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# **Family entrenchment and internal control: evidence from S&P 1500 firms**

Xia Chen, Mei Feng & Chan Li

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## Abstract

We examine whether family owners exploit internal control weaknesses for entrenchment purposes and whether the public disclosure requirement under SOX 404 helps alleviate this entrenchment. We find supportive evidence for both questions. In the initial years of SOX 404 implementation (2004 and 2005), ineffective internal control in family CEO firms is more conducive to entrenchment – measured by the occurrence of misstatements, frauds, and related party transactions – than ineffective internal control in nonfamily firms is. With the public disclosure requirement of SOX 404 in place, family CEO firms are more likely to remediate internal control weaknesses, and the resulting improvement in internal control in family CEO firms has significantly reduced family entrenchment. Our findings provide new evidence on the dynamics of family entrenchment in the U.S. and shed light on a key benefit of public disclosure of internal control quality.

Keywords: Family firms, Internal control weakness, Family entrenchment

JEL classification G32 . M40

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## Introduction

Family firms are a common organizational form in the U.S., representing more than 40% of the S&P 1500 firms (Chen et al. 2008). Compared with nonfamily firms, family firms generally experience less conflict of interest between managers and shareholders but more conflict of interest between family owners and minority shareholders (e.g., Chen et al. 2013; Fama and Jensen 1983; Morck et al. 1988; Shleifer and Vishny 1997). While the former leads to better incentive alignment, the latter leads to family entrenchment.<sup>1</sup> Prior studies on U.S. family firms document that family firms are associated with higher valuation and better earnings quality, consistent with the argument that the benefits of incentive alignment dominate the costs of potential family entrenchment (e.g., Ali et al. 2007; Anderson and Reeb 2003; Villalonga and Amit 2006; Wang 2006). Anderson et al. (2009), however, document that the valuation premium of family ownership exists only in family firms with a more transparent information environment, and that other family firms suffer significant valuation discounts compared with nonfamily firms. Anderson et al. interpret their findings as disclosure transparency facilitating the monitoring by outside investors, which curbs family entrenchment. While opacity can hide potential family entrenchment from *outside* investors, a more fundamental question is how *internal* mechanisms first fail to limit and detect family entrenchment.

Our paper addresses this question by examining whether the quality of internal control is associated with entrenchment activities in family firms. We focus on internal control for three reasons. First, internal control is the internal mechanism that directly detects and deters value-destroying entrenchment activities, such as asset expropriation and earnings manipulation (PCAOB Auditing Standard AS 5, PCAOB 2007). Effective internal control can prevent family owners from overriding or circumventing the control and pose obstacles to family entrenchment through control policies, procedures, and internal audit functions.<sup>2</sup> In contrast, weak internal control provides opportunities and loopholes that influential family owners can exploit with little risk of detection by minority shareholders. Second, besides management's own assessment, external auditors are required to evaluate the company's internal control quality, which results in a more objective and reliable assessment of this quality (Carnes et al. 2018). Consistent with this notion, prior studies have documented that internal control quality is positively associated with earnings quality and internal information environment (e.g., Doyle et al. 2007a; Feng et al. 2009). Finally, the public disclosure of internal control quality after SOX provides us with a setting in which to investigate how this disclosure affects family firms' internal control quality and the associated entrenchment activities.

We examine whether weak internal control in family firms, compared with nonfamily firms, is associated with more negative consequences due to family owners' entrenchment. The negative consequences we study include misstatements and frauds (to capture earnings manipulation) and related party transactions (to capture asset expropriation). Under the family entrenchment argument, family owners have incentives to exploit the opportunities created by internal control material weaknesses (ICMWs) to entrench. In addition, compared with managers in nonfamily firms, family owners often wield greater power over firm operation,<sup>3</sup> which enables them to take advantage of ICMWs for entrenchment activities. This leads to more negative consequences from ICMWs in family firms than in nonfamily firms. In contrast, under the incentive alignment argument, family owners are undiversified long-term investors who are motivated to maximize the long-term value of their firms (e.g., Chen et al. 2013; Wang 2006) and thus do not have incentives to entrench. Moreover, family owners have strong incentives to monitor and discipline nonfamily managers of family firms to prevent them from exploiting ICMWs to maximize their own interests. Under this line of argument, ICMWs are less conducive to negative consequences in family firms than in nonfamily firms.

We then investigate the dynamics of family entrenchment activities after firms are required to publicly disclose internal control quality. If ICMWs are more conducive to negative consequences in family firms due to family entrenchment, investors can better identify family firms with ineffective internal control and can price protect themselves once internal control effectiveness is publicly disclosed. Such price protection is costly to family owners, given their large ownership. In order to avoid bearing the costs associated with the price protection,

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<sup>1</sup> Entrenchment activities extract private benefits for family owners at the expense of firm value and minority shareholders (e.g., Anderson et al. 2009).

<sup>2</sup> Please see Section 2.3 for more detailed discussions on how effective internal control can reduce family entrenchment.

<sup>3</sup> For example, Chen et al. (2013) find that family owners' power and control help protect poorly performing family CEOs from being fired.

family owners will remediate ineffective internal control. Therefore, we expect that after the SOX 404 implementation, family firms are more likely to remediate ICMWs than nonfamily firms, and that as a result, family firms generally experience a reduction in entrenchment activities.<sup>4</sup>

Our sample includes S&P 1500 firms for the period 2004–2006. If the entrenchment effect dominates the incentive alignment effect among family firms with weak internal control, we expect that ICMWs in family firms, compared with ICMWs in nonfamily firms, are more closely associated with misstatements, frauds, and related party transactions. Prior studies (e.g., Chen et al. 2008) distinguish family CEO firms, for which founders or their descendants serve as CEO, from professional CEO family firms, for which nonfamily members serve as CEO, because both the family entrenchment and incentive alignment effects are weaker for professional CEO family firms than for family CEO firms. Since we aim to detect family entrenchment or incentive alignment in the case of ICMWs, we follow these studies and separately examine family CEO firms and professional CEO family firms.

We first compare the association of ICMWs with misstatements, frauds, and related party transactions between family firms and nonfamily firms in the initial years of SOX 404 implementation: 2004 and 2005. ICMWs in 2004 and 2005 likely reflect the internal control problems prior to the SOX 404 implementation, because addressing ICMWs takes time (e.g., Doyle et al. 2007a). We find that, in 2004 and 2005, ICMWs are more closely associated with misstatements, frauds, and related party transactions in family CEO firms than in nonfamily firms, consistent with the family entrenchment explanation in family firms with weak internal control.

Under the family entrenchment argument, family power will further facilitate family entrenchment through weak internal control. Hence, we investigate whether ICMWs are more closely associated with negative consequences when family power is higher. We measure family power using the number of family directors. We find evidence that corroborates the main finding.

Next, we find that from the first internal control disclosure year to 2006, family CEO firms are more likely to remediate ICMWs than nonfamily firms.<sup>5</sup> More importantly, we document that, compared with nonfamily firms, the incidence of misstatements declines more for family CEO firms from the first internal control disclosure year to 2006, and that the reduction in misstatements in family CEO firms is mainly driven by improved internal control. These findings are consistent with the public disclosure of internal control effectiveness leading to improved internal control and reduced entrenchment in family CEO firms.

We conduct the following additional analyses. First, if the family entrenchment story holds, misstatements and frauds in family CEO firms should be mainly due to family owners' entrenchment. As a result, we should observe that family CEOs are more likely to be sued than other CEOs when misreporting has been detected. Consistent with this, we find that for the AAER cases during our sample period, family CEOs are significantly more likely to be sued by the SEC than are CEOs of either nonfamily firms or professional CEO family firms. Second, if the family entrenchment story holds, investors should react more negatively to family CEO firms' announcements of ICMWs than to those of nonfamily firms. We find supportive evidence of this. Third, our inference regarding family entrenchment for family firms with weak internal control seems to be at odds with Ali et al. (2007) and Wang (2006), who show that, among Fortune 500 firms, family firms on average have better earnings quality than nonfamily firms. We find that, in our sample, only family firms with effective internal control are associated with better earnings quality than nonfamily firms with effective internal control. Therefore, while the incentive alignment effect dominates in family firms with effective internal control, the family entrenchment effect dominates in the subset of family firms with weak internal control. Lastly, because corporate transparency and earnings quality may affect family entrenchment, we also control for these variables and their interactions with family firm indicators in our analyses. Our results remain qualitatively similar.

Our study makes several important contributions. First, it contributes to the family firm literature. Prior studies of U.S. family firms have examined how the unique ownership and management structure of family firms affect

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<sup>4</sup> While nonfamily firms also have incentives to remediate internal control problems once the problems are revealed (e.g., Li et al. 2010), family owners likely have stronger incentives to correct internal control problems, since family owners directly bear the cost of price protection by minority shareholders.

<sup>5</sup> Accelerated filers are first required to file Section 404 internal control reports for the fiscal year ending on or after November 15, 2004. Thus, the first internal control disclosure year is either 2004 or 2005, depending on companies' fiscal year end month.

firm performance, valuation, voluntary disclosure, and financial reporting quality (e.g., Ali et al. 2007; Anderson and Reeb 2003; Anderson et al. 2003; Chen et al. 2008; Wang 2006). Their findings suggest that in the U.S., alleviating conflicts of interest between managers and shareholders in family firms, on average, is more important than the potential existence of family entrenchment. Anderson et al. (2009) document that corporate opacity is associated with valuation discounts in U.S. family firms, as outside investors cannot effectively monitor family owners in the opaque family firms. We focus on a key internal mechanism – internal control – that can be influenced by family owners and is directly linked to entrenchment activities. We find that family owners appear to take advantage of internal control weaknesses for entrenchment activities. This new evidence helps us better understand how family entrenchment can occur within a firm.

Second, our paper also contributes to the internal control literature. Bardhan et al. (2015) document that ICMWs occur more frequently in family firms than in nonfamily firms. Our results extend Bardhan et al. by showing not only that family firms are more likely to have ICMWs, but also that family owners exploit ICMWs for entrenchment activities in the years 2004 and 2005. In those years, the ICMWs in family firms are associated with more severe consequences, including higher incidence of misstatements, frauds, and related party transactions.

