353 (−2.03*)
FamBoard	2.3427 (5.48***)	−0.3862 (−1.30)	−2.7289 (−7.48***)	2.3558 (5.85***)	−0.4561 (−1.47)	−2.8119 (−7.69***)
ChairFam	0.5510 (4.04***)	0.8122 (5.33***)	0.2664 (1.69)	0.6198 (4.84***)	0.8650 (5.22***)	0.2452 (1.66)
Size	0.3867 (2.85**)	1.6771 (23.37***)	1.2904 (14.07***)	0.3775 (2.98**)	1.6713 (25.12***)	1.2939 (14.47***)
Leverage	−1.8634 (−6.01***)	−1.5002 (−7.63***)	0.3632 (1.65)	−1.8149 (−5.62***)	−1.4833 (−6.28***)	0.3316 (1.52)
MTB	0.0093 (1.15)	0.0075 (1.77)	−0.0017 (−0.29)	0.0091 (1.13)	0.0074 (1.70)	−0.0017 (−0.28)
AdjROA	1.5544 (4.95***)	1.7892 (8.29***)	0.2349 (1.05)	1.5778 (4.89***)	1.8029 (8.31***)	0.2251 (1.00)
StdRet	−3.3536 (−1.38)	−0.0333 (−0.01)	3.3203 (3.14**)	−3.5444 (−1.42)	−0.1800 (−0.07)	3.3644 (3.23**)
Growth	−0.6587 (−2.21*)	−1.1152 (−3.57***)	−0.4565 (−3.08**)	−0.6467 (−2.22*)	−1.1110 (−3.63***)	−0.4643 (−3.12**)
Loss	−0.2789 (−0.70)	0.0755 (0.32)	0.3544 (1.67)	−0.2764 (−0.72)	0.0763 (0.34)	0.3527 (1.70)
Big4	1.7114 (2.38**)	1.2997 (2.95**)	−0.4117 (−1.02)	1.7405 (2.43**)	1.3313 (3.05**)	−0.4093 (−1.00)
CEOAge	−0.0052 (−0.65)	0.0285 (6.18***)	0.0336 (6.41***)	−0.0050 (−0.64)	0.0285 (6.73***)	0.0335 (6.22***)
CEOTenure	−0.0070 (−0.53)	−0.0649 (−6.48***)	−0.0579 (−6.78***)	−0.0093 (−0.74)	−0.0662 (−7.46***)	−0.0569 (−6.60***)
Intercept	−8.7826 (−9.51***)	−13.2637 (−16.40***)	−4.4811 (−3.40***)	−8.6181 (−10.41***)	−13.1674 (−14.86***)	−4.5493 (−3.54***)
Industry dummy	Yes	Yes	Yes	Yes	Yes	Yes
Adj R^2	0.1165	0.3524	0.4338	0.1182	0.3534	0.4335

This table reports the Fama–MacBeth regressions results of the association among family involvement, long-term incentives and corporate social responsibility. $TCSR = TSTR - TCON$, where $TSTR$ is the total CSR strength score from seven qualitative dimensions and $TCON$ is the total CSR concern score from the same seven dimensions. $FamHold$ is the percentage of shares holds by family members. $Incentive$ is the Black–Scholes value of stock options granted scaled by total CEO compensation. $CEOFam$ is a dummy variable, one if CEO is a family member and zero otherwise. $ChairFam$ is a dummy variable, one if chair of board is a founding family member and zero otherwise. $FamBoard$ is the percentage of family members on board of director. $Size$ is the natural logarithm of total assets. $Leverage$ is long-term debt scaled by total assets. MTB is market value of equity scaled by book value of equity. $AdjROA$ is industry-adjusted ROA, where ROA is income before extraordinary items scaled by lagged total assets. $StdRet$ is the standard deviation of stock returns during 60 months before current fiscal period end. $Growth$ is sales growth rate. $Loss$ is a dummy variable, one if net income is negative and zero otherwise. $Big4$ is dummy variable, one if a firm is audited by a big 4 auditor and zero otherwise. $CEOAge$ is the age of CEO in years, and $CEOTenure$ is the number of years served as CEO. T-value is reported in parentheses

