Does family involvement explain why corporate social responsibility affects earnings management?☆

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ARTICLE INFO

ABSTRACT

We investigate how family involvement in the ownership, management, or governance of a business affects its engagement in earnings management both directly and indirectly through its corporate social responsibility (CSR) activities. Using a sample of S&P 500 companies, we find that family firms tend to have higher CSR performance, which can help them to maintain legitimacy and preserve socio-emotional wealth. Family firms also engage in less accrual-based earnings management, although they are indistinguishable from non-family firms in terms of real earnings management. In contrast to previous research, we find that CSR performance is not significantly associated with either accrual-based or real earnings management behavior after we account for the effect of family involvement. Our findings suggest that the association between CSR performance and family involvement is the primary driver of the relation between CSR performance and earnings management documented in previous research.

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1. Introduction

How family involvement in a firm's ownership, management, and governance affects business outcomes and decision making has attracted growing research attention (Dyer & Whetten, 2006; Kim, Park, & Wier, 2012; Lin & Shen, 2015; Wang, 2006). Other studies have looked into factors that affect a company's corporate social responsibility (CSR) activities. Furthermore, the 2008 financial crisis once again placed earnings management practices into the spotlight. This attention has been especially relevant in light of the Sarbanes-Oxley Act (SOX) of 2002, which restricts the ability of publicly listed companies to engage in accrual-based earnings management (AEM) (Cohen, Dey, & Lys, 2008; Zang, 2012). We aim to shed light on how family involvement affects the link between CSR and earnings management during the post-SOX era.

Kim et al. (2012) show that CSR corresponds to reduced activities of both AEM and real earnings management (REM) behavior. They attribute this association to an ethical theory of the firm, which posits that whereas ethical firms behave ethically toward both shareholders and non-equity stakeholders, unethical firms behave unethically toward both shareholders and non-equity stakeholders. Wang (2006) shows that family ownership reduces earnings management. Furthermore, Dyer and Whetten (2006) provide preliminary evidence that family firms among Standard & Poor's (S&P) 500 companies have fewer CSR concerns than their non-family counterparts, although their socially responsible initiatives do not differ significantly. However, none of these studies investigates how family involvement and CSR affect earnings management together, which reveals that the motivation for why firms choose to be ethical may have important consequences. We help to fill this gap in the literature and find that family ownership is the main driver of the association between CSR and earnings management. In other words, conditional on family ownership, the previously documented relation between CSR and earnings management disappears, which suggests that family firms are precisely those ethical firms identified by Kim et al. (2012).

The main contribution of this study is its investigation of the effect of family involvement on a firm's earnings management behavior both directly and through CSR performance. It is important to consider the self-selection issues between CSR performance and family involvement when investigating how they affect earnings management. In addition

to the self-selection concern, there are several other reasons why our study is important. First, Dyer and Whetten (2006) highlight how family involvement affects socially responsible initiatives and concerns separately. However, as the market observes the overall CSR performance of a company while considering both initiatives and concerns, the joint or net effect of both initiatives and concerns may be more important (Dhaliwal, Li, Tsang, & Yang, 2011; Ge & Liu, 2015). We consider the socially responsible initiatives and concerns together.[1] Second, since it came into effect in 2002, SOX has significantly restricted firms from engaging in AEM, but not REM (Cohen et al., 2008; Zang, 2012). Therefore, for our post-SOX sample period, it is of particular importance to investigate the effects of family involvement on AEM and REM separately. As family firm owners grant greater priority to preserving their socio-emotional wealth (SEW) (Gómez-Mejia, Haynes, Núñez-Nickel, Jacobson, & Moyano-Fuentes, 2007; Zellweger, Kellermanns, Chrisman, & Chua, 2012), they could be less willing to risk their reputation by engaging in AEM during the post-SOX period. Therefore, family involvement should have a greater effect on AEM than on REM after 2002.

The empirically consistent and robust findings of our study indicate that family involvement does improve overall CSR performance. With the self-selection concerns resolved, we find that family involvement helps to curb engagement in AEM, although it does not significantly affect REM behavior. More interestingly, we detect no significant relation between CSR performance and engagement in earnings management after properly controlling for the link between family involvement and CSR performance. These observations indicate that, in the post-SOX period, the concern for SEW does encourage family firms to be more socially responsible and less likely to engage in AEM than non-family firms, although family involvement does not significantly affect engagement in REM. In other words, we present evidence that SEW, as it relates to family participation in a firm, is one of the main factors contributing to more ethical corporate behavior.

We add to the literature on earnings management, CSR, and family business management by shedding light on agency-theory-based corporate governance and behavior-related SEW concerns. This study addresses the importance of how preserving SEW enters into corporate behavior and financial reporting related to information transparency. It also provides crucial implications for both investors and policymakers by showing the relative engagement of family and non-family firms in earnings management during the post-SOX era, and by helping them to better understand the drivers and consequences of CSR.

The remainder of this paper proceeds as follows. Section 2 develops our hypotheses theoretically and discusses their relation to the previous literature. Section 3 describes our data and methodology. Section 4 reports the empirical results, and Section 5 concludes the paper.

2. Theoretical development and hypotheses

We address how family involvement affects a firm's earnings management activities both directly and through its CSR activity. Although previous studies have investigated each of these three topics individually, no study has explored their interrelationship. In this section, we discuss the relations among these three factors in the relevant literature.

2.1. Family involvement and corporate social responsibility

Although there are many ways to define a family business, the definition proposed by Chua, Chrisman, and Sharma (1999) is widely accepted by scholars in this field. Chua et al. (1999) define family businesses using a behavioral approach that includes each aspect of family ownership, family member involvement in management and governance, and intention for family succession. In other words, family

firms are expected to retain family involvement for future generations to build a family legacy (Anderson, Mansi, & Reeb, 2003; Chrisman & Patel, 2012; Weber, Lavelle, Lowry, Zellner, & Barrent, 2003). Therefore, in addition to financial wealth, families consider non-pecuniary benefits such as SEW when making business decisions.[2] SEW represents the utility derived from the non-financial consequences of ownership and involvement with a business. When making managerial decisions, family firms often demonstrate that preserving SEW is more important than pursuing financial returns (Gómez-Mejia et al., 2007; Gómez-Mejía, Curz, Berrone, & De Castro, 2011).