In addition, our findings suggest that, because of scrutiny from investors, family owners reduce their exploitation once ICMWs must be credibly and publicly disclosed. Therefore, public disclosure of internal control effectiveness under SOX 404 helps resolve the conflict of interest between family owners and minority shareholders. While previous studies have investigated whether effective internal control serves shareholders' interests in general and have found mixed evidence (e.g., Ashbaugh-Skaife et al. 2008; Ogneva et al. 2007), our finding suggests a previously unidentified benefit of Section 404.

## Literature review and hypothesis development

### 2.1 Prior literature on family firms

Extant literature finds that, as in the rest of the world, family firms are common in the U.S. (e.g., Anderson and Reeb 2003; Chen et al. 2008). In our sample of S&P 1500 firms, approximately 42% are family firms. On average, founding families in family firms hold 16% of equity, 22% of director positions, and 57% of CEO positions.<sup>6 7</sup>

Given their unique and influential positions within their firms, family owners significantly impact agency conflicts. On the one hand, family firms are associated with less conflict of interest between managers and shareholders. Family owners either act as managers themselves or are actively involved in running the firm by sitting on the board of directors. The classical agency conflicts between managers and shareholders, as a result, are alleviated in family firms (e.g., Chen et al. 2013; Wang 2006). The incentive alignment has a positive implication for family firms' performance and valuation, since agency conflicts between managers and shareholders tend to erode firm value.

On the other hand, family firms are also characterized by conflicts of interest between dominant and minority shareholders. Family owners' dominant control positions provide them with opportunities to extract private benefits of control, potentially at the expense of firm value (i.e., family entrenchment) (e.g., Chen et al. 2013; Anderson et al. 2009; Shleifer and Vishny 1997). Family entrenchment can take many forms. Family owners

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<sup>6</sup> These statistics are comparable to studies that also use S&P 1500 firms (e.g., Chen et al. 2008, 2013). The percentage of family firms is higher than in studies that examine only S&P 500 or Fortune 500 firms (e.g., Ali et al. 2007; Wang 2006) because the proportion of family firms is greater among S&P 400 firms and S&P 600 firms than among S&P 500 firms.

<sup>7</sup> Compared to other shareholders with concentrated holdings (such as institutional investors), founding families are likely more influential within the firm because they are represented on boards of directors and usually hold top management positions (Anderson and Reeb 2003). Their influence is further enhanced because family owners are closely tied to the firm through their long-term investment and less diversified portfolios.

may pursue certain goals that deviate from firm value maximization. For example, family owners may be keen on maintaining family control, growing the company, investing in high technology, or consistently meeting analyst forecasts (Shleifer and Vishny 1997). To achieve these goals, family owners may resort to earnings manipulation. For instance, they may manipulate earnings upward to hide deteriorating performance in order to avoid stock price decreases and loss of control. They may also directly expropriate company assets by, for example, requesting that the firm purchase goods and services for their personal use, borrowing money at very low or no interest, or enjoying perquisites. Family entrenchment has a negative implication for firm performance and valuation.

Prior studies on U.S. family firms provide evidence that is generally consistent with the incentive alignment between managers and shareholders dominating potential family entrenchment. For example, Anderson and Reeb (2003) find that, among S&P 500 firms, family firms perform better than nonfamily firms when ROA and Tobin's Q are used as performance measures. Ali et al. (2007) and Wang (2006) find that, among Fortune 500 firms, family firms have better earnings quality than nonfamily firms, when earnings quality is measured by the magnitude of abnormal accruals, earnings persistence, and earnings response coefficients.

Anderson et al. (2009), however, find that family entrenchment can dominate incentive alignment for opaque family firms. They investigate the valuation of the largest 2000 industrial firms in the U.S. and find that the valuation premium enjoyed by family firms decreases with opacity. Opaque family firms are valued at a discount compared to opaque nonfamily firms. This is consistent with opacity hiding potential family expropriation from outside investors.

What remains unanswered is how internal mechanisms first fail to limit and detect family entrenchment. Do family members take advantage of weak internal control to engage in entrenchment activities? We focus on internal control because it is the internal mechanism that directly deters and detects asset expropriation and earnings manipulation. Investigating the role of internal control in family entrenchment is thus critical to gaining a better understanding of how internal mechanisms fail to limit family entrenchment.

## **2.2 Prior literature on internal control**

Before SOX, public companies were required to maintain internal control that facilitates GAAP-based financial reporting and protects company assets (Foreign Corrupt Practices Act, U.S. Congress 1977), but they were generally not required to evaluate and publicly disclose internal control effectiveness. Triggered by a series of profound accounting scandals, Section 404 of SOX, for the first time, requires companies and auditors to report on the effectiveness of internal control over financial reporting every year. A company's internal control is considered effective if no material weaknesses exist.<sup>8</sup>

SOX Section 404 has been very controversial because establishing, documenting, and maintaining effective internal control can be very costly, particularly for small and medium-sized companies (CRA International 2005). The costs of setting up effective internal control include designing an internal control system that is tailored to the business and complexity of the firm, setting up an IT system, evaluating the control system's effectiveness, enhancing control consciousness from the top down, and hiring more personnel to implement control procedures and activities. Prior studies (e.g., Engel et al. 2007; Gao et al. 2009) show that some firms choose to go private or limit their public float in order to avoid the compliance cost of Section 404.

Companies with effective internal control instill the right tone at the top, design policies and control procedures to protect company assets and mitigate misstatement risks, and closely monitor the internal control and financial reporting process. Consistent with this, prior studies find that internal control effectiveness is negatively associated with restatements and insider trading profitability, suggesting that effective internal control helps companies prepare financial reports in accordance with GAAP and reduces the rent-seeking activities of managers (e.g., Doyle et al. 2007; Nagy 2010; Skaife et al. 2013). However, there has been no evidence linking internal control quality with family entrenchment.

Bardhan et al. (2015) investigate the potential influence of family owners on internal control quality and document that ICMWs occur more frequently in family firms than in nonfamily firms. While this is suggestive

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<sup>8</sup> A material weakness exists if it is "reasonably possible that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis" (PCAOB 2007, p. 434).

of family entrenchment, it is also consistent with the families' close involvement in the firm serving as a substitute for internal control. That is, family owners may believe that their firms can invest less in internal control mechanisms and instead rely on their own active involvement and control, particularly given that establishing and maintaining effective internal control is very costly. Therefore, directly linking weak internal control in family firms to entrenchment activities provides more conclusive evidence that family owners engage in entrenchment activities by exploiting weak internal control.

### 2.3 Internal control in family firms

Family owners tend to have strong influence over employees, management, and the board of directors. Such influence may enable family owners to circumvent or override internal control, potentially making internal control useless in limiting family entrenchment. We, however, expect effective internal control to constrain family owners' influence and pose significant obstacles to family entrenchment for the following reasons.

First, multiple internal control policies and procedures, such as segregation of duties and whistle-blower programs, are designed to address overrides from the top. With segregation of duties, for example, authorizations and responsibilities are specified and allocated to employees with different functions and at different hierarchical levels. As a result, an entrenchment activity will inevitably involve multiple employees. For instance, a purchasing transaction for a family's own use has to be approved by the purchasing department head, executed by the purchasing staff, paid by the finance department, recorded by the accounting department, and checked by the internal audit. While family owners can exert influence over the involved employees, the employees may not cooperate due to the concerns about their own reputations and careers.<sup>9</sup> As long as some employees do not want to cooperate, it is difficult for the entrenchment activity to proceed. Furthermore, some employees may report the potential entrenchment activity to the board through a whistle-blower program.<sup>10</sup> Therefore, the involvement of multiple employees at different functions and levels poses obstacles for entrenchment and increases the chance of detection.

Second, the internal audit, as a component of internal control, adds another layer of deterrence to family entrenchment. Internal audit is a relatively independent unit within the firm, and it provides third-party, day-to-day monitoring of the firm's operation (Prawitt et al. 2009). Internal auditors regularly review and verify the firm's transactions and reporting, and the director of internal audit reports directly to the audit committee rather than to the CEO. Prior behavioral research also documents that the internal audit function has a deterrence effect on earnings manipulation activities in a firm, and internal auditors are sensitive to the risk of such activities (Schneider and Wilner 1990; Asare et al. 2008). Consistent with this, the work of internal auditors led to the discovery of the frauds by the founder and CEO of WorldCom.

Finally, SOX 404 requires auditors to follow extensive internal control audit procedures to assess internal control quality (AS 5, PCAOB 2007; Kinney and Shepardson 2011). AS 5 requires auditors to have a clear understanding of the entity-level internal control, such as the tone at the top, the governance structures, and the control procedures.<sup>11</sup> A problematic tone at the top, or management override, is one of the first things auditors think about during their risk assessment (AS 2110.69). Auditors also actively look for evidence of override during the whole audit process by interviewing people with different functions, such as those from plant, production, and sales, in addition to those from the accounting or finance departments. If auditors find evidence of management override, it is regarded as an entity-level internal control weakness. Furthermore, if auditors do not think that the management override presents a risk, they need to document why. This documentation is for internal reviews at audit firms and inspections by PCAOB.<sup>12</sup>

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<sup>9</sup> Employees who assist in entrenchment and violate internal control bear the costs related to any wrongdoings, potentially losing their jobs, harming their reputations, and even suffering legal consequences.

<sup>10</sup> For example, for WorldCom, the whistleblower Cynthia Cooper, VP of internal audit, and her team brought the wrongdoings of the company's founder and CEO to light. The team decided to investigate the anomalies in the company's accounting. They met behind closed doors for many hours, gathered evidence, and worked their way up the chain of command. This example suggests that whistle-blowing is possible even in cases of powerful family CEOs.

<sup>11</sup> Our discussions related to auditors are based on interviews with three audit partners from two Big 4 audit firms and one large national non-Big 4 audit firm.

<sup>12</sup> Prior studies have shown that the PCAOB's inspection and potential sanctions provide audit firms with strong incentives to improve audit quality, including the quality of the internal control audit (Abbott et al. 2013; Nagy 2014; DeFond and

In summary, while family owners may try to override internal control, the action of overriding internal control itself renders the internal control ineffective. Effective internal control can reduce family entrenchment through the establishment of proper culture (e.g., setting the “tone at the top”), through the design and implementation of control policies and procedures (including segregation of duties and whistle-blower programs), and through close monitoring of the internal control process by both internal and external auditors. While effective internal control cannot completely rule out the risk of family owners’ override and entrenchment, it can detect and limit family entrenchment more than ineffective internal control can.