*, **, *** Indicate significance at the 10, 5, and 1 % levels, respectively

Table 4 Family involvement and long-term incentives

Model	1	2
Dependent variable	Incentive	Incentive
Famhold		0.1998 (2.26*)
CEOFam		0.0759 (3.31**)
FamHold*CEOFam		-0.4828 (-3.00**)
FamBoard	-0.0941 (-1.82)	-0.1984 (-2.52**)
ChairFam	0.0133 (0.80)	-0.0060 (-0.42)
Size	0.0073 (2.40**)	0.0060 (2.05*)
Leverage	-0.1185 (-2.38**)	-0.1210 (-2.37**)
MTB	-0.0002 (-0.89)	-0.0002 (-0.86)
AdjROA	0.0846 (4.05***)	0.0846 (4.22***)
StdRet	0.6270 (3.07**)	0.6230 (3.04**)
Growth	0.0163 (0.80)	0.0194 (0.93)
Loss	0.0160 (0.80)	0.0149 (0.75)
Big4	0.0528 (1.35)	0.0425 (1.17)
CEOAge	-0.0020 (-2.88**)	-0.0022 (-3.77***)
CEOTenure	0.0010 (1.20)	0.0010 (1.28)
Intercept	0.1474 (1.37)	0.1889 (2.05*)
Industry dummy	Yes	Yes
Adj R^2	0.0630	0.0645

This table reports the Fama–MacBeth regressions results of the association between family involvement and long-term incentives. *Incentive* is the Black–Scholes value of stock options granted scaled by total CEO compensation. *FamHold* is the percentage of shares holds by family members. *CEOFam* is a dummy variable, one if CEO is a family member and zero otherwise. *ChairFam* is a dummy variable, one if chair of board is a founding family member and zero otherwise. *FamBoard* is the percentage of family members on board of director. *Size* is the natural logarithm of total assets. *Leverage* is long-term debt scaled by total assets. *MTB* is market value of equity scaled by book value of equity. *AdjROA* is industry-adjusted ROA, where ROA is income before extraordinary items scaled by lagged total assets. *StdRet* is the standard deviation of stock returns during 60 months before current fiscal period end. *Growth* is sales growth rate. *Loss* is a dummy variable, one if net income is negative and zero otherwise. *Big4* is dummy variable, one if a firm is audited by a big 4 auditor and zero otherwise. *CEOAge* is the age of CEO in years, and *CEOTenure* is the number of years served as CEO. T-value is reported in parentheses

*, **, *** Indicate significance at the 10, 5, and 1 % levels, respectively

*FamHold*CEOFam* has a positive impact on CSR performance ($b = 10.7092$, $p < 0.01$), which is consistent with our previous finding. We also found that CEOs' family memberships do not significantly moderate ($b = 0.6116$, *n.s.*) the relationship between CEOs' long-term incentives and firms' CSR performance, which supports our previous finding too. Column (5) of Table 6 shows that family board representation, i.e., *FamBoard*, has no significant influence ($b = 0.2843$, *n.s.*) on family firms' CSR performance. But the interaction term *FamHold*FamBoard* has a positive effect ($b = 54.9118$, $p < 0.01$) on CSR performance. This finding indicates that family board representation attenuates the negative relationship between family ownership and CSR performance. In addition, the coefficient of the interaction term *Incentive*FamBoard* is negative ($b = -14.9816$, $p < 0.01$), which suggests that family board representation reduces the positive relationship between CEOs' long-term incentives and family firms' CSR performance.

Fifth, although Fama–MacBeth (FM) has been widely adopted and preferred for analyzing panel data, it has an important limitation (Petersen 2009). Specifically, while the FM approach corrects the time-effect (i.e., cross-correlation) associated with panel data, it does not well address the firm-effect (i.e., time-series dependence of standard errors).¹ If the firm-effect exists, the standard errors tend to be biased, causing spurious results. We tried two approaches to addressing this potential concern. First, we tried to empirically identify the firm-effect by following the normal method for this type of test suggested by Gottman (1981). However, the span of our panel data is too narrow for this test. Firms in our data repeat from 1 to 8 times, with the mean repetition being only 6.3 times. This test would produce unreliable results in this situation, because estimators of the auto-correlation (i.e., firm-effect) perform poorly for data with a narrow panel structure (<50 repetitions per individual subject; Huitema and McKean 1991). Second, although we could not directly test the firm-effect, we adjusted the impact of possible firm-effect on FM standard errors, by adopting the Newey–West approach, which is normally employed for such justification (Newey and West 1987; Loughran and Ritter 2000). This approach corrects for the time-series dependence of FM standard errors and typically generates a conservative estimate of statistical significance (Bushman and Piotroski 2006; Richardson et al. 2006). The results are reported in Columns (6) and (7) of Table 6. It shows that our primary analysis results hold, indicating that our findings are robust to the potential firm-effect.