Since the seminal research of Bowen (1953), CSR has shown a positive association with financial performance (Orlitzky, Schmidt, & Rynes, 2003; Waddock & Graves, 1997; Wang, Chen, Yu, & Hsiao, 2015). This evidence helps to resolve concerns about the consistency between investing in CSR and maximizing shareholder benefits. As addressed by the cost-benefit analysis of Déniz and Suárez (2005), investing in CSR may increase expenses and reduce accounting returns in the short run, but can also increase the long-term market value of a firm.

The relation between family involvement and CSR has not been explored until recently (Déniz & Suárez, 2005; Dyer & Whetten, 2006). Déniz and Suárez (2005) investigate Spanish family firms to find that different orientations toward CSR (constructed by cost-benefit analysis and broadness of firm vision) lead to differences in CSR investment. Dyer and Whetten (2006) confirm this dichotomy, suggesting that family firms may be more socially responsible due to SEW concerns (Gómez-Mejia et al., 2007). On the contrary, family firms may be less socially responsible than non-family firms due to nepotism, which can lead to self-interested behavior (Rosenblatt, De Mik, Anderson, & Johnson, 1985). These studies present preliminary evidence that family firms are more likely to be socially responsible than non-family firms due to "family concern about image and reputation and a desire to protect family assets" (Dyer & Whetten, 2006, p. 785), which fits with the SEW theory of Gómez-Mejia et al. (2007). Dyer and Whetten's (2006) seminal work is both practically and conceptually important to both family business management and the CSR literature. However, instead of considering the overall socially responsible behavior, they focus on CSR initiatives and concerns separately, so they cannot summarize the relation between family involvement and CSR conclusively, especially when firms use CSR initiatives to offset their CSR concerns (Zang, 2012). Considering the priority granted to preserving SEW (Gómez-Mejia et al., 2007), we expect family firms to be more socially responsible than non-family firms. CSR contributes to multiple dimensions of SEW, such as family legacy and reputation, as well as the preservation of a household's social capital and social status (Gómez-Mejia et al., 2007; Zellweger et al., 2012). Hence, we propose the following hypothesis.

Hypothesis 1. Firms with family involvement are more socially responsible than those without family involvement.

2.2. Effects of family involvement and CSR on earnings management

Previous research has extensively addressed agency issues between owners and managers (Jensen & Meckling, 1976) and those between majority and minority shareholders (Morck, Shleifer, & Vishny, 1989). Many studies have investigated the agency issues related to earnings management (Hadani, Goranova, & Khan, 2011; Leuz, Nanda, & Wysocki, 2003; Lin & Shen, 2015). For family firms, the conflict between family owners and minority shareholders fits into the majority–minority shareholder agency framework (Wang, 2006). Due to SEW and

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[1] For robustness, we also consider these aspects separately.

[2] SEW 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; [and] ability to act altruistically toward family members using firm resources and social status" (Zellweger et al., 2012, p. 851).

reputational considerations, family owners have incentives to report financial accounting information in good faith and thus align their interests with those of minority shareholders; this is the so-called alignment effect (Wang, 2006).

Following the introduction of Jones' (1991) and Roychowdhury's (2006) models, earnings management has become widely recognized as an important trait of the quality of financial reporting (Cohen et al., 2008; Kim et al., 2012; Leuz et al., 2003; Lin & Shen, 2015; Zang, 2012). The literature documents two main types of earnings management: AEM and REM. AEM changes only the accounting methods for given transactions and affects only the timing of earnings recognition. In the long run, AEM has no effect on the total earnings, and therefore it should mainly affect value indirectly through the cost of capital or risk. In contrast, REM changes the actual transactions, which has direct, suboptimal business consequences in the long run. Cohen et al. (2008) compare AEM and REM in the pre- and post-SOX periods. They find that firms have engaged in more REM and less AEM since the passage of SOX. The increased scrutiny of accounting practices imposed by SOX motivates enterprises that wish to engage in earnings management to use the costlier but harder-to-detect REM techniques (Cohen et al., 2008; Zang, 2012). As undetected REM does not directly affect SEW, REM should be equally harmful to both family and non-family firms, and thus there may be no difference between the degree to which family and non-family firms engage in REM. Using the pre-SOX period sample, Wang (2006) documents that family firms are less likely to engage in AEM. This finding is consistent with the alignment argument for family involvement. Coupled with the evidence that firms have switched to REM since the passage of SOX, how family involvement affects earnings management during the post-SOX period is an empirical question. As SEW is influenced by AEM and REM differently, we make the following separate predictions.

Hypothesis 2a. Firms with family involvement engage in less accrual-based earnings management than those without family involvement.

Hypothesis 2b. Family involvement is not systematically related to real earnings management.

Until recently, relatively few studies have empirically tested the relation between CSR performance and earnings management (Chih, Shen, & Kang, 2008; Hong & Andersen, 2011; Kim et al., 2012; Martinex-Ferrero, Banerjee, & Garcia-Sanchez, 2016; Prior, Surroca, & Tribo, 2008). The ethical argument suggests that managers of socially responsible firms have the incentive to make responsible operating and reporting decisions and thus limit earnings management. This argument is consistent with ethical, political, and integrative theories of CSR (Garriga & Mele, 2004). However, the opportunistic argument suggests that managers opportunistically use CSR activities to cover up negative corporate information. In this case, managers of socially responsible firms are more likely to engage in earnings management, which is in line with the instrumental theories (McWilliams & Siegel, 2001). However, the empirical evidence is mixed. Chih et al. (2008) show that socially responsible firms are more likely to engage in AEM, which supports the opportunistic argument. Similarly, Prior et al. (2008) and Martinex-Ferrero et al. (2016) document that firms strategically use CSR activities to shield against the negative perceptions of earnings management. However, Hong and Andersen (2011) and Kim et al. (2012) find that socially responsible firms are less likely to engage in earnings management, which supports the ethical argument.