Prior studies provide some evidence that other internal mechanisms, such as strong corporate governance, reduce family entrenchment (Anderson and Reeb 2004). However, compared with corporate governance, internal control represents a more direct defense against entrenchment activities by family owners.<sup>13</sup> Moreover, internal control complements other governance mechanisms. For example, independent directors must rely on internal control processes to curb family entrenchment activities such as improper transactions and reporting, because independent directors can only monitor management at a broader level. In addition, the quality of corporate governance is not evaluated by an independent third party. Researchers must rely on proxies to capture the governance quality, and the underlying construct is sometimes unclear. For example, the percentage of independent directors has been widely used to measure governance quality. However, Armstrong et al. (2014) argue that independent directors are less familiar with companies’ operation and may not be able to effectively monitor management. In contrast, companies need to evaluate their internal control quality, and external auditors need to attest to managers’ assessment following SOX, which results in a more objective and reliable evaluation of the company’s internal control quality (Carnes et al. 2018). Therefore, we believe that focusing on internal control provides new insights on how internal mechanisms curb the entrenchment activities of family owners.

#### **2.4 Hypothesis development – The association between internal control weaknesses and entrenchment**

We develop our predictions of the association between internal control weaknesses and entrenchment based on the unique conflict of interest in family firms, as discussed in Section 2.1, and its implication for family entrenchment.

We first focus on the potential conflict of interest between family owners and minority shareholders in family firms. Under this view, families have incentives to engage in entrenchment activities, such as asset expropriation and earnings manipulation, because they can benefit the families at the expense of other shareholders. Earnings manipulation also reduces the transparency of external financial reporting, which enables family owners to hide their entrenchment activities and prevents outside investors from detecting such activities. If a family firm has effective internal control, even family owners who have strong incentives to entrench may not be able to do so, since effective internal control limits the entrenchment opportunities of family owners, as discussed earlier. However, if a family firm has ineffective internal control, the weak control leaves loopholes that family owners can exploit with little risk of detection by minority shareholders and independent directors.<sup>14</sup> Moreover, the family owners’ strong influence over the firm can enable them to exploit

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Lennox 2017). Litigation and reputation concerns further ensure that auditors follow professional standards and maintain objectivity when assessing companies’ internal control quality.

<sup>13</sup> As discussed earlier, internal control procedures and mechanisms are the safeguards that limit improper transactions and reporting on an ongoing basis. In contrast, directors are not directly involved in day-to-day operations of the company and thus may not be able to monitor managers closely.

<sup>14</sup> There are several well-known cases where family owners took advantage of poor internal control to entrench. John Rigas, the founder and CEO of Adelphia Corp., together with other family members, misappropriated company funds for purchases of personal properties; these inappropriate transactions were not approved, checked, or recorded. Hollinger Inc. made unjustified business payments to entities controlled by Conrad Black, its founder and CEO; these payments to related entities were not properly approved and recorded. Calisto Tanzi, the founder and CEO of the Italian food corporation Parmalat, was convicted of fraud for activities that included reporting nonexistent bank accounts. There were egregious failings of internal control in this case; for instance, cash reporting was not checked or reviewed by different employees. Other examples of family members engaging in aggressive earnings management when there was weak internal control include AIG (recorded sham transactions and hid control of subsidiaries to avoid consolidation), NCO Group (engaged in aggressive revenue recognition), and OM Group (used fraudulent entries to manage earnings and meet targets).



the internal control weaknesses to a greater extent than managers in nonfamily firms.<sup>15</sup> Therefore, the greater conflict of interest between family owners and minority shareholders, combined with family members' strong influence in family firms, leads to a stronger association between internal control material weaknesses and entrenchment activities in family firms than in nonfamily firms.

Meanwhile, family firms are also characterized by less conflict of interest between managers and shareholders. Under this view, family owners are long-term, concentrated, underdiversified shareholders who have incentives to maximize long-term firm value (e.g., Chen et al. 2013; Wang 2006). Therefore, family members have weaker incentives to exploit ICMWs to engage in entrenchment activities than do managers in nonfamily firms. In the cases where managers are from outside the family, family owners have incentives to monitor and discipline the managers to prevent them from exploiting ICMWs to maximize their own interests. As a result, family members or nonfamily managers in family firms are less likely to exploit weak internal control to entrench than are managers in nonfamily firms. In addition, family owners may choose to have ineffective internal control if they believe that the interests of managers are aligned with those of shareholders and the costs of effective internal control outweigh the benefits. The above arguments lead to a weaker association between internal control weaknesses and entrenchment activities in family firms than in nonfamily firms.

In sum, whether ICMWs are more closely or less closely associated with entrenchment activities in family firms than in nonfamily firms is an empirical question. Evidence that ICMWs are more closely associated with entrenchment activities in family firms than in nonfamily firms would be consistent with family members' incentives and ability to take advantage of weak internal control to engage in family entrenchment activities. In contrast, evidence that ICMWs are less closely associated with entrenchment activities in family firms than in nonfamily firms would be consistent with incentive alignment in family firms. Thus, our hypotheses are stated as follows:

- **H1a** (family entrenchment) ICMWs are more closely associated with entrenchment activities in family firms than in nonfamily firms.
- **H1b** (incentive alignment) ICMWs are less closely associated with entrenchment activities in family firms than in nonfamily firms.

Family owners can either serve as the CEO of the firm (family CEO firms) or only hold director positions (professional CEO family firms). Holding the CEO position strengthens families' control and increases families' ability to take advantage of internal control weaknesses to entrench. It also allows family CEOs to better align the interests of managers with shareholders. Because both family entrenchment and incentive alignment effects are likely stronger in family CEO firms, we separately examine family CEO firms and professional CEO family firms in order to better detect family entrenchment or incentive alignment in the case of ICMWs.

Further, family owners' entrenchment through weak internal control likely increases with family power. When more family members serve as managers or directors, the family has more influence and is less likely to encounter resistance to entrenchment. Therefore, we expect that if family owners exploit weak internal control to entrench themselves, then higher family control power will strengthen the association between internal control weaknesses and entrenchment in family firms.<sup>16</sup>

## 2.5 Public disclosure of internal control quality

If family owners do take advantage of weak internal control to engage in family entrenchment activities, their incentives should change with the public disclosure of internal control quality. Specifically, once firms comply with Section 404, internal control effectiveness becomes public information. Public disclosure will enable

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<sup>15</sup> Family members' strong influence arises from a combination of factors, including concentrated holdings, top executive and director positions, long involvement with the firm, and superior voting rights (Anderson et al. 2009).

<sup>16</sup> One can argue that family control power may be influenced by family entrenchment; more entrenched families may have more members involved as managers or directors. Under this argument, our prediction still holds. When interpreting the results, one should keep in mind that family control power can be a manifestation of family entrenchment, instead of a determinant of family entrenchment.

investors to better pinpoint family firms with weak internal control and, potentially, more family entrenchment. The investors will thus price protect themselves, leading to lower stock prices for such firms. Due to their significant ownership, family owners will bear the costs of the price protection. This is likely to reduce their tendency to take advantage of internal control weaknesses for entrenchment purposes.<sup>17</sup>

To avoid the price discount, family owners are likely to remediate internal control problems, and, as a result, the entrenchment activities by family owners should be significantly reduced. Moreover, such a reduction should be largely through the improvement of internal control in family firms.<sup>18</sup>

### 3 Sample and descriptive statistics

#### 3.1 Sample and data

Chen et al. (2008) and Chen et al. (2013) hand-collect the data on family control and ownership for S&P 1500 firms. We share their data on family control and ownership over 2004–2005 and use the family firm classification in 2005 to proxy for 2006, since the family firm classification is sticky (Ali et al. 2007). This leads to 3857 firm-year observations from 2004 to 2006. We then require the observations to have Section 404 reports from Audit Analytics, resulting in 3789 firm-year observations. Finally, we remove observations without the necessary financial data from Compustat, which yields our final sample of 3701 firm-year observations.

Accelerated filers are first required to file Section 404 internal control reports for the fiscal year ending on or after November 15, 2004. Thus, the first fiscal year with available internal control reports for accelerated filers is either year 2004 or 2005, depending on the companies' fiscal year end month. Although the SEC issued the final rule regarding Section 404 compliance in August 2003, the majority of the firms with internal control problems are unlikely to remediate the problems before 2004 due to time and resource constraints.<sup>19</sup> Thus, Section 404 internal control reports in the initial disclosure years (i.e., 2004 and 2005) likely reflect the internal control effectiveness in the prior years as well. We expect internal control quality to evolve over time in response to Section 404.

Consistent with prior research (e.g., Anderson and Reeb 2003; Chen et al. 2008), family firms include “firms in which founders or their family members (by either blood or marriage) are key executives, directors, or blockholders” (Chen et al. 2008, page 507).<sup>20</sup> Among family firms, we further distinguish between family CEO firms and professional CEO family firms. Family CEO firms are firms where founders or descendants serve as the CEO, and professional CEO family firms are firms where the CEO does not belong to the family. We

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<sup>17</sup> Before firms publicly disclose the internal control effectiveness, investors likely also price protect themselves. However, without public disclosure, it is difficult for investors to distinguish between family firms with and without effective internal control, and hence the price protection is shared by all family firms. Even if family firms with effective internal control want to communicate their internal control effectiveness to investors before the disclosure requirement, they may not be able to do so credibly, because doing so can be very costly, because there are no protocols to follow, and because auditors may be reluctant to provide a full internal control certification given the potential litigation risk. The disclosure requirement thus helps move a pooling equilibrium to a separating equilibrium.