¹ We thank an anonymous reviewer for pointing this out and recommending additional analyses.

Table 5 Family involvement, long-term incentives, and corporate social responsibility by dimension

Dependent variable	Governance	Community	Diversity	Employee	Environment	Human Right	Product
<i>Panel A results testing Hypotheses 1 and 3</i>							
FamHold	-1.1236 (-5.66***)	-0.4483 (-2.25*)	-0.0246 (-0.05)	-1.7914 (-6.29***)	-0.9332 (-2.81**)	-0.1253 (-0.99)	1.0809 (7.27***)
CEOFam	-0.3111 (-3.75***)	-0.3138 (-3.80***)	-0.1899 (-1.78)	-0.5160 (-2.86**)	-0.2147 (-2.06*)	-0.0195 (-0.57)	0.0887 (1.06)
Incentive	0.0026 (0.08)	0.1124 (2.81**)	0.0717 (0.57)	0.3020 (2.48**)	0.2293 (2.67**)	0.0633 (1.81)	0.0821 (1.55)
FamHold*CEOFam	1.2988 (4.35***)	0.8599 (2.96**)	1.4979 (3.89***)	2.8652 (5.57***)	0.9755 (1.54)	0.1645 (0.45)	-1.4566 (-5.05***)
FamBoard	0.7289 (3.95***)	-0.0073 (-0.03)	1.3966 (4.76***)	0.3285 (1.50)	-0.3231 (-1.26)	0.1697 (0.70)	-0.7240 (-2.17*)
ChairFam	0.0910 (3.95***)	0.2973 (6.94***)	-0.3452 (-3.07**)	0.2247 (2.61**)	0.1882 (2.88**)	-0.0431 (-0.78)	0.1299 (3.59***)
Size	0.0612 (1.90*)	0.1943 (11.27***)	0.6118 (29.80***)	0.0345 (1.71)	-0.0273 (-0.61)	-0.0846 (-6.45***)	-0.2843 (-13.61***)
Leverage	-0.1348 (-2.74**)	-0.2209 (-2.75**)	-0.1789 (-0.88)	-1.2120 (-9.28***)	-0.1591 (-1.42)	0.1032 (4.28***)	-0.0301 (-0.45)
MTB	0.0001 (0.18)	0.0016 (1.47)	0.0051 (2.14*)	0.0005 (0.41)	0.0032 (3.00**)	-0.0001 (-0.04)	-0.0010 (-0.32)
AdjROA	0.1472 (1.72)	0.3398 (7.97***)	0.7301 (4.98***)	0.6648 (6.96***)	-0.0309 (-0.18)	0.0441 (2.23*)	-0.2658 (-3.11**)
StdRet	-0.8733 (-2.85**)	0.0363 (0.07)	0.5634 (0.46)	1.0511 (2.23*)	-1.3300 (-1.43)	-0.7023 (-2.98**)	-0.7065 (-1.00)
Growth	-0.0695 (-1.04)	-0.2744 (-2.26*)	-0.4682 (-2.60**)	0.2099 (1.38)	-0.2238 (-1.67)	-0.0615 (-1.52)	0.0929 (1.35)
Loss	0.0223 (0.86)	0.0270 (0.41)	0.0031 (0.03)	-0.1691 (-3.14**)	-0.0154 (-0.15)	0.0649 (3.52***)	-0.1490 (-1.60)
Big4	0.3434 (2.31*)	0.2148 (2.05*)	0.1833 (1.49)	0.0726 (0.58)	0.4598 (2.25*)	0.1159 (2.03*)	0.3039 (1.64)
CEOAge	-0.0008 (-0.44)	-0.0022 (-1.35)	0.0048 (2.35*)	-0.0082 (-3.65***)	-0.0033 (-1.35)	-0.0030 (-3.44**)	0.0068 (3.37**)
CEOTenure	0.0016 (0.56)	-0.0037 (-3.25**)	-0.0197 (-4.51***)	0.0055 (1.41)	0.0055 (2.16*)	0.0001 (0.08)	0.0060 (1.49)
Intercept	-2.0447 (-3.99***)	-2.1126 (-5.69***)	-4.9687 (-7.22***)	0.1273 (0.28)	-1.4371 (-2.62**)	0.5477 (3.50***)	0.6385 (0.65)
Industry dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R ²	0.0718	0.1105	0.2311	0.0994	0.1232	0.1020	0.1822
<i>Panel B results testing Hypothesis 4</i>							
FamHold	-1.1461 (-5.53***)	-0.5346 (-2.62**)	-0.0678 (-0.15)	-1.8400 (-6.53***)	-0.9674 (-2.84**)	-0.1478 (-1.12)	1.0616 (6.92***)
CEOFam	-0.3464 (-2.80**)	-0.4999 (-4.33***)	-0.2780 (-1.83)	-0.5515 (-2.38**)	-0.3130 (-2.06*)	-0.0739 (-1.40)	0.1631 (1.11)
Incentive	-0.0206 (-0.49)	0.0303 (0.50)	0.0212 (0.14)	0.2688 (1.69)	0.1860 (1.88)	0.0403 (1.14)	0.0930 (1.45)
FamHold*CEOFam	1.3125 (4.72***)	1.0233 (5.19***)	1.5755 (4.16***)	2.8414 (5.75***)	1.0856 (1.64)	0.2041 (0.54)	-1.5916 (-4.58***)
Incentive*CEOFam	0.1735 (1.01)	0.7047 (2.37**)	0.4038 (1.11)	0.2419 (0.77)	0.3418 (1.56)	0.2069 (2.20*)	-0.0955 (-0.32)