Our study focuses on the effects of family involvement on earnings management both directly and through CSR. Although family involvement is an exogenous factor, CSR activities are endogenous. We expect that CSR activity is to some extent driven by family involvement. Considering this endogeneity issue, we argue that although family participation in a business affects earnings management, CSR activities may or may not have an effect. The literature suggests that the link between CSR activities and earnings management is an empirical question (Chih

et al., 2008; Hong & Andersen, 2011; Kim et al., 2012; Martinex-Ferrero et al., 2016; Prior et al., 2008). However, SEW can serve as the main driver of both increased CSR activity and reduced AEM. In other words, if SEW is the main factor affecting the link between CSR and AEM, then controlling for family involvement in the firm should eliminate (or at least diminish) the relation between CSR performance and AEM. Similarly, if REM is a means to extract private benefits of control for family firms, controlling for family involvement should also eliminate (or at least diminish) the relation between CSR performance and REM. Therefore, we make the following non-directional hypotheses.

Hypothesis 3a. With family involvement taken into account, CSR performance is not systematically related to accrual-based earnings management.

Hypothesis 3b. With family involvement taken into account, CSR performance is not systematically related to real earnings management.

3. Data and methodology

3.1. Sample

To investigate the post-SOX effects of family participation and CSR performance on earnings management, we adopt a sample period of 2003–2010 to differentiate the effects on AEM from those on REM. Wang (2006) empirically investigates how family involvement influences AEM only, which is valid in the pre-SOX period, but changes in AEM regulations brought about by SOX may very well have changed this relation. During the post-SOX period, AEM should be considered separately from REM, and the effects of family involvement on each should be distinguished. Due to SEW concerns, family firms could be less willing to risk their reputation by engaging in AEM following SOX.

To be consistent with previous studies related to this work (Dyer & Whetten, 2006; Kim et al., 2012; Wang, 2006), our sample consists of companies that are listed on U.S. stock markets and included in the S&P 500 Index. We adopt the measure of family involvement used by Weber et al. (2003), which considers both family ownership and family management. "By and large, we defined family companies as those in which the founders or their families maintain a presence in senior management, on the board, or as significant shareholders." We use CSR rating scores taken from Kinder, Lydenberg, and Domini (KLD STATS, hereafter KLD). We retrieve other information included in the sample from the Compustat North America database.

To avoid survivorship bias that could result from changes in the list of companies in the S&P 500 Index as well as shifts in the ownership structure and managerial characteristics, we strictly follow the list of S&P 500 companies and the list of family businesses as of 2003 over the whole sample period of 2003–2010. In other words, if a new firm joins either of these two lists during the sample period, we do not include it in the sample. After merging the datasets and eliminating observations with missing variables, we obtain 3378 firm-year observations over the sample period. As financial and utility firms operate under different regulations and have different financial reporting characteristics, we exclude utility companies and financial institutions from our sample. Due to the variable requirements for constructing earnings management measures, the size of our final sample drops to 2369 firm-year observations.

3.2. Empirical models and variables

Our empirical models combine those used by prior related studies (Dyer & Whetten, 2006; Kim et al., 2012; Wang, 2006). Due to potential endogeneity issues between CSR activities and earnings management, we use the three-stage least squares (3SLS) full-information approach to investigate the direct effects of family involvement on earnings management together with the indirect effects that arise through CSR

Table 1
Descriptive statistics.

Variable	Full sample			Family firms			Non-family firms			Compare-mean t-Test
	Obs.	Mean	Std. dev.	Obs.	Mean	Std. dev.	Obs.	Mean	Std. dev.	
AEM	2369	0.626	7.946	955	0.189	5.783	1414	0.921	9.111	2.203**
REM	2369	−2.408	15.23	955	−1.765	9.087	1414	−2.842	18.24	−1.688**
FamFirm	2369	0.403	0.491	955	1.000	0.000	1414	0.000	0.000	–
CSR	2369	0.984	3.616	955	1.190	3.563	1414	0.844	3.645	−2.281**
Strength	2369	3.978	3.532	955	3.662	3.451	1414	4.191	3.571	3.586***
Concern	2369	2.994	2.604	955	2.472	2.203	1414	3.347	2.789	8.126***
Size	2369	9.082	1.202	955	8.961	1.070	1414	9.164	1.278	4.049***
Leverage	2369	0.188	0.138	955	0.163	0.146	1414	0.205	0.130	7.346***
Adj.ROA	2369	0.000	0.084	955	0.002	0.085	1414	−0.002	0.083	−1.099
MTB	2369	3.494	13.99	955	3.573	9.941	1414	3.441	16.16	−0.226
Big4	2369	0.991	0.096	955	0.990	0.102	1414	0.992	0.092	0.4938
Growth	2369	0.067	0.194	955	0.083	0.207	1414	0.055	0.183	−3.444***
Loss	2369	0.122	0.328	955	0.111	0.314	1414	0.130	0.337	1.394*
Age	2369	3.411	0.747	955	3.292	0.735	1414	3.492	0.745	6.430***

* Indicates significance at the 10% level.
** Indicates significance at the 5% level.
*** Indicates significance at the 1% level.

performance.[3] The models used are stated as follows.