<sup>18</sup> Examining the change in internal control quality and the potential reduction of family entrenchment after the public disclosure of internal control quality also sheds light on the interplay between internal and external monitoring mechanisms. Rather than work independently, internal and external monitoring mechanisms can work jointly and complement each other to reduce family entrenchment. External parties such as minority shareholders cannot closely monitor the daily operation of family firms. However, once internal control quality is publicly disclosed, external monitors can pressure family owners to implement effective internal control for the purpose of curbing family entrenchment

<sup>19</sup> For example, in order to establish an internal control system, evaluate its effectiveness, and remediate the weakness in the system, firms would have needed to hire more internal auditors around 2003. However, Harrington (2004) observes that the limited labor supply made it challenging to secure new internal audit hires during that period, which could have significantly delayed the remediation process. Consistent with internal control problems taking time to be remediated, prior studies find that many ICMWs existed for several years prior to their initial disclosure (Doyle et al. 2007; Hogan and Wilkins 2008).

<sup>20</sup> Following Chen et al. (2008), we also use “an alternative definition of family firms—firms where the members of the founding family have an equity ownership of 5% or higher (page 507).” We find results similar to theirs.

measure internal control effectiveness using an indicator for material weaknesses, *ICMW*, which is equal to one if a firm-year reports ICMWs in the Section 404 report, and zero otherwise.

We measure entrenchment activities using financial misstatements, frauds, and related party transactions. We choose to examine misstatements and frauds for two reasons. First, entrenchment activities, such as asset expropriation and earnings manipulation, may result in financial misstatements and frauds. Second, prior studies (e.g., Doyle et al. 2007) have documented consistent evidence that effective internal control helps prevent misstatements and frauds. We choose to examine related party transactions because such transactions represent direct means for expropriation of firm resources. Prior studies (e.g., Kohlbeck and Mayhew 2010, 2017) document that related party transactions are negatively associated with firm valuation and future stock returns and positively associated with the likelihood of financial misstatements. As discussed in detail in Section 2, effective internal control can deter asset expropriation through related party transactions.

We collect information on misstatements from Audit Analytics, and information on frauds from the SEC's Accounting and Auditing Enforcement Releases (AAERs) and the internal control report disclosures. As mentioned earlier, internal control reports in the initial disclosure years likely reflect the internal control effectiveness in the prior years. Since misstatements and frauds occur infrequently, we measure them from year  $t-2$  to year  $t$  for tests using the initial disclosure years, to increase the power of the tests. Related party transaction data is hand-collected and covers 2004.<sup>21</sup>

### 3.2 Descriptive statistics

Table 1 reports descriptive statistics for our sample over 2004–2005, the period we use to test the association between ICMWs and entrenchment. Panel A reports descriptive statistics for all firms, family firms, and nonfamily firms. Of the 2426 firm-years over 2004–2005, 1019 (42%) are from family firms and 1407 (58%) are from nonfamily firms. These statistics are comparable to prior studies (e.g., Chen et al. 2008; Chen et al. 2010). The summary statistics reveal that family firms are more likely than nonfamily firms to have financial misstatements, related party transactions, and internal control material weaknesses. Regarding firm characteristics, the statistics show that family firms are smaller, are less likely to have Big 4 auditors, and have higher ROA, faster growth and fewer segments. They are also less likely to engage in restructuring and are younger on average. This pattern is similar to prior studies (e.g., Anderson and Reeb 2003; Chen et al. 2008).

Table 1, Panel B compares the entrenchment variables and firm characteristics between family CEO firms and professional CEO family firms. Compared to professional CEO family firms, family CEO firms are more likely to have misstatements, related party transactions, and internal control material weaknesses. They are also smaller, younger, less likely to have Big 4 auditors, and less likely to engage in restructuring. As in Chen et al. (2013), family ownership is significantly higher for family CEO firms than for professional CEO family firms.

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<sup>21</sup> We only have related party transaction data in 2004. We thank Mark Kohlbeck and Brian Mayhew for sharing their related party transaction data with us.

**Table 1 Descriptive statistics for the sample over the period 2004–2005**

Panel A: Firm characteristics for the full sample, family firms, and nonfamily firms											
	Full sample (N = 2426)					Family firms (N = 1019)		Nonfamily firms (N = 1407)		p value of the differences	
	Mean	Median	Q1	Q3	Std.	Mean	Median	Mean	Median	Mean	Median
<i>MISSTATE</i>	0.200	0.000	0.000	0.000	0.400	0.240	0.000	0.171	0.000	0.001	0.001
<i>FRAUD</i>	0.020	0.000	0.000	0.000	0.139	0.022	0.000	0.019	0.000	0.587	0.587
<i>RPT</i>	0.430	0.000	0.000	1.000	0.495	0.514	1.000	0.370	0.000	0.001	0.001
<i>ICMW</i>	0.099	0.000	0.000	0.000	0.299	0.113	0.000	0.089	0.000	0.051	0.051
<i>Ln_TA</i>	21.685	21.541	20.461	22.751	1.630	21.325	21.232	21.946	21.829	0.001	0.001
<i>Big4</i>	0.961	1.000	1.000	1.000	0.193	0.930	1.000	0.984	1.000	0.001	0.001
<i>ROA</i>	0.065	0.055	0.022	0.105	0.081	0.071	0.065	0.061	0.049	0.003	0.000
<i>Loss</i>	0.088	0.000	0.000	0.000	0.284	0.082	0.000	0.093	0.000	0.318	0.318
<i>Earn_std</i>	0.051	0.029	0.013	0.059	0.075	0.051	0.028	0.051	0.029	0.835	0.773
<i>Growth</i>	0.160	0.118	0.051	0.220	0.223	0.169	0.125	0.153	0.112	0.082	0.015
<i>Seg_Num</i>	3.214	2.000	1.000	5.000	2.637	3.098	2.000	3.298	2.000	0.066	0.245
<i>Foreign</i>	0.356	0.000	0.000	1.000	0.479	0.341	0.000	0.367	0.000	0.183	0.183
<i>Restructuring</i>	0.227	0.000	0.000	0.000	0.419	0.168	0.000	0.269	0.000	0.001	0.001
<i>Age</i>	2.893	2.944	2.303	3.497	0.839	2.778	2.833	2.977	3.045	0.001	0.001

  

Panel B: Firm characteristics for family CEO firms and professional CEO family firms						
	Family CEO firms (N = 581)		Professional CEO family firms (N = 438)		p value of the differences	
	Mean	Median	Mean	Median	Mean	Median
<i>MISSTATE</i>	0.263	0.000	0.208	0.000	0.040	0.040
<i>FRAUD</i>	0.024	0.000	0.018	0.000	0.527	0.526
<i>RPT</i>	0.541	1.000	0.477	0.000	0.070	0.070
<i>ICMW</i>	0.133	0.000	0.087	0.000	0.022	0.022
<i>Ln_TA</i>	21.251	21.149	21.423	21.316	0.061	0.021
<i>Big4</i>	0.905	1.000	0.964	1.000	0.000	0.000
<i>ROA</i>	0.069	0.062	0.074	0.071	0.380	0.054
<i>Loss</i>	0.081	0.000	0.082	0.000	0.940	0.940
<i>Earn_std</i>	0.048	0.028	0.054	0.028	0.206	0.921
<i>Growth</i>	0.174	0.130	0.163	0.117	0.431	0.061
<i>Seg_Num</i>	3.121	2.000	3.069	2.000	0.746	0.784
<i>Foreign</i>	0.327	0.000	0.358	0.000	0.295	0.295
<i>Restructuring</i>	0.134	0.000	0.212	0.000	0.001	0.001
<i>Age</i>	2.707	2.639	2.871	2.917	0.000	0.003
<i>FOWN</i>	0.197	0.107	0.119	0.055	0.000	0.000

Panel A reports the firm characteristics of our sample over the period 2004–2005, consisting of 2426 firm-years from 1424 firms in the S&P 1500 index. The last two columns report the two-tailed p values for testing the differences between family and nonfamily firms in means and medians, respectively. T-tests (Z-tests) are used to test the difference in means (medians). Note that because data on related party transactions is only available for 2004, the statistics for RPT are based on 889 observations in 2004 only

Panel B reports the firm characteristics of family CEO firms and professional CEO family firms in our sample of S&P 1500 firms for the period 2004–2005. The last two columns report the two-tailed p values for testing the differences between family CEO firms and professional CEO family firms in means and medians, respectively. T-tests (Z-tests) are used to test the difference in means (medians). FOWN is family ownership. Similar to Panel A, the statistics for RPT are based on observations in 2004 only

Variable definitions:

*MISSTATE* = an indicator variable that is equal to one if the firm has misstatements in year t-2 to year t, and zero otherwise;

*FRAUD* = an indicator variable that is equal to one if the firm has frauds in year t-2 to year t, and zero otherwise;

*RPT* = an indicator variable that is equal to one if the firm has related party transactions in year 2004, and zero otherwise;

*ICMW* = an indicator variable that is equal to one if the firm has internal control material weaknesses in year t, and zero otherwise;

*Ln\_TA* = the natural logarithm of total assets at the end of year t;

*Big4* = an indicator variable that is equal to one if the auditor is a Big 4 auditor, and zero otherwise;

*ROA* = return on assets, measured as income before extraordinary items divided by total assets;

*Loss* = an indicator variable that is equal to one if the firm has negative net income, and zero otherwise;

*Earn\_std* = the standard deviation of earnings before extraordinary items over the prior 7 years (requiring at least three non-missing observations);

*Growth* = sales growth from year t-1 to year t ((sales in year t – sales in year t - 1) / sales in year t - 1);

*Seg\_Num* = the natural logarithm of the total number of geographic and operating segments in year t;

*Foreign* = an indicator variable that is equal to one if the firm has foreign transactions in year t, and zero otherwise;

*Restructuring* = an indicator variable that is equal to one if the firm recognizes restructuring charges in year t, and zero otherwise;

*Age* = the natural logarithm of the number of years that the firm is covered by CRSP;

*FAMILY* = an indicator variable that is equal to one if the firm is a family firm in year t, and zero otherwise;

*FamilyCEO* = an indicator variable that is equal to one if the firm is a family firm and a family member serves as the CEO in year t, and zero otherwise;

*ProfessionalCEO* = an indicator variable that is equal to one if the firm is a family firm and the CEO is not a family member in year t, and zero otherwise