Table 5 continued

Dependent variable	Governance	Community	Diversity	Employee	Environment	Human Right	Product
FamBoard	0.7240 (3.66***)	0.0281 (0.12)	1.3822 (4.50***)	0.3273 (1.57)	-0.3107 (-1.20)	0.1758 (0.72)	-0.7314 (-2.24*)
ChairFam	0.0981 (3.86***)	0.3212 (6.80***)	-0.3293 (-3.18**)	0.2360 (2.70**)	0.1997 (3.25**)	-0.0369 (-0.68)	0.1343 (3.32**)
Size	0.0602 (1.92*)	0.1912 (10.66***)	0.6087 (32.06***)	0.0341 (1.68)	-0.0296 (-0.68)	-0.0852 (-6.59***)	-0.2840 (-14.74***)
Leverage	-0.1295 (-2.24*)	-0.2021 (-2.37**)	-0.1605 (-0.84)	-1.2206 (-8.63***)	-0.1406 (-1.22)	0.1043 (4.23***)	-0.0308 (-0.44)
MTB	0.0001 (0.15)	0.0014 (1.34)	0.0050 (2.07*)	0.0006 (0.49)	0.0031 (3.00**)	-0.0001 (-0.08)	-0.0009 (-0.32)
AdjROA	0.1500 (1.71)	0.3454 (8.48***)	0.7362 (5.01***)	0.6677 (7.01***)	-0.0268 (-0.15)	0.0455 (2.37**)	-0.2642 (-3.05**)
StdRet	-0.8850 (-2.95**)	-0.0248 (-0.05)	0.5299 (0.43)	1.0333 (2.11*)	-1.3543 (-1.44)	-0.7161 (-3.04**)	-0.7360 (-1.05)
Growth	-0.0699 (-1.05)	-0.2683 (-2.20*)	-0.4681 (-2.59**)	0.2131 (1.40)	-0.2257 (-1.68)	-0.0589 (-1.44)	0.0938 (1.34)
Loss	0.0225 (0.88)	0.0251 (0.37)	0.0033 (0.03)	-0.1663 (-3.31**)	-0.0185 (-0.18)	0.0660 (3.59***)	-0.1481 (-1.63)
Big4	0.3457 (2.31*)	0.2184 (2.10*)	0.1893 (1.61)	0.0798 (0.64)	0.4606 (2.24*)	0.1160 (2.03*)	0.3099 (1.69)
CEOAge	-0.0008 (-0.44)	-0.0022 (-1.26)	0.0050 (2.50**)	-0.0083 (-3.67***)	-0.0032 (-1.34)	-0.0030 (-3.30**)	0.0067 (3.20**)
CEOTenure	0.0014 (0.53)	-0.0046 (-4.90***)	-0.0203 (-4.751***)	0.0053 (1.34)	0.0051 (2.11*)	-0.0001 (-0.10)	0.0062 (1.45)
Intercept	-2.0283 (-4.07***)	-2.0487 (-5.23***)	-4.9310 (-7.04***)	0.1433 (0.30)	-1.4025 (-2.62**)	0.5637 (3.60***)	0.6407 (0.67)
Industry dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R ²	0.0710	0.1135	0.2301	0.0993	0.1215	0.1021	0.1833