$$CSR = \beta_0 + \beta_1 FamFirm + \beta_2 Size + \beta_3 Leverage + \beta_4 MTB + \beta_5 AdROA$$
$$+ \beta_6 Growth + \beta_7 Loss + \beta_8 Age + \beta_9 Big4 + \beta_{10} IV + \varepsilon \quad (1)$$

$$AEM = \beta_0 + \beta_1 FamFirm + \beta_2 CSR + \beta_3 REM + \beta_4 Size + \beta_5 Leverage$$
$$+ \beta_6 MTB + \beta_7 AdROA + \beta_8 Growth + \beta_9 Loss + \beta_{10} Age + \beta_{11} Big4 + \varepsilon \quad (2)$$

$$REM = \beta_0 + \beta_1 FamFirm + \beta_2 CSR + \beta_3 AEM + \beta_4 Size + \beta_5 Leverage$$
$$+ \beta_6 MTB + \beta_7 AdROA + \beta_8 Growth + \beta_9 Loss + \beta_{10} Age + \beta_{11} Big4 + \varepsilon, \quad (3)$$

where:

CSR = the total CSR strength score from six qualitative dimensions (community, diversity, employee relations, environment, human rights, and product) minus the total CSR concern score from the same six dimensions (Kim et al., 2012);

$FamFirm$ = a dummy variable that indicates whether the firm is identified as a family firm based on the measurement adopted by Weber et al. (2003) (i.e., if members of the founding family hold a significant portion of shares of the firm and family members serve on the management team or board of directors);

AEM = the accrual-based earnings management measure (Kothari, Leone, & Wasley, 2005; see Appendix);

REM = the real earnings management measure (Roychowdhury, 2006; see Appendix);

$Size$ = the natural logarithm of total assets;

$Leverage$ = long-term debt scaled by the total assets;

$Adj.ROA$ = the industry-adjusted ROA by two-digit SIC code, where ROA is the income before extraordinary items scaled by the lagged total assets;

MTB = the market value of equity scaled by the book value of equity;

$Big4$ = a dummy variable that indicates whether a firm has a Big Four auditor;

$Growth$ = the sales growth rate;

$Loss$ = an indicator variable that takes a value of 1 if the net income is negative and 0 otherwise;

Age = the natural logarithm of a firm's age; and

IV = an instrumental variable from the lagged CSR performance measure.

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[3] Compared with two-stage least squares (2SLS), 3SLS further controls for contemporaneous correlations of disturbances across regression models.

We report the summary statistics (after Winsorizing the sample at the 1% and 99% levels) in Table 1. We find that 40.3% of the observations are from firms with family involvement. The overall CSR performance (CSR) is higher for family businesses with a difference in mean t-statistic of −2.281, which is significant at the 5% level. When breaking down the overall CSR performance into CSR initiatives (Strength) and CSR concerns (Concern), we find that family firms' lower CSR initiatives are offset by their lower CSR concerns. We also see that AEM is lower for family firms (the t-statistic is 2.203, which is significant at the 5% level), indicating that family firms tend not to engage in AEM as much as non-family firms. However, REM is higher for family firms (the t-statistic is −1.688, which is significant at the 5% level).

Table 2 displays the Pearson correlation matrix. The correlation between many of the variables is significant. In particular, we find that AEM is negatively related to REM, suggesting that the two are substitutes, at least based on contemporaneous observations. Furthermore, the correlations show that AEM is negatively related and REM is positively related to overall CSR performance in univariate tests. We also find that overall CSR performance is positively associated with CSR initiatives and negatively associated with CSR concerns. The positive correlation between CSR initiatives and CSR concerns suggests that firms with more CSR concerns are more likely to take CSR initiatives to recover the potential negative effect of CSR concerns. We find that family involvement has a negative association with AEM and a positive association with REM, consistent with the differences reported in Table 1. Family involvement is also positively related to overall CSR performance.

4. Results and analysis

4.1. Family involvement and CSR performance

Due to the possible simultaneity between CSR and earnings management decisions and potential endogeneity between CSR and family involvement, we adopt a 3SLS model. Table 3 summarizes the results from the first stage with overall CSR performance (CSR) serving as the dependent variable and family involvement as the main independent variable. According to the first column, we find that family firms tend to have a higher level of overall CSR performance, and that the coefficient on the variable FamFirm is positive and significant at the 1% level. Consistent with Hypothesis 1, this finding suggests that family firms conduct more CSR-related activities than non-family firms. It is also consistent with legitimacy theory, which holds that family firms may attempt to maintain legitimacy in their communities at the

Table 2
Pearson correlation matrix.

	AEM	REM	CSR	Strength	Concern	FamFirm	Size
AEM	1						
REM	−0.050[**]	1					
CSR	−0.005	0.008	1				
Strength	−0.027	0.004	0.735[***]	1			
Concern	−0.030	−0.007	−0.392[***]	0.336[***]	1		
FamFirm	−0.045[**]	0.035[*]	0.047[**]	−0.074[***]	−0.165[***]	1	
Size	−0.060[***]	−0.051[**]	0.058[***]	0.522[***]	0.628[***]	−0.083[***]	1
Leverage	0.043[**]	−0.024	−0.113[***]	−0.009	0.145[***]	−0.149[***]	0.090[***]
Adj.ROA	−0.012	0.012	0.106[***]	0.053[***]	−0.074[***]	0.023	0.021
MTB	−0.009	0.007	0.049[**]	0.004	−0.063[***]	0.005	−0.031
Big4	−0.006	−0.011	0.024	0.052[**]	0.037[*]	−0.010	0.073[***]
Growth	0.030	0.012	−0.054[***]	−0.071[***]	−0.021	0.071[***]	0.035[*]
Loss	−0.010	0.023	−0.059[***]	−0.045[**]	0.020	−0.029	−0.106[***]
Age	−0.027	−0.012	−0.021	0.153[***]	0.236[***]	−0.131[***]	0.228[***]
	Leverage	Adj.ROA	MTB	Big4	Growth	Loss	Age
Leverage	1						
Adj.ROA	−0.181[***]	1					
MTB	−0.018	0.080[***]	1				
Big4	0.040[*]	−0.019	0.021	1			
Growth	−0.144[***]	0.314[***]	0.014	0.016	1		
Loss	0.131[***]	−0.632[***]	−0.086[***]	−0.018	−0.237[***]	1	
Age	0.091[***]	0.070[***]	−0.008	0.005	−0.019	−0.130[***]	1

  [*] Indicates significance at the 10% level.
 [**] Indicates significance at the 5% level.
[***] Indicates significance at the 1% level.

organizational level, as a mechanism for preserving SEW, by performing better at CSR (Suchman, 1995).