## 4 Empirical results

### 4.1 The association between ICMWs and entrenchment activities

This section investigates whether weak internal control is more closely related to entrenchment activities – measured by financial misstatements, frauds, and related party transactions – in family firms than in nonfamily firms. We conduct this analysis using observations from the initial years of the Section 404 implementation – 2004 and 2005 – when ICMWs likely reflect the internal control quality prior to the public disclosure requirement by Section 404.<sup>22</sup> For these sample observations, there are 484 misstatements and 48 frauds. We examine related party transactions only in 2004 due to data availability; 389 companies have related party transactions that year. We estimate the following regression:

$$\begin{aligned}
 \text{PROB}(\text{MISSTATE}_{i,t}/\text{FRAUD}_{i,t}/\text{RPT}_{i,t} = 1) = & \alpha_0 + \alpha_{1a}\text{FamilyCEO}_{i,t} + \alpha_{1b}\text{ProfessionalCEO}_{i,t} \\
 & + \alpha_{2a}\text{ICMW}_{i,t} + \alpha_{2b}\text{FamilyCEO}_{i,t} \times \text{ICMW}_{i,t} + \alpha_{3b}\text{ProfessionalCEO}_{i,t} \times \text{ICMW}_{i,t} \\
 & + \beta_1 \text{Ln\_TA}_{i,t} + \beta_2 \text{Big4}_{i,t} + \beta_3 \text{ROA}_{i,t} + \beta_4 \text{Loss}_{i,t} + \beta_5 \text{Earn\_std}_{i,t} + \beta_6 \text{Growth}_{i,t} \\
 & + \beta_7 \text{Seg\_Num}_{i,t} + \beta_8 \text{Foreign}_{i,t} + \beta_9 \text{Restructuring}_{i,t} + \beta_{10} \text{Age}_{i,t} + \\
 & \sum \text{Industry Dummies}
 \end{aligned} \tag{1}$$

The variables are defined in Table 1. If there is a stronger association between ICMWs and misstatements, frauds, and related party transactions in family CEO firms than in nonfamily firms, the coefficient on *FamilyCEO* × *ICMW* should be positive.

ICMWs can be grouped into general and specific material weaknesses. General material weaknesses (general ICMWs) are control weaknesses at the company level that “might have a pervasive effect on the achievement of many overall objectives of the control criteria” (PCAOB 2004, p. 163), such as tone at the top, company risk appetite, and commitment to integrity and ethical value. Specific material weaknesses (specific ICMWs) are control weaknesses embedded within particular controls that are “designed to achieve specific objectives of the control criteria” (PCAOB 2004, p. 163).<sup>23</sup> Doyle et al. (2007) document that low accrual quality is associated with general ICMWs but not specific ICMWs. Because family owners are more likely to exert influence at the company level and less likely to be involved in specific transactions, we conjecture that they are more likely to exploit general ICMWs than specific ICMWs to engage in entrenchment activities. Therefore, we also separate ICMWs into general and specific ICMWs and investigate whether general ICMWs have a stronger association with entrenchment in family CEO firms than in nonfamily firms.

We control for factors that may affect firms’ general financial reporting quality and related party transactions, such as firm size (*Ln\_TA*), auditor quality (*Big4*), performance (*ROA* and *Loss*), volatility (*Earn\_std*), firm growth (*Growth*), organizational complexity (*Seg\_Num*, *Foreign*, and *Restructuring*), and firm age (*Age*). We include industry dummies based on Fama and French (1997) to control for the variation in financial reporting quality and related party transactions across industries. We measure the independent variables contemporaneously with the dependent variable.

Table 2 reports the regression results for financial misstatements. The left column presents the results when we use the overall ICMWs, and the right column presents the results when we separately examine general and specific ICMWs. We find that *ICMW*, *General ICMW*, and *Specific ICMW* are all significantly and positively associated with misstatements, consistent with Doyle et al. (2007). When comparing family firms with nonfamily firms, we find that the coefficient on *FamilyCEO* × *ICMW* is not significant. The coefficient on *FamilyCEO* × *General ICMW* is significantly positive (two-tailed *p* value = 0.069), while the coefficient on *FamilyCEO* × *Specific ICMW* is not significant. The more positive association between general ICMWs and misstatements in family CEO firms is consistent with family owners exploiting general ICMWs to engage in entrenchment activities, and inconsistent with family owners aligning management incentives with shareholders’ interests. The interactions between the professional CEO family firm dummy (*ProfessionalCEO*) and internal control material weakness indicator variables (*ICMW*, *GeneralMW*, and *SpecificMW*) are

<sup>22</sup> As presented in Table 1, family CEO firms are more likely to have ICMWs than nonfamily firms in 2004 and 2005 (13.3% vs. 8.9%). In 2006, however, the incidence of ICMWs decreases significantly, and the difference between family CEO firms and nonfamily firms is no longer significant (5.8% vs. 4.2%).

<sup>23</sup> We follow Johnstone et al. (2011) to categorize general vs. specific ICMWs. Johnstone et al. (2011) find that general ICMWs (those having pervasive effects on financial reporting) are more difficult to remediate than specific ICMWs (those at the account or transaction level).

insignificant. Thus, we do not find significant evidence of an entrenchment effect in professional CEO family firms.

In addition, the coefficients on *FamilyCEO* and *ProfessionalCEO* are significantly positive in the misstatement regressions, suggesting that when internal control is effective, there are more misstatements in family firms than in nonfamily firms. In other words, even with effective internal control, family owners still have room to become entrenched. More importantly, the positive coefficient on the interaction between *FamilyCEO* and *GeneralMW* indicates that the presence of general material weaknesses exacerbates the effect of family owners on misstatements. In other words, this interaction effect indicates that effective internal control indeed restricts family entrenchment activities. Firms audited by Big 4 auditors and firms experiencing restructuring are also more likely to misstate their financial statements.

**Table 2 Family firms and the association between internal control weaknesses and accounting misstatements**

	Overall ICMW			General and specific ICMW		
	Coef.	Chi-sqr.	p value	Coef.	Chi-sqr.	p value
Intercept	-2.232	4.909	0.027	-2.683	5.832	0.016
<i>FamilyCEO</i>	0.589	14.684	0.001	0.587	14.568	0.001
<i>ProfessionalCEO</i>	0.345	4.246	0.039	0.346	4.279	0.039
<i>ICMW</i>	2.271	110.858	0.001			
<b><i>FamilyCEO</i> × <i>ICMW</i></b>	<b>0.374</b>	<b>1.002</b>	<b>0.317</b>			
<i>ProfessionalCEO</i> × <i>ICMW</i>	-0.118	0.070	0.792			
<i>GeneralMW</i>				1.774	21.160	0.001
<b><i>FamilyCEO</i> × <i>GeneralMW</i></b>				<b>1.115</b>	<b>3.301</b>	<b>0.069</b>
<i>ProfessionalCEO</i> × <i>GeneralMW</i>				-0.031	0.001	0.972
<i>SpecificMW</i>				2.455	96.864	0.001
<b><i>FamilyCEO</i> × <i>SpecificMW</i></b>				<b>0.020</b>	<b>0.002</b>	<b>0.966</b>
<i>ProfessionalCEO</i> × <i>SpecificMW</i>				-0.207	0.170	0.680
<i>Ln_TA</i>	-0.027	0.322	0.571	-0.025	0.266	0.606
<i>Big4</i>	0.813	5.665	0.017	0.774	5.064	0.024
<i>ROA</i>	-1.416	2.198	0.138	-1.493	2.431	0.119
<i>Loss</i>	-0.108	0.189	0.664	-0.112	0.201	0.654
<i>Earn_std</i>	1.045	1.617	0.204	1.078	1.745	0.187
<i>Growth</i>	0.011	0.002	0.966	-0.009	0.001	0.974
<i>Seg_Num</i>	0.025	0.956	0.328	0.026	1.045	0.307
<i>Foreign</i>	0.018	0.016	0.899	0.037	0.070	0.792
<i>Restructuring</i>	0.379	6.502	0.011	0.375	6.337	0.012
<i>Age</i>	-0.076	0.921	0.337	-0.076	0.917	0.338
Industry Dummies	Included			Included		
Total N =	2426			2426		
Misstatement N =	484			484		
Pseudo R <sup>2</sup> =	0.241			0.243		

The dependent variable is *MISSTATE*, an indicator variable that is equal to one if the firm has misstatements in year  $t-2$  to year  $t$ , and zero otherwise. *GeneralMW* is an indicator variable that is equal to one if the firm discloses general internal control material weaknesses in year  $t$ , and zero otherwise. *SpecificMW* is an indicator variable that is equal to one if the firm discloses specific internal control material weaknesses in year  $t$ , and zero otherwise. See Table 1 for the other variable definitions. All p values are two-tailed. Fama-French 48 industry dummies are included in the regressions and for the sake of brevity, the results for these dummies are not reported

Table 3 reports the results for accounting frauds. Both the coefficients on  $FamilyCEO \times ICMW$  and  $FamilyCEO \times General\ ICMW$  are significantly positive (two-tailed  $p$  values = 0.015 and 0.029, respectively), while the coefficient on  $FamilyCEO \times Specific\ ICMW$  is not significant, suggesting that weak internal control, especially weak general control, in family CEO firms facilitates families' entrenchment. Again, the interactions between the professional CEO family firm indicator and internal control material weakness indicator variables are not significant in the regressions.