This table reports the Fama–MacBeth regressions results of the association among family involvement, long-term incentives and seven corporate social responsibility dimensions, respectively: *Governance*, *Community*, *Diversity*, *Employee*, *Environment*, *Human Right*, and *Product*. *FamHold* is the percentage of shares holds by family members. *Incentive* is the Black–Scholes value of stock options granted scaled by total CEO compensation. *CEOFam* is a dummy variable, one if CEO is a family member and zero otherwise. *ChairFam* is a dummy variable, one if chair of board is a founding family member and zero otherwise. *FamBoard* is the percentage of family members on board of director. *Size* is the natural logarithm of total assets. *Leverage* is long-term debt scaled by total assets. *MTB* is market value of equity scaled by book value of equity. *AdjROA* is industry-adjusted ROA, where ROA is income before extraordinary items scaled by lagged total assets. *StdRet* is the standard deviation of stock returns during 60 months before current fiscal period end. *Growth* is sales growth rate. *Loss* is a dummy variable, one if net income is negative and zero otherwise. *Big4* is dummy variable, one if a firm is audited by a big 4 auditor and zero otherwise. *CEOAge* is the age of CEO in years, and *CEOTenure* is the number of years served as CEO. T-value is reported in parentheses

*, **, *** Indicate significance at the 10, 5, and 1 % levels, respectively

Finally, we adopt an alternative measure of CEO long-term incentive (*Alternative Incentive*), and the results are qualitatively the same as those from the primary analyses.²

Discussion

This research echoes the literature on the legitimacy account for family firms' CSR activities (Panwar et al.

2014; Berrone et al. 2015; Dekker and Hasso 2014; Berrone et al. 2010). We contribute to this line of studies by shedding light on their inconsistent conclusions about the relationship between family involvement and family firms' CSR performance. Different from prior research, which has approached this relationship mainly from the perspective of family's SEW preservation, this research adopts the behavioral agency perspective. We complement prior studies by specifically decoupling the values of controlling families and those of the decision-makers of the family

² The results are not tabulated for brevity.