We find that the coefficients on *Size, Leverage, Growth,* and *Age* are significant and negative, which indicates that smaller, less leveraged, slower growing, and younger firms tend to have a higher level of overall CSR performance. However, *Adj.ROA* and *MTB* are both positively associated with overall CSR performance. This suggests that firms with higher current profitability than their industry peers and those with larger market-to-book values, which are associated with expected future profitability, can better afford to invest in CSR activities.

4.2. Effects of family involvement and CSR on earnings management

Table 4 presents the third-stage results of the 3SLS models. As shown in the first four columns of Table 4 with *AEM* as the dependent variable, family firms engage in less AEM, and the coefficients are significant at

Table 3
Relationship between family involvement and CSR.

	CSR	Alt.CSR	Strength	Alt.Strength	Concern	Alt.Concern
Constant	8.007	8.219	−10.550	−11.931	−9.744	−10.694
	(11.98[***])	(11.38[***])	(−19.93[***])	(−20.46[***])	(−21.31[***])	(−21.16[***])
FamFirm	0.502	0.524	−0.428	−0.450	−0.416	−0.425
	(4.49[***])	(4.79[***])	(−5.14[***])	(−4.90[***])	(−5.77[***])	(−5.33[***])
Size	−1.075	−1.240	1.409	1.636	1.323	1.533
	(−21.94[***])	(−23.33[***])	(40.51[***])	(42.74[***])	(44.05[***])	(46.21[***])
leverage	−1.335	−1.341	−0.589	−0.758	0.158	0.045
	(−3.62[***])	(−3.37[***])	(−1.94[*])	(−2.27[**])	(0.60)	(0.16)
Adj.ROA	2.192	2.419	0.691	0.648	0.204	0.129
	(2.81[***])	(2.88[***])	(1.08)	(0.92)	(0.37)	(0.21)
MTB	0.007	0.008	−0.001	−0.001	−0.003	−0.004
	(1.87[*])	(2.18[**])	(−0.51)	(−0.46)	(−1.18)	(−1.56)
Big4	0.548	0.647	0.243	0.365	−0.028	−0.046
	(1.07)	(1.18)	(0.58)	(0.79)	(−0.08)	(−0.12)
Growth	−0.730	−0.611	−1.117	−1.283	−0.233	−0.404
	(−2.58[***])	(−2.00[**])	(−4.82[***])	(−5.02[***])	(−1.16)	(−1.83[*])
Loss	−0.309	−0.415	0.476	0.567	0.510	0.620
	(−1.58)	(−1.97[**])	(2.97[***])	(3.21[***])	(3.68[***])	(4.05[***])
Age	−0.308	−0.166	0.178	0.105	0.245	0.153
	(−4.50[***])	(−2.25[**])	(3.17[***])	(1.69[*])	(5.04[***])	(2.85[***])
IV	0.945	0.921	0.624	0.632	−0.308	−0.299
	(51.70[***])	(50.32[***])	(51.41[***])	(49.62[***])	(−29.40[***])	(−27.13[***])
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes
# obs.	2369	2369	2369	2369	2369	2369
R-sq	0.5705	0.5626	0.6969	0.6919	0.5841	0.5895
Chi-sq	3146.94[***]	3047.56[***]	5446.65[***]	5320.10[***]	3327.72[***]	3401.59[***]

This table reports the results from the first stage of 3SLS models with CSR performance (*CSR, Strength,* and *Concern*) and alternative measures of CSR performance (*Alt.CSR, Alt.Strength,* and *Alt.Concern*) as the dependent variables and family involvement (*FamFirm*) as the main independent variable.
  [*] Indicates significance at the 10% level.
 [**] Indicates significance at the 5% level.
[***] Indicates significance at the 1% level.

Table 4
Relationship among earnings management, family involvement, and CSR.