**Table 3 Family firms and the association between internal control weaknesses and accounting frauds**

	Overall ICMW			General and specific ICMW		
	Coef.	Chi-sqr.	p value	Coef.	Chi-sqr.	p value
Intercept	-13.184	23.595	0.001	-13.823	24.289	0.001
<i>FamilyCEO</i>	-0.174	0.110	0.740	-0.162	0.096	0.757
<i>ProfessionalCEO</i>	0.226	0.236	0.627	0.210	0.204	0.652
<i>ICMW</i>	0.740	1.528	0.217			
<b><i>FamilyCEO</i> × <i>ICMW</i></b>	<b>2.064</b>	<b>5.919</b>	<b>0.015</b>			
<i>ProfessionalCEO</i> × <i>ICMW</i>	-0.112	0.008	0.930			
<i>GeneralMW</i>				1.672	4.792	0.029
<b><i>FamilyCEO</i> × <i>GeneralMW</i></b>				<b>2.272</b>	<b>4.753</b>	<b>0.029</b>
<i>ProfessionalCEO</i> × <i>GeneralMW</i>				0.731	0.258	0.612
<i>SpecificMW</i>				-0.316	0.090	0.764
<b><i>FamilyCEO</i> × <i>SpecificMW</i></b>				<b>1.713</b>	<b>1.523</b>	<b>0.217</b>
<i>ProfessionalCEO</i> × <i>SpecificMW</i>				-6.569	0.019	0.890
<i>Ln_TA</i>	0.395	10.259	0.001	0.406	10.364	0.001
<i>Big4</i>	0.329	0.091	0.762	0.809	0.497	0.481
<i>ROA</i>	-3.669	1.963	0.161	-2.973	1.325	0.250
<i>Loss</i>	-0.195	0.088	0.767	0.018	0.001	0.978
<i>Earn_std</i>	4.028	6.911	0.009	3.945	6.167	0.013
<i>Growth</i>	-0.351	0.190	0.663	-0.354	0.184	0.668
<i>Seg_Num</i>	-0.026	0.148	0.701	0.000	0.000	0.998
<i>Foreign</i>	0.022	0.004	0.953	-0.149	0.156	0.693
<i>Restructuring</i>	0.534	2.051	0.152	0.592	2.370	0.124
<i>Age</i>	0.066	0.091	0.763	0.028	0.016	0.900
Industry Dummies	Included			Included		
Total N =	2426			2426		
Fraud N =	48			48		
Pseudo R <sup>2</sup> =	0.202			0.234		

The dependent variable is *FRAUD*, an indicator variable that is equal to one if the firm has fraud in year  $t-2$  to year  $t$ , and zero otherwise. *GeneralMW* is an indicator variable that is equal to one if the firm discloses general internal control material weaknesses in year  $t$ , and zero otherwise. *SpecificMW* is an indicator variable that is equal to one if the firm discloses specific internal control material weaknesses in year  $t$ , and zero otherwise. See Table 1 for the other variable definitions. All  $p$  values are two-tailed. Fama-French 48 industry dummies are included in the regressions and for the sake of brevity, the results for these dummies are not reported

Note that neither *FamilyCEO* nor *ProfessionalCEO* is significant in the fraud regressions. Prior studies have documented that founder CEOs are positively associated with the occurrence of frauds (e.g., Dechow et al. 1996; Feng et al. 2011). To reconcile our findings with those of prior studies, we remove both *ICMW* and the interactions between *ICMW* and the family firm indicator variables, and find that *FamilyCEO* becomes significant. Our results thus suggest that the significant association between founder CEO firms and frauds, as documented in prior studies, is driven by family CEO firms with ICMWs. Our tests shed new light on the

mechanism through which founder CEO firms are associated with frauds. Investigating this provides evidence of an important way to reduce frauds in family CEO firms (i.e., by remediating internal control weaknesses).

Turning to the results of related party transactions (reported in Table 4), the coefficients on *FamilyCEO* × *ICMW*, *FamilyCEO* × *General ICMW*, and *FamilyCEO* × *Specific ICMW* are all positive (two-tailed *p* values = 0.021, 0.152, and 0.064, respectively), indicating that family CEO firms with ICMWs, particularly specific ICMWs, are more likely to engage in related party transactions.<sup>24</sup> In contrast, the interactions between the professional CEO family firm indicator and *ICMW* indicators are not significant. Interestingly, *ICMW* itself is not significantly associated with related party transactions, suggesting that nonfamily firms with ICMWs are not significantly more likely to engage in related party transactions than nonfamily firms with effective internal control. Both *FamilyCEO* and *ProfessionalCEO* are significantly positive, indicating that both family CEO and professional CEO family firms are more likely to engage in related party transactions, even when firms have effective internal control.

In sum, in 2004 and 2005, family owners in family CEO firms are more likely to exploit ICMWs to engage in entrenchment activities, leading to stronger associations between ICMWs and misstatements, frauds, and related party transactions in family CEO firms, consistent with H1a.<sup>25</sup> The finding of a significantly stronger association between ICMWs and entrenchment activities in family CEO firms has important implications. Our sample of 271 family CEO firms in 2004 has a total market cap of \$1227 billion, representing 14% of the market cap of S&P 1500 firms in our sample. The impact of family entrenchment on firm valuation is therefore nontrivial.

#### 4.2 Family power and the association between ICMWs and entrenchment activities

In this section, we investigate whether family control power exacerbates the negative consequences of weak internal control in family firms. We divide family firms into two subgroups based on family control power. Family owners are assumed to have high power (*HIGH\_FPOWER*) if the number of family members sitting on the board or in the top management team (other than the CEO) is greater than the median, which is one. Family owners are assumed to have low power (*LOW\_FPOWER*) if the number of family members sitting on the board or in the top management team (other than the CEO) is less than or equal to one.<sup>26</sup> We then compare the association of weak internal control with entrenchment activities between each subgroup of family firms and nonfamily firms. For this analysis, we focus on misstatements and related party transactions. We do not examine frauds because the number of frauds for each subsample is limited, leading to low test power. Since family power is likely to facilitate family entrenchment activities, we expect that the associations between misstatements/related party transactions and ICMWs are more significant for the family firms with high family control power than for those with low family control power.

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<sup>24</sup> In contrast to the results in Table 2 and Table 3, the coefficient on *FamilyCEO* × *Specific ICMW* in Table 4 is significantly positive, while the coefficient on *FamilyCEO* × *General ICMW* is not. This suggests that, for family CEO firms, specific material weaknesses rather than general material weaknesses are associated with more related party transactions. One possible explanation is that related party transactions are of many different types, including loans, borrowings, guarantees, consulting arrangements, legal or investment services, leases, business activities, overhead reimbursements, and stock transactions. (Kohlbeck and Mayhew 2010, 2017). Some of these transactions can be facilitated by material weaknesses of particular procedures and controls (i.e., specific material weaknesses), rather than by material weaknesses at the company level (i.e., general material weaknesses).

<sup>25</sup> When family owners are influential, they may select their friends and business associates as board members. Because we do not have data on the connection between family owners and other board members, we measure family power using the number of family members on the board. We acknowledge that this measure of family power is subject to measurement errors. These errors, however, are unlikely to bias in favor of our finding that ICMWs in family CEO firms are more closely associated with negative consequences when family power is higher.

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**Table 4 Family firms and the association between internal control weaknesses and related party transactions**

	Overall ICMW			General and specific ICMW		
	Coef.	Chi-sqr.	p value	Coef.	Chi-sqr.	p value
Intercept	-1.647	1.452	0.228	-1.668	1.484	0.223
<i>Family_CEO</i>	0.550	7.295	0.007	0.550	7.278	0.007
<i>ProfessionalCEO</i>	0.671	9.586	0.002	0.670	9.568	0.002
<i>ICMW</i>	-0.325	0.833	0.361			
<b><i>FamilyCEO</i> × <i>ICMW</i></b>	<b>1.372</b>	<b>5.363</b>	<b>0.021</b>			
<i>ProfessionalCEO</i> × <i>ICMW</i>	0.007	0.000	0.994			
<i>General MW</i>				-0.504	0.330	0.566
<b><i>FamilyCEO</i> × <i>GeneralMW</i></b>				<b>1.690</b>	<b>2.053</b>	<b>0.152</b>
<i>ProfessionalCEO</i> × <i>GeneralMW</i>				0.579	0.118	0.732
<i>Specific MW</i>				-0.290	0.564	0.453
<b><i>FamilyCEO</i> × <i>SpecificMW</i></b>				<b>1.265</b>	<b>3.433</b>	<b>0.064</b>
<i>ProfessionalCEO</i> × <i>SpecificMW</i>				-0.172	0.031	0.861
<i>Ln_TA</i>	0.042	0.436	0.509	0.043	0.454	0.500
<i>Big4</i>	-0.179	0.163	0.686	-0.172	0.150	0.698
<i>ROA</i>	-2.153	2.616	0.106	-2.167	2.640	0.104
<i>Loss</i>	-0.324	0.886	0.347	-0.327	0.898	0.343
<i>Earn_std</i>	-0.939	0.526	0.469	-0.941	0.527	0.468
<i>Growth</i>	0.324	0.737	0.391	0.321	0.722	0.395
<i>Seg_Num</i>	-0.005	0.019	0.889	-0.005	0.020	0.888
<i>Foreign</i>	0.004	0.001	0.981	0.003	0.000	0.985
<i>Restructuring</i>	0.279	2.057	0.152	0.274	1.965	0.161
<i>Age</i>	0.073	0.464	0.496	0.073	0.470	0.493
Industry Dummies	Included			Included		
Total N =	889			889		
RPT N =	389			389		
Pseudo R <sup>2</sup> =	0.183			0.183		

The dependent variable is *RPT*, an indicator variable that is equal to one if the firm has related party transactions in year 2004, and zero otherwise. *GeneralMW* is an indicator variable that is equal to one if the firm discloses general internal control material weaknesses in year 2004, and zero otherwise. *SpecificMW* is an indicator variable that is equal to one if the firm discloses specific internal control material weaknesses in year 2004, and zero otherwise. See Table 1 for the other variable definitions. All *p* values are two-tailed. Fama-French 48 industry dummies are included in the regressions and for the sake of brevity, the results for these dummies are not reported

Table 5 reports the results for the effect of family control power when *MISSTATE* is the dependent variable. Panel A reports the results for overall ICMWs, and Panel B reports the results for general and specific ICMWs. The first three columns in each panel present the results of comparing high power family firms with nonfamily firms, while the last three columns present the results of comparing low power family firms with nonfamily firms. As Panel A shows, the coefficient on *FamilyCEO* × *ICMW* is significantly positive (two-tailed *p* value = 0.078) for high power family firms, but insignificant for low power family firms. Recall that in Table 2, the coefficient on *FamilyCEO* × *ICMW* is not significant for the overall sample, which is likely caused by the insignificant results for low power family firms. The interaction between *FamilyCEO* and *GeneralMW* in Panel B is also significant for high power family firms (two-tailed *p* value = 0.023) and insignificant for low power family firms.