Table 6 Additional analysis

Model	Family firm subsample	Non-family firm subsample	Family firm subsample	Family firm subsample	Family firm subsample	Full sample Newey–West H1 and H3	Full sample Newey–West H4
Dependent variable	TCSR	TCSR	TCSR	TCSR	TCSR	TCSR	TCSR
FamHold			−1.6794 (−2.17*)	−6.6031 (−14.00***)	−10.2208 (−5.60***)	−4.0531 (−12.14***)	−4.3110 (−12.13***)
CEOFam			−0.7323 (−2.82**)	−1.6806 (−2.23*)	−0.7497 (−2.74**)	−1.6022 (−2.92**)	−1.9243 (−1.82)
Incentive	0.7519 (3.42***)	0.2244 (0.39)	0.6987 (2.67**)	0.6047 (0.88)	2.4737 (4.99***)	0.7670 (2.10*)	0.5570 (0.92)
FamHold*CEOFam				10.7092 (6.14***)		7.5269 (8.26***)	7.6619 (5.39***)
Incentive*CEOFam				0.6116 (0.33)			1.6978 (0.84)
FamBoard			0.5021 (0.38)	1.8121 (1.23)	0.2843 (0.17)	2.3427 (6.47***)	2.3558 (7.37***)
FamHold*FamBoard					54.9118 (5.58***)		
Incentive*FamBoard					−14.9816 (−3.88***)		
ChairFam			0.2715 (2.14*)	0.5905 (421***)	0.6346 (4.50***)	0.5458 (5.57***)	0.6198 (8.57***)
Size	0.6881 (5.89***)	0.1711 (1.41)	0.6838 (5.60***)	0.7196 (6.74***)	0.6904 (5.60***)	0.3867 (2.68**)	0.3774 (2.83**)
Leverage	−5.2138 (−8.48***)	0.6343 (1.67)	−5.2666 (−7.79***)	−5.5027 (−8.57***)	−5.7428 (−8.43***)	−1.8634 (−9.13***)	−1.8149 (−7.43***)
MTB	0.1421 (3.11**)	0.0101 (0.94)	0.1616 (3.29**)	0.1581 (3.18**)	0.1514 (3.33***)	0.0093 (1.42)	0.0091 (1.44)
AdjROA	0.6042 (1.37)	2.2652 (5.25***)	0.4556 (0.87)	0.5058 (0.90)	0.2084 (0.39)	1.5544 (5.71***)	1.5778 (5.36***)
StdRet	5.6244 (3.87***)	−9.7513 (−2.26*)	5.3758 (2.90**)	4.9214 (2.70**)	6.1722 (2.90**)	−3.3536 (−1.32)	−3.5444 (−1.35)
Growth	−2.1971 (−2.62**)	−0.5505 (−2.33*)	−2.2301 (−2.68**)	−2.3453 (−2.35*)	−1.8668 (−2.09*)	−0.6587 (−3.13**)	−0.6467 (−3.12**)
Loss	−0.2334 (−0.81)	−0.0878 (−0.15)	−0.3658 (−1.19)	−0.2605 (−0.97)	−0.5029 (−1.63)	−0.2789 (−0.65)	−0.2764 (−0.67)
Big4	2.6399 (4.66***)	1.6893 (1.25)	2.7370 (4.58***)	3.0917 (4.73**)	2.7700 (4.48***)	1.7114 (1.98*)	1.7405 (2.03*)
CEOAge	0.0193 (1.76)	−0.0326 (−5.42***)	0.0160 (1.29)	0.0138 (0.92)	0.0133 (1.10)	−0.0052 (−0.49)	−0.0050 (−0.49)
CEOTenure	−0.0462 (−4.56***)	0.0381 (2.03*)	−0.0221 (−2.34*)	−0.0327 (−3.70***)	−0.0109 (−1.17)	−0.0070 (−0.41)	−0.0093 (−0.60)
Industry dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R^2	0.1088	0.1423	0.0944	0.1145	0.1031	0.1165	0.1182

This table reports the Fama–MacBeth regressions results of the association among family involvement, long-term incentives and corporate social responsibility. To save space, the coefficients and T-values of intercept are not reported. $TCSR = TSTR - TCON$, where $TSTR$ is the total CSR strength score from seven qualitative dimensions and $TCON$ is the total CSR concern score from the same seven dimensions. $FamHold$ is the percentage of shares holds by family members. $Incentive$ is the Black–Scholes value of stock options granted scaled by total CEO compensation. $CEOFam$ is a dummy variable, one if CEO is a family member and zero otherwise. $ChairFam$ is a dummy variable, one if chair of board is a founding family member and zero otherwise. $FamBoard$ is the percentage of family members on board of director. $Size$ is the natural logarithm of total assets. $Leverage$ is long-term debt scaled by total assets. MTB is market value of equity scaled by book value of equity. $AdjROA$ is industry-adjusted ROA, where ROA is income before extraordinary items scaled by lagged total assets. $StdRet$ is the standard deviation of stock returns during 60 months before current fiscal period end. $Growth$ is sales growth rate. $Loss$ is a dummy variable, one if net income is negative and zero otherwise. $Big4$ is dummy variable, one if a firm is audited by a big 4 auditor and zero otherwise. $CEOAge$ is the age of CEO in years, and $CEOTenure$ is the number of years served as CEO. T -value is reported in parentheses

*, **, *** Indicate significance at the 10, 5, and 1 % levels, respectively

firms. We argue that although CSR helps build a firm's legitimacy, the extent to which family firms actually invest in CSR depends on whether SEW preservation of the family is built into the decision-makers' incentives. This research provides a more nuanced viewpoint, which suggests that the discrepancies in prior findings may be attributed to the fact that controlling families and family firms' decision-makers do not necessarily share the same value reference points. To the extent that agency concerns are severe, their interests with respect to improving families' social legitimacy and CSR performance could be fundamentally different.