| | AEM | | | | REM | | | |
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Constant	5.081	4.152	4.327	0.154	4.080	5.044	0.770	−3.740
	(1.39)	(1.10)	(1.18)	(0.03)	(0.60)	(0.71)	(0.11)	(−0.34)
CSR	0.074				0.182			
	(0.96)				(1.27)			
Strength		−0.001		−0.155		0.143		−0.173
		(−0.01)		(−0.94)		(0.85)		(−0.56)
Concern			0.024	−0.320			−0.260	−0.654
			(0.11)	(−0.88)			(−0.67)	(−0.96)
FamFirm	−0.737	−0.731	−0.718	−0.914	0.177	0.253	0.085	−0.131
	(−2.07**)	(−2.05**)	(−1.96**)	(−2.20**)	(0.27)	(0.38)	(0.12)	(−0.17)
REM	−0.022	−0.023	−0.022	−0.022				
	(−2.01**)	(−2.05**)	(−2.04**)	(−1.96**)				
AEM					−0.077	−0.079	−0.078	−0.076
					(−2.01**)	(−2.06**)	(−2.03**)	(−1.96**)
Size	−0.526	−0.498	−0.514	0.152	−0.232	−0.407	0.157	0.912
	(−3.01***)	(−2.11**)	(−1.77*)	(0.21)	(−0.92)	(−0.92)	(0.29)	(0.68)
Leverage	3.948	3.751	3.768	3.663	−0.345	−0.563	−0.592	−0.764
	(2.92***)	(2.78***)	(2.79***)	(2.68***)	(−0.14)	(−0.22)	(−0.23)	(−0.30)
Adj.ROA	−3.199	−2.889	−2.814	−2.570	4.630	4.974	5.212	5.522
	(−1.21)	(−1.09)	(−1.07)	(−0.96)	(0.94)	(1.01)	(1.06)	(1.10)
MTB	−0.008	−0.007	−0.007	−0.008	0.001	0.003	0.002	0.000
	(−0.70)	(−0.62)	(−0.62)	(−0.71)	(0.06)	(0.13)	(0.08)	(0.02)
Big4	−0.403	−0.433	−0.431	−0.439	−0.920	−0.888	−0.885	−0.972
	(−0.23)	(−0.24)	(−0.24)	(−0.24)	(−0.28)	(−0.27)	(−0.27)	(−0.29)
Growth	1.158	1.073	1.065	0.793	4.124	4.059	3.830	3.525
	(1.19)	(1.10)	(1.10)	(0.79)	(2.28**)	(2.23**)	(2.13**)	(1.87*)
Loss	−0.968	−0.967	−0.965	−0.695	1.230	1.160	1.376	1.695
	(−1.44)	(−1.43)	(−1.42)	(−0.95)	(0.98)	(0.92)	(1.08)	(1.25)
Age	−0.018	−0.023	−0.03	0.056	−0.669	−0.712	−0.631	−0.528
	(−0.07)	(−0.10)	(−0.16)	(0.20)	(−1.46)	(−1.56)	(−1.35)	(−1.01)
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# obs.	2369	2369	2369	2369	2369	2369	2369	2369
R^2/adj. R^2	0.0400	0.0396	0.0401	0.0146	0.0910	0.0912	0.0808	0.0665
Chi-sq./F-test	101.46***	104.30***	102.92***	1.58***	234.76***	235.68***	232.14***	3.76***

This table summarizes the results from the last stage of 3SLS models with both accrual-based (*AEM*) and real (*REM*) earnings management as the dependent variables and family involvement (*FamFirm*) and CSR performance as the main independent variables.

  * Indicates significance at the 10% level.

  ** Indicates significance at the 5% level.

  *** Indicates significance at the 1% level.

the 5% level for all four columns. However, after considering the endogeneity between CSR activities and family involvement, the level of *AEM* is not significantly different between firms with higher and lower overall CSR performance. Firms with better CSR tend to be family owned, and family firms tend to engage in less AEM. When we use *REM* as the dependent variable in Columns 5–8 of Table 4, neither family involvement nor overall CSR performance is shown to have an influence.[4]

Consistent with what Wang (2006) finds during the pre-SOX period, our findings indicate that family involvement is negatively related to *AEM* during the post-SOX period. Therefore, family firms do care about damage to their reputation that may occur if they are found to engage in AEM, supporting Hypothesis 2a. However, as SOX does not prevent firms from engaging in REM and REM activities are harder to detect (Cohen et al., 2008), family firms do not have the same incentive to refrain from engaging in REM compared with AEM. We propose the following argument as a possible explanation for this observation. REM is the aspect of earnings management that results from operating a firm suboptimally by increasing short-term cash flow at the expense of long-term cash flow (i.e., negative net present value decisions). As such, it is directly responsible for value reduction. To the extent that REM is more directly harmful, all firms (family and non-family alike) should be equally motivated to refrain from engaging in it, unless they

have little alternative. In other words, unlike AEM, REM is not particularly more harmful to family firms than to non-family firms. Consistent with this argument, we find no difference in REM between family and non-family firms, which supports Hypothesis 2b.

We find that overall CSR performance is not significantly associated with either AEM or REM (after controlling for family involvement), suggesting that family involvement is the main driver of the previously observed CSR–earnings management relation (e.g., Chih et al., 2008; Hong & Andersen, 2011; Kim et al., 2012). Once we consider the effects of endogeneity between family involvement and CSR performance, CSR performance does not directly affect either AEM or REM, thus supporting Hypotheses 3a and 3b. As the theory governing the relation between CSR and earnings management does not clearly favor either the ethical or opportunistic arguments, we test these hypotheses as empirical questions. In other words, neither of these arguments dominates in general, and family involvement is the main channel linking CSR and earnings management.

4.3. Robustness tests

The earnings management literature documents various proxies to measure AEM (Jones, 1991; Kothari et al., 2005). However, McNichols (2000) documents limitations to the Jones and modified Jones models for samples with extreme financial performance. For robustness, we use two alternative measures for AEM. *Alt.AEM1* is measured as the standard deviation of operating earnings divided by the standard deviation of cash flow from operations (Leuz et al., 2003). This measure

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[4] Consistent with prior research, we add *REM* as a control variable when we use *AEM* as the dependent variable and vice versa (Cohen et al., 2008; Kim et al., 2012). The coefficients on *REM* and *AEM* are negative and significant, which confirms Zang's (2012) finding that firms use AEM and REM as substitutes for each other.

Table 5
Results based on alternative measures of earnings management and CSR.