**Table 5 Family power and the association between internal control weaknesses and accounting misstatements**

	HIGH_FPOWER family firms vs. nonfamily firms			LOW_FPOWER family firms vs. nonfamily firms		
	Coef.	Chi-sqr.	p value	Coef.	Chi-sqr.	p value
Panel A: Overall ICMW						
Intercept	-2.752	4.225	0.040	-2.848	7.062	0.008
<i>FamilyCEO</i>	-0.022	0.004	0.951	0.724	19.957	<.0001
<i>ProfessionalCEO</i>	0.451	3.045	0.081	0.275	1.934	0.164
<i>ICMW</i>	2.309	104.355	0.001	2.261	109.218	0.001
<b><i>FamilyCEO</i> × <i>ICMW</i></b>	<b>1.228</b>	<b>3.103</b>	<b>0.078</b>	<b>0.187</b>	<b>0.201</b>	<b>0.654</b>
<i>ProfessionalCEO</i> × <i>ICMW</i>	-0.413	0.374	0.541	0.078	0.020	0.887
<i>Ln_TA</i>	-0.029	0.226	0.635	-0.016	0.103	0.748
<i>Big4</i>	1.194	3.660	0.056	0.971	6.094	0.014
<i>ROA</i>	-1.018	0.681	0.409	-1.168	1.324	0.250
<i>Loss</i>	0.344	1.274	0.259	-0.170	0.418	0.518
<i>Earn_std</i>	0.817	0.513	0.474	1.096	1.652	0.199
<i>Growth</i>	-0.096	0.079	0.779	0.084	0.093	0.760
<i>Seg_Num</i>	-0.009	0.078	0.780	0.035	1.628	0.202
<i>Foreign</i>	0.148	0.681	0.409	0.058	0.155	0.694
<i>Restructuring</i>	0.415	5.276	0.022	0.373	5.667	0.017
<i>Age</i>	-0.035	0.130	0.719	-0.029	0.114	0.736
Industry Dummies	Included			Included		
Total N =	1684			2149		
Misstatement N =	301			423		
Pseudo R <sup>2</sup> =	0.251			0.237		
Panel B: General and specific ICMW						
Intercept	-3.040	5.510	0.019	-2.905	7.760	0.005
<i>FamilyCEO</i>	-0.048	0.019	0.891	0.723	20.013	0.001
<i>ProfessionalCEO</i>	0.462	3.214	0.073	0.274	1.926	0.165
<i>GeneralMW</i>	1.861	20.357	0.001	1.761	20.630	0.001
<b><i>FamilyCEO</i> × <i>GeneralMW</i></b>	<b>2.288</b>	<b>5.148</b>	<b>0.023</b>	<b>0.660</b>	<b>0.885</b>	<b>0.347</b>
<i>ProfessionalCEO</i> × <i>GeneralMW</i>	-0.898	0.428	0.513	0.658	0.279	0.598
<i>SpecificMW</i>	2.483	94.011	0.001	2.429	95.625	0.001
<b><i>FamilyCEO</i> × <i>SpecificMW</i></b>	<b>0.279</b>	<b>0.101</b>	<b>0.751</b>	<b>0.046</b>	<b>0.009</b>	<b>0.926</b>
<i>ProfessionalCEO</i> × <i>SpecificMW</i>	-0.355	0.214	0.644	-0.136	0.052	0.820
<i>Ln_TA</i>	0.010	0.031	0.860	-0.002	0.002	0.966
<i>Big4</i>	1.007	2.642	0.104	0.901	5.208	0.023
<i>ROA</i>	-1.573	1.760	0.185	-1.385	1.923	0.166
<i>Loss</i>	0.217	0.511	0.475	-0.164	0.398	0.528
<i>Earn_std</i>	0.484	0.190	0.663	1.102	1.735	0.188
<i>Growth</i>	-0.123	0.132	0.716	0.079	0.082	0.775
<i>Seg_Num</i>	-0.023	0.504	0.478	0.031	1.398	0.237
<i>Foreign</i>	0.154	0.736	0.391	0.065	0.199	0.656
<i>Restructuring</i>	0.357	4.082	0.043	0.345	4.982	0.026
<i>Age</i>	-0.044	0.209	0.648	-0.019	0.051	0.821
Industry Dummies	Included			Included		
Total N =	1684			2149		
Misstatement N =	301			423		
Pseudo R <sup>2</sup> =	0.251			0.238		

The dependent variable is *MISSTATE*, an indicator variable that is equal to one if the firm has misstatements in year  $t-2$  to year  $t$ , and zero otherwise. *GeneralMW* is an indicator variable that is equal to one if the firm discloses general internal control material weaknesses in year  $t$ , and zero otherwise. *SpecificMW* is an indicator variable that is equal to one if the firm discloses specific internal control material weaknesses in year  $t$ , and zero otherwise. *HIGH\_FPOWER* family firms are family firms where the number of family members sitting on the board or in the top management team (other than the CEO) is greater than one, and zero otherwise. *LOW\_FPOWER* family firms are family firms where the number of family members sitting on the board or in the top management team (other than the CEO) is less than or equal to one, and zero otherwise. See Table 1 for the other variable definitions. All  $p$  values are two-tailed. Fama-French 48 industry dummies are included in the regressions and for the sake of brevity, the results for these dummies are not reported.

Table 6 reports the results for the effect of family control power when related party transaction (*RPT*) is the dependent variable. Panel A reports the results for overall ICMWs, and Panel B reports the results for general and specific ICMWs. Similar to Table 5, the coefficients on *FamilyCEO* × *ICMW* in Panel A and *FamilyCEO* × *GeneralMW* in Panel B are both significantly positive (two-tailed *p* values = 0.020 and 0.046, respectively) for high power family firms, but insignificant for low power family firms. Combined, the results in Tables 5 and 6 suggest that the weak internal control in family CEO firms is particularly conducive to family entrenchment, measured by misstatements and related party transactions, when family owners have high power.<sup>27</sup>

### 4.3 Dynamics of family entrenchment activities associated with internal control weaknesses

Bardhan et al. (2015) document that family firms are significantly more likely to have ICMWs in year 2004 than are nonfamily firms, which is consistent with our univariate comparisons in Table 1. We expect that once companies are required to publicly disclose internal control quality, family owners have a strong incentive to remediate the internal control weaknesses so that they do not bear the costs of price protection by other investors. Therefore, the association between family firms and ICMWs should become weaker in the years subsequent to the initial years of SOX 404 adoption. Accordingly, we separately investigate the association between family firms and ICMWs for two subperiods: 2004–2005 and 2006.

Specifically, we regress the occurrence of ICMWs on family firm indicators and control variables for 2004–2005 and 2006 using the following logistic regression:

$$\begin{aligned}
 \text{PROB}(\text{ICMW}_{i,t} = 1) = & \alpha + \beta_1 \text{FamilyCEO}_{i,t} + \beta_2 \text{ProfessionalCEO}_{i,t} + \beta_3 \text{Ln\_TA}_{i,t} + \beta_4 \text{Big4}_{i,t} + \\
 & \beta_5 \text{ROA}_{i,t} + \beta_6 \text{Loss}_{i,t} + \beta_7 \text{Earn\_std}_{i,t} + \beta_8 \text{Growth}_{i,t} + \beta_9 \text{Seg\_Num}_{i,t} + \\
 & \beta_{10} \text{Foreign}_{i,t} + \beta_{11} \text{Restructuring}_{i,t} + \beta_{12} \text{Restate}_{i,t} + \beta_{13} \text{Age}_{i,t} + \\
 & \sum \text{Industry Dummies}
 \end{aligned}
 \tag{2}$$

The control variables are the same as in Model (1), except that we add *Restate*, an indicator for restatement announcement in year *t*, because many companies disclose ICMWs after the announcement of a financial restatement.

Table 7, Panel A reports the regression results. We find that family CEO firms are significantly more likely to report ICMWs than are nonfamily firms in years 2004 and 2005, the initial years of SOX 404 compliance (two-tailed *p* value = 0.010), consistent with Bardhan et al. (2015). The association between *FamilyCEO* and *ICMW*, however, becomes insignificant in year 2006 (two-tailed *p* value = 0.741).<sup>28</sup> In contrast to family CEO firms, the likelihood of ICMWs for professional CEO family firms is not significantly different from the likelihood of ICMWs for nonfamily firms in either subperiod. The declining association between family CEO firms and ICMWs is consistent with the argument that, before Section 404, family owners exploit weak internal control for their own entrenchment activities. After public disclosure of internal control effectiveness is required, family CEO firms have strong incentives to improve internal control, in order to avoid price protection by other investors.

<sup>27</sup> For both Table 5 and Table 6 (Panel A and B), the coefficient on *FamilyCEO* is significantly positive for *LOW\_FPOWER* family firms but insignificant for *HIGH\_FPOWER* family firms, suggesting that when family CEO firms with high family power have effective internal control, they are no more likely to engage in misstatements or related party transactions than nonfamily firms with effective internal control. Note that family CEO firms with high family power are those family CEO firms where a family member serves as CEO and at least two other family firms are on the board or among top executives. These characteristics are likely to make these firms the most powerful family firms. We conjecture that the powerful family firms with effective internal control are probably the ones that care the most about family reputation; hence, they do not have material control weaknesses and are less likely to commit misstatements or to engage in related party transactions. Because our research question is about how weak internal control facilitates family entrenchment, we leave exploring this unique group of family firms to future research.

<sup>28</sup> Further analyses show that, relative to nonfamily firms, family CEO firms are not significantly associated with the incidence of ICMWs in 2007–2009.