More specifically, this research contributes to the legitimacy account for family firms' CSR performance by identifying the contingency role played by CEOs' family memberships. Family vs. non-family CEOs play a distinct role in bridging family's preference for social legitimacy and family firm's pursuance of CSR activities. If a CEO is a member of the controlling family, family involvement does improve the firm's overall CSR performance. If the CEO is not a family member, by contrast, the firm is less likely to pursue CSR activities. Our research suggests that family members serving as top managers do increase the congruence between controlling families' SEW preservation and family firms' CSR investment. This finding is consistent with prior studies which indicate that family CEOs are more likely to internalize families' SEW preservation (Wu et al. 2007).

Our contribution regarding the role of CEO family membership is strengthened when it is viewed in combination with our additional analyses. We find that family CEOs are more likely to promote firms' investment in proactive CSR initiatives than non-family CEOs, yet they are not different with respect to investment in passive CSR activities (i.e., to control social concerns). This finding again suggests how family and non-family CEOs differ in their perceptions of CSR with reference to the SEW preservation of the controlling families. Investment in proactive CSR activities, those that go far and beyond stakeholders' expectations, boosts the controlling families' fame, and therefore provides intrinsic incentives for the family CEOs to pursue such activities. However, as such investment does not necessarily contribute much to the reputation of individual decision-makers, nor does it increase their values in the external labor market (Nagarajan et al. 1995; Dyck 1997; Laffont and Martimort 2002a, b), non-family CEOs have less incentive to invest in those activities. With respect to passive CSR activities (reflected in social concerns), by contrast, non-family CEOs are willing, for their own sake, to exert similar level of effort as their family counterparties would do to meet the least possible expectations of the stakeholders. Or otherwise, they may be replaced in order to repair any

contaminations to the family firms' reputation due to lack of actions in meeting those expectations (Zellweger et al. 2012; Ding et al. 2014). These findings complement the seminal research by Dyer and Whetten (2006) in two aspects. First, while they found that family and non-family firms are not different with respect to investment in social initiatives, our findings indicate that when CEOs are family members, family firms tend to perform better than non-family firms in these CSR activities. Second, while Dyer and Whetten (2006) found that family firms tend to perform better in reducing social concerns, our research shows that this effect is likely to be more prevalent when CEOs are non-family members.

In the additional analyses where we broke CSR into seven dimensions, we find that while the moderating role of CEO family membership is consistent, in four dimensions (governance, community, diversity, and employee³), with what we have found using the aggregated measure of CSR performance, there are some discrepancies that are worth further discussion and exploration. First, in line with prior studies, we find that the relationship between family involvement and a firm's environmental performance is independent of whether the CEO is a family member or not (Berrone et al. 2010). Second, while the human rights dimension of CSR has not been a major focus in prior family business-related CSR studies, we found that its relationship with family involvement is not affected by CEO family membership either. Third, and probably more interestingly, the product dimension of CSR, with respect to a firm's performance in developing quality program, investment in R&D, and innovation, is negatively associated with family involvement when the CEO is a family member. Although it contradicts our overall finding, it is in line with prior studies, which find that family firms may invest less in R&D under certain circumstances due to their tendency to take less risk (Chen and Hsu 2009; Munari et al. 2010; Chrisman and Patel 2012).

We also find that compensation package for family CEOs indeed is composed of a lower proportion of long-term incentives than non-family CEOs. Consistent with prior research (Gómez-Mejía et al. 2003), our findings support that more long-term-oriented incentive is needed to

³ According to KLD rating definitions and Dyer and Whetten (2006), "Governance" refers to transparency, ownership, and political accountability to social and environmental issues. "Community" refers to such aspects as charity donation, support for education, and other community-related activities. "Diversity" refers to the diversity of employees in terms of their gender, ethnics, and physical conditions. "Employee" refers to employee right protection such as union, profit sharing, and fair compensation. "Environment" refers to environmental protection-related effort, such as pollution prevention and recycling. "Human rights" refers to human rights issues such as labor rights and Indigenous people's relations. "Product" refers to quality program, R&D investment, and innovation.