	Alt.AEM1		Alt.AEM2		Alt.REM1		Alt.REM2	
Constant	0.888	0.867	−0.091	−0.091	−0.284	−0.255	3.318	3.457
	(1.74*)	(1.69*)	(−1.84*)	(−1.82*)	(−0.49)	(−0.44)	(0.48)	(0.5)
CSR	0.018		−0.001		−0.018		0.118	
	(1.61)		(−1.17)		(−1.49)		(0.86)	
Alt.CSR		0.017		−0.001		−0.019		0.174
		(1.67*)		(−1.06)		(−1.50)		(1.20)
FamFirm	−0.183	−0.186	−0.009	−0.009	−0.006	−0.007	0.255	0.253
	(−3.61***)	(−3.67***)	(−1.88*)	(−1.87*)	(−0.10)	(−0.12)	(0.38)	(0.38)
REM	−0.001	−0.001	0.000	0.000				
	(−0.72)	(−0.71)	(1.51)	(1.50)				
AEM					0.005	0.005	−0.086	−0.086
					(1.35)	(1.34)	(−2.23**)	(−2.23**)
Size	−0.017	−0.016	0.001	0.001	0.021	0.022	−0.146	−0.181
	(−0.67)	(−0.63)	(0.45)	(0.37)	(0.75)	(0.77)	(−0.45)	(−0.55)
Leverage	0.414	0.406	−0.032	−0.032	0.392	0.389	−0.818	−0.703
	(2.13**)	(2.08**)	(−1.77*)	(−1.76*)	(1.78*)	(1.77*)	(−0.32)	(−0.28)
Adj.ROA	0.024	0.014	0.020	0.020	0.975	0.971	2.703	2.470
	(0.06)	(0.04)	(0.55)	(0.54)	(2.25**)	(2.24**)	(0.54)	(0.50)
MTB	−0.002	−0.002	0.000	0.000	0.002	0.002	0.000	0.000
	(−1.39)	(−1.40)	(0.48)	(0.47)	(0.88)	(0.88)	(0.01)	(−0.01)
Big4	0.031	0.027	0.029	0.029	0.078	0.075	−0.968	−1.007
	(0.13)	(0.11)	(1.19)	(1.19)	(0.31)	(0.30)	(−0.29)	(−0.30)
Growth	−0.057	−0.058	−0.006	−0.006	−0.077	−0.081	4.067	4.169
	(−0.41)	(−0.42)	(−0.48)	(−0.46)	(−0.48)	(−0.51)	(2.23**)	(2.29**)
Loss	0.445	0.445	−0.000	−0.001	0.186	0.186	0.957	0.941
	(4.59***)	(4.59***)	(−0.06)	(−0.07)	(1.71*)	(1.71*)	(0.76)	(0.75)
Age	0.029	0.025	−0.001	−0.001	0.013	0.010	−0.730	−0.696
	(0.83)	(0.73)	(−0.23)	(−0.18)	(0.32)	(0.25)	(−1.59)	(−1.51)
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
# obs.	2269	2269	2383	2383	2497	2497	2384	2384
R−sq	0.0852	0.0843	0.1890	0.1888	0.1566	0.1561	0.0915	0.0914
Chi−sq	231.70***	231.76***	554.23***	553.73***	469.76***	468.98***	240.02***	240.38***

This table reports the results from the last stage of 3SLS models with alternative measures of accrual-based (*Alt.AEM1 and Alt.AEM2*) and real (*Alt.REM1 and Alt.REM2*) earnings management as the dependent variables, and with family involvement (*FamFirm*) and the alternative measure of overall CSR performance (*Alt.CSR*) as the main independent variables.
 * Indicates significance at the 10% level.
 ** Indicates significance at the 5% level.
 *** Indicates significance at the 1% level.

captures earnings smoothness, such that a higher score indicates more earnings management. *Alt.AEM2* is the residual obtained from regressing the change in accounts receivable on the change in revenue each year for each industry (Stubben, 2010). The residual captures discretionary revenues, with higher discretionary revenues indicating more earnings management. As summarized in Columns 1–4 of Table 5, consistent with our predictions, the coefficients for family firms are significant and negative, and consistent with our primary results, the coefficients for CSR performance measures are not significant for three out of the four model specifications.[5] Our proxy for REM in the main test is an overall measure. For robustness, we consider abnormal operating cash flow (*Alt.REM1*) and abnormal discretionary expenses (*Alt.REM2*) separately as alternative proxies for REM (Roychowdhury, 2006). The findings reported in Columns 5–8 of Table 5 suggest that the coefficients for both family firms and CSR performance are not significant, which confirms our previous observation that family and non-family firms do not differ in terms of their engagement in REM during the post-SOX period.

It is also important to explore the effect of family involvement on the various aspects of CSR, such as the motivations for firms to be more or less socially responsible. When making decisions on CSR investment, firms consider the benefits that CSR yields and the costs rooted in not being as socially responsible, respectively referred to as CSR initiatives (strengths) and CSR concerns (Dyer & Whetten, 2006). In other words, if firms invest in CSR actively, then they are motivated by CSR initiatives, whereas if they passively refrain from participating in socially harmful activities, they care more about CSR concerns. For robustness, we replace overall CSR performance with CSR strengths (*Strength*) and

CSR concerns (*Concern*), respectively.[6] The empirical results presented in Columns 3 and 4 of Table 3 show that family firms invest in socially responsible initiatives less actively than non-family firms, and that this relation is significant at the 1% level. Furthermore, as indicated in Columns 5 and 6 of Table 3, family firms tend to have fewer social concerns. As the overall CSR performance of family firms is higher than that of non-family firms, that family firms have fewer social initiatives and fewer social concerns implies that the latter more than offset the former.

We use alternative measures of CSR performance to retest our hypotheses. In our primary test, we exclude the corporate governance dimension when constructing our overall CSR performance measure (Kim et al., 2012). However, other studies have included all seven qualitative dimensions to construct overall CSR performance. Following Dhaliwal et al. (2011), we construct an alternative CSR performance measure (*Alt.CSR*) that includes the corporate governance dimension and re-run the first-stage model. We summarize these results in column 2 of Table 3, and they are consistent with our main findings.

5. Conclusions and discussions

Using a sample of S&P 500 companies during the 2003–2010 period, we investigate how family involvement in a firm's ownership, management, or governance affects its CSR activities, as well as how family ownership and CSR affect earnings management together. Our findings

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[5] *Alt.CSR* is weakly positively significant at the 10% level for *Alt.AEM1*.