align the interest of non-family CEOs and the SEW preservation of the controlling families. Contrary to our expectation, we find that the impact of long-term incentives to CEOs on firms' CSR does not differ between family and non-family CEOs. The implication is that even though family CEOs tend to be more intrinsically motivated in enhancing firms' CSR performance, they are as much motivated by extrinsic incentives, i.e., long-term incentives, as non-family CEOs to promote CSR activities. In addition, we find that the effect of CEOs' long-term incentives on firms' CSR performance increases with the level of family ownership. Our additional analyses, using alternative measures of CSR provide more insights regarding these relationships, in two aspects. First, we find that the effect of CEO long-term incentive in promoting CSR performance is more pronounced in terms of reducing social concerns than promoting proactive initiatives. The practical implication is that even with more long-term incentives, CEOs, and particularly non-family CEOs tend to take a more conservative approach in their CSR activities. Second, while prior studies have examined the positive role played by CEOs' long-term incentive in improving firms' environmental performance (Berrone and Gomez-Mejia 2009), we find that such incentive also plays a strong role in promoting other dimensions of CSR performance such as community, employee, and human rights, but not in the governance, diversity, and product dimensions of CSR. The positive effect on the community and human right dimensions of CSR is particularly stronger when the long-term incentives are provided to family CEOs.

Last but not least, our analyses of the heterogeneity of family firms support our findings and provide more ample information regarding family firms' CSR activities. In particular, we find that in family firms where family representation on the board is high, these firms tend to perform better in CSR activities. In addition, the role of CEOs' long-term incentive in promoting firms' CSR performance is reduced when family board representation is high. The practical implication is that in family firms, providing long-term incentives to CEOs for the purpose of better CSR performance may be less effective when more family members sit on the board.

Limitations and Future Research

Our contributions must be viewed in light of their limitations. First, our research focuses mainly on the role of CEOs' family memberships in studying family firms' CSR performance. We did not investigate whether other dimensions of family firm characteristics, such as family governance and the transgenerational succession intention, may also play a role in influencing family firms' CSR

commitment (Blumentritt et al. 2007). As prior studies show, these factors can also have significant influence on decision-makings in family firms (Chua et al. 1999). Future research investigating these aspects of controlling families may prove fruitful, and help further clarify the debatable relationship between family involvement and firms' CSR activities.

Second, while we followed prior studies to test our hypotheses using the list of S&P 500 firms (Dyer and Whetten 2006), we acknowledge that many family firms are not publicly listed, or large enough to be included in this list. The generalizability of our findings is therefore constrained by our sample selection. As a large proportion of family firms are privately held and/or small or medium-sized (Dekker and Hasso 2014; Ding et al. 2014; Panwar et al. 2015), future research may benefit from investigating similar research questions identified in our study using a sample of privately held firms or public firms of smaller size. These studies would collectively provide a fuller account for the role of CEOs' family memberships in influencing family firms' CSR investment.

Third, our research is constrained by the availability of information on firms' CSR activities, which we retrieved solely from the KLD database. Although KLD has been one of the most widely adopted source of information to study firms' CSR, especially for those large and publically traded in the U.S., it has shortcomings that affect our ability to investigate our research questions in greater details. As Maignan and Ferrell (2000) commented, the KLD data do not include other important dimensions of corporate citizenship, such as the ethical and legal aspects of a firm's performance, which would enable us to investigate in greater details and provide more insights to the relationship between family involvement and corporate citizenship. In addition, the number of companies included in the KLD data varies across years (i.e., $N = 650$ in 1991, $N = 1100$ in 2001, and $N = 3000$ in 2003). This unbalanced data structure constrains to some extent researchers to only certain companies within a certain period of time. Future research would benefit from developing or employing alternative data sources on CSR that provide more comprehensive measures of CSR activities with a more balanced coverage of firms.

Conclusion

This study applies the behavioral agency theory to investigate the debatable relationship between family involvement and family firms' CSR investment. We attributed the discrepancies in prior studies to the incongruence between families' SEW preservation and family firm decision-makers' incentives. We specifically focus on the

moderating role played by CEOs' family memberships in this relationship. We also explore how a family firm can encourage a non-family CEO to act in the interests of the business family to prioritize CSR investment. Our results suggest that (a) having a CEO who is a family member strengthens the effect of family ownership on a firm's CSR performance, (b) a higher proportion of long-term incentives in the compensation package is needed for a non-family CEO to boost the firm's CSR performance, and (c) despite the intrinsic motivation of family CEOs, family and non-family CEOs are both motivated by long-term incentives to promote firms' CSR performance.

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