[6] *Strength* (*Concern*) is the total strength (concern) score based on qualitative dimensions excluding corporate governance. *Alt.Strength* (*Alt.Concern*) is the total strength (concern) score based on all qualitative dimensions, including governance.

indicate that firms with family involvement have fewer social initiatives and fewer social concerns. We also use an overall CSR performance measure to capture the net effect of social initiatives and social concerns. The results suggest that firms with family involvement are more socially responsible than firms without family involvement. This observation is consistent with Dyer and Whetten's (2006) finding that family firms have fewer CSR concerns. Thus, for family firms, the fewer social initiatives are more than offset by the fewer social concerns. In terms of earnings management, consistent with Wang (2006), our empirical evidence shows that firms with family involvement are less likely to engage in AEM. However, there is no significant difference in REM between family and non-family firms. SOX focuses on the scrutiny of AEM, but REM is harder to detect (Cohen et al., 2008), which suggests that a family's SEW is less affected by REM than AEM. Consistent with these ideas, unlike the reduced AEM activity we observe, family firms engage in a similar level of REM as non-family firms, without undue concern for reputational damage. Furthermore, once we control for family involvement, we find that overall CSR performance has no significant association with either AEM or REM, contrary to the negative association found by Chih et al. (2008) and the positive association reported by Kim et al. (2012). Therefore, we conclude that family involvement is a crucial channel driving the link between CSR and earnings management. Our results hold after multiple robustness tests, which adopt alternative measures for earnings management and CSR performance, using CSR initiatives and concerns separately.

This study extends the literature by investigating the relations among family involvement, CSR, and earnings management. More specifically, our study contributes to the earnings management literature by examining the effect of family ownership and CSR on both AEM and REM during the post-SOX period. Wang (2006) documents the association between family involvement and AEM during the pre-SOX period. Kim et al. (2012) examine the relation between CSR performance and both types of earnings management without considering exogenous factors, such as family involvement. Based on behavior-related arguments, Dyer and Whetten (2006) find a relation between family involvement and CSR initiatives and concerns. Their arguments rely on both agency-related corporate governance literature and behavior-related SEW literature. As an extension, we document a link between family involvement and overall CSR performance, which captures the net effect of CSR initiatives and concerns.

One possible avenue for future research is to focus on non-S&P 500 family firms (with relatively smaller market capitalization). As market participants (e.g., analysts, investors, and regulators) scrutinize S&P firms to a greater extent, non-S&P 500 family firms may have different CSR and earnings management behavior. Another potential avenue for future related research is to focus on more refined family involvement information such as family ownership and family generation, which could proxy for succession intentions.

Acknowledgements

Appendix A. Earnings management measures

A.1. Accrual earnings management measure

We use an annual industry-adjusted regression model to estimate discretionary accruals (Kothari et al., 2005). For estimating discretionary accruals, our primary model uses the following cross-sectional regression estimated for each two digit SIC-year, and the residual is our accrual earnings management measure (AEM):

$$TA_{it}/A_{it1} = \alpha_0(1/A_{it-1}) + \alpha_1(\Delta REV_{it} - \Delta REC_{it})/A_{it-1} + \alpha_2 PPE_{it}/A_{it-1} \quad (4)$$
$$+ \alpha_3 IBXI_{it-1}/A_{it-1} + \varepsilon_{it},$$

where:

TA = IBXI – CFO (total accruals), where IBXI is the income before extraordinary items and CFO is the cash flow from operations;
A = total assets;
ΔREV = change in net revenues;
ΔREC = change in net receivables;
PPE = gross property, plant, and equipment.

A.2. Real earnings management measure

Roychowdhury (2006) uses the abnormal level of operating cash flows, abnormal level of production costs, and abnormal level of discretionary expenses as proxies for real earnings management (REM). We use annual industry-adjusted regression to estimate the following model and the residual is our first REM measure—abnormal cash flow from operations (AbCFO):

$$CFO_t/A_{t-1} = \alpha_0 + \alpha_1(1/A_{t-1}) + \alpha_2(S_t/A_{t-1}) + \alpha_3(\Delta S_t/A_{t-1}) + \varepsilon_t, \quad (5)$$

where:

CFO = cash flow from operations;
A = total assets;
S = net sales;
ΔS = change of net sales ($S_t - S_{t-1}$).

The second REM measure is abnormal production costs. We use following models to estimate normal COGS and normal change in inventory:

$$COGS_t/A_{t-1} = \alpha_0 + \alpha_1(1/A_{t-1}) + \alpha_2(S_t/A_{t-1}) + \varepsilon_t \quad (6)$$

$$\Delta INV_t/A_{t-1} = \alpha_0 + \alpha_1(1/A_{t-1}) + \alpha_2(\Delta S_t/A_{t-1}) + \alpha_3(\Delta S_{t-1}/A_{t-1}) + \varepsilon_t, \quad (7)$$

where:

COGS = cost of goods sold;
ΔINV = change in inventory.

We define production costs as $PROD = COGS + \Delta INV$. Putting Eqs. (6) and (7) together, we estimate normal production costs from the following model and the residual is our second REM measure - abnormal production costs (AbPROD):

$$PROD_t/A_{t-1} = \alpha_0 + \alpha_1(1/A_{t-1}) + \alpha_2(S_t/A_{t-1}) + \alpha_3(\Delta S_t/A_{t-1}) + \alpha_4(\Delta S_{t-1}/A_{t-1}) + \varepsilon_t. \quad (8)$$

Our third REM measure is abnormal discretionary expenses. We estimate normal discretionary expenses from the following model and the residual is our third REM measure–abnormal discretionary expenses (AbDISX):

$$DISX_t/A_{t-1} = \alpha_0 + \alpha_1(1/A_{t-1}) + \alpha_2(S_{t-1}/A_{t-1}) + \varepsilon_t, \quad (9)$$

where:

DISX = the sum of research and development expenses, advertising expenses, and selling, general and administrative expenses.

We construct the overall measure of REM by combining the three individual REM measures, AbCFO, AbPROD, and AbDISX.

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