**Table 6 Family power and the association between internal control weaknesses and related party transactions**

	HIGH_FPOWER family firms vs. nonfamily firms			LOW_FPOWER family firms vs. nonfamily firms		
	Coef.	Chi-sqr.	p value	Coef.	Chi-sqr.	p value
Panel A: Overall ICMW						
Intercept	-3.657	4.203	0.040	-1.124	0.602	0.438
<i>FamilyCEO</i>	0.250	0.418	0.518	0.622	7.973	0.005
<i>ProfessionalCEO</i>	0.411	1.467	0.226	0.752	8.378	0.004
<i>ICMW</i>	-0.453	1.448	0.229	-0.275	0.598	0.440
<b><i>FamilyCEO</i> × <i>ICMW</i></b>	<b>3.026</b>	<b>5.451</b>	<b>0.020</b>	<b>0.960</b>	<b>2.236</b>	<b>0.135</b>
<i>ProfessionalCEO</i> × <i>ICMW</i>	0.988	0.725	0.395	-0.656	0.254	0.614
<i>Ln_TA</i>	0.092	1.379	0.240	0.025	0.136	0.712
<i>Big4</i>	0.149	0.030	0.863	-0.335	0.502	0.479
<i>ROA</i>	-1.227	0.507	0.476	-1.418	1.040	0.308
<i>Loss</i>	-0.077	0.034	0.855	-0.172	0.230	0.631
<i>Earn_std</i>	0.462	0.078	0.780	-1.185	0.727	0.394
<i>Growth</i>	0.885	2.800	0.094	0.284	0.528	0.468
<i>Seg_Num</i>	-0.036	0.708	0.400	-0.006	0.034	0.853
<i>Foreign</i>	-0.001	0.000	0.997	-0.011	0.004	0.953
<i>Restructuring</i>	0.321	1.888	0.170	0.287	1.952	0.162
<i>Age</i>	0.182	1.964	0.161	0.028	0.061	0.805
Industry Dummies	Included			Included		
Total N =	627			785		
RPT N =	251			337		
Pseudo R <sup>2</sup> =	0.227			0.174		
Panel B: General and specific ICMW						
Intercept	-4.724	7.416	0.007	-2.283	2.632	0.105
<i>FamilyCEO</i>	0.206	0.286	0.593	0.630	8.358	0.004
<i>ProfessionalCEO</i>	0.420	1.564	0.211	0.746	8.318	0.004
<i>General MW</i>	-0.874	0.962	0.327	-0.733	0.694	0.405
<b><i>FamilyCEO</i> × <i>GeneralMW</i></b>	<b>3.140</b>	<b>3.966</b>	<b>0.046</b>	<b>1.594</b>	<b>1.338</b>	<b>0.247</b>
<i>ProfessionalCEO</i> × <i>GeneralMW</i>	16.108	0.000	0.994	-13.135	0.000	0.992
<i>Specific MW</i>	-0.319	0.654	0.419	-0.174	0.216	0.642
<b><i>FamilyCEO</i> × <i>SpecificMW</i></b>	<b>15.830</b>	<b>0.000</b>	<b>0.989</b>	<b>0.932</b>	<b>1.775</b>	<b>0.183</b>
<i>ProfessionalCEO</i> × <i>SpecificMW</i>	0.401	0.104	0.747	-0.580	0.172	0.679
<i>Ln_TA</i>	0.200	7.799	0.005	0.130	4.362	0.037
<i>Big4</i>	0.160	0.036	0.850	-0.394	0.679	0.410
<i>ROA</i>	-2.680	2.553	0.110	-2.290	2.787	0.095
<i>Loss</i>	-0.294	0.501	0.479	-0.280	0.636	0.425
<i>Earn_std</i>	-0.684	0.173	0.677	-1.814	1.591	0.207
<i>Growth</i>	0.935	3.182	0.075	0.209	0.289	0.591
<i>Seg_Num</i>	-0.084	4.170	0.041	-0.040	1.410	0.235
<i>Foreign</i>	-0.038	0.029	0.864	-0.055	0.087	0.768

<i>Restructuring</i>	0.143	0.391	0.532	0.161	0.630	0.427
<i>Age</i>	0.152	1.420	0.233	0.012	0.011	0.916
Industry Dummies	Included			Included		
Total N =	627			785		
RPT N =	251			337		
Pseudo R <sup>2</sup> =	0.203			0.151		

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The dependent variable is *RPT*, an indicator variable that is equal to one if the firm has related party transactions in year 2004, and zero otherwise. *GeneralMW* is an indicator variable that is equal to one if the firm discloses general internal control material weaknesses in year 2004, and zero otherwise. *SpecificMW* is an indicator variable that is equal to one if the firm discloses specific internal control material weaknesses in year 2004, and zero otherwise. *HIGH\_FPOWER* family firms are family firms where the number of family members sitting on the board or in the top management team (other than the CEO) is greater than one, and zero otherwise. *LOW\_FPOWER* family firms are family firms where the number of family members sitting on the board or in the top management team (other than the CEO) is less than or equal to one, and zero otherwise. See Table 1 for the other variable definitions. All *p* values are two-tailed. Fama-French 48 industry dummies are included in the regressions and for the sake of brevity, the results for these dummies are not reported

**Table 7 Family CEO firms and the internal control material weaknesses overtime**

Panel A: Level analyses						
	Year = 2004 and 2005			Year = 2006		
	Coef.	Chi-sqr.	p value	Coef.	Chi-sqr.	p value
Intercept	1.039	0.662	0.416	-0.924	0.159	0.690
<b>FamilyCEO</b>	<b>0.458</b>	<b>6.689</b>	<b>0.010</b>	<b>0.112</b>	<b>0.110</b>	<b>0.741</b>
<i>ProfessionalCEO</i>	0.013	0.004	0.950	-0.286	0.482	0.488
<i>Ln_TA</i>	-0.157	6.207	0.013	-0.157	1.834	0.176
<i>Big4</i>	-0.391	1.494	0.222	0.114	0.030	0.862
<i>ROA</i>	-3.773	9.929	0.002	-1.627	0.601	0.438
<i>Loss</i>	0.253	0.789	0.375	0.838	2.630	0.105
<i>Earn_std</i>	0.838	0.636	0.425	2.194	2.228	0.136
<i>Growth</i>	-0.164	0.224	0.636	-0.433	0.270	0.603
<i>Seg_Num</i>	0.081	6.761	0.009	0.092	2.609	0.106
<i>Foreign</i>	0.350	4.173	0.041	0.335	1.001	0.317
<i>Restructuring</i>	0.186	1.020	0.312	0.090	0.066	0.797
<i>Restate</i>	1.337	59.572	0.001	0.826	5.398	0.020
<i>Age</i>	0.071	0.472	0.492	0.150	0.462	0.497
Industry Dummies	Included			Included		
Total N =	2426			1275		
ICMW N =	240			60		
Pseudo R <sup>2</sup> =	0.162			0.162		
Panel B: Change analyses						
	Coef.	Chi-sqr.	p value			
Intercept	1.268	13.946	0.000			
<b>FamilyCEO</b>	<b>2.219</b>	<b>4.361</b>	<b>0.037</b>			
<i>ProfessionalCEO</i>	1.254	1.330	0.249			
<i>chgLn_TA</i>	1.158	0.745	0.388			
<i>chgBig4</i>	-12.194	0.001	0.972			
<i>chgROA</i>	0.589	0.022	0.883			
<i>chgLoss</i>	0.079	0.015	0.903			
<i>chgEarn_std</i>	-4.381	0.146	0.702			
<i>chgGrowth</i>	-0.220	0.034	0.854			
<i>chgSeg_Num</i>	0.009	0.001	0.978			
<i>chgForeign</i>	-0.534	0.424	0.515			
<i>chgRestructuring</i>	0.239	0.144	0.705			
<i>chgRestate</i>	-0.413	0.888	0.346			
Total N =	144					
IC_Improve N =	126					
Pseudo R <sup>2</sup> =	0.161					

Panel A dependent variable is *ICMW*, an indicator variable that is equal to one if the firm has internal control material weaknesses in year *t*, and zero otherwise. *Restate* is an indicator for restatement announcement in year *t*. See Table 1 for the other variable definitions. All *p* values are two-tailed. Fama French 48 industry dummies are included in the regressions and for the sake of brevity, the results for these dummies are not reported

Panel B dependent variable is *IC\_Improve*, an indicator variable that is equal to one if the firm has remediated internal control material weaknesses from its first internal control disclosure year (either 2004 or 2005) to 2006, and zero otherwise. The sample is restricted to companies with internal control material weakness in the first internal control disclosure year. The control variables are measured as changes from 2004 (or 2005) to 2006, depending on the ICMW year. *Restate* is an indicator for restatement announcement in year *t*. See Table 1 for the other variable definitions. All *p* values are two-tailed

To further test whether family CEO firms have stronger incentives to remediate their ICMWs than nonfamily firms do, we focus on the firms reporting ICMWs in the first internal control disclosure year (year 2004 or 2005) and examine whether, in year 2006, family CEO firms are more likely to remediate their ICMWs than nonfamily firms are. Specifically, the dependent variable (*IC\_Improve*) equals one if the firm has remediated ICMWs from its first internal control disclosure year (2004 or 2005) to year 2006, and zero otherwise. Our test variables are *FamilyCEO* and *ProfessionalCEO*. The control variables are the same as in Model (2) and are measured as changes from year 2004 (or 2005) to year 2006, depending on the ICMW year. As Table 7, Panel B shows, the coefficient on *FamilyCEO* is significantly positive with a two-tailed *p* value of 0.037, suggesting that, in year 2006, family CEO firms are more likely to remediate ICMWs than nonfamily firms are.

Given that family owners have incentives to remediate their internal control material weaknesses once firms are required to publicly disclose internal control quality, we next investigate whether the improvement in internal control in family CEO firms from year 2004 to year 2006 significantly reduces the entrenchment activities by family owners. To test this, we estimate the following regressions:

$$\begin{aligned}
 \text{PROB}(MIS\_Reduce_{i,t} = 1) = & \alpha + \beta_{1a}FamilyCEO_{i,t} + \beta_{1b}ProfessionalCEO_{i,t} + \beta_2ChgLn\_TA_{i,t} \\
 & + \beta_3ChgBig4_{i,t} + \beta_4ChgROA_{i,t} + \beta_5ChgLoss_{i,t} + \beta_6ChgEarn\_std_{i,t} + \beta_7ChgGrowth_{i,t} + \\
 & \beta_8ChgSeg\_Num_{i,t} + \beta_9ChgForeign_{i,t} + \beta_{10}ChgRestructuring_{i,t}
 \end{aligned}
 \tag{3a}$$

$$\begin{aligned}
 \text{PROB}(MIS\_Reduce_{i,t} = 1) = & \alpha + \beta_{1a}FamilyCEO_{i,t} + \beta_{1b}ProfessionalCEO_{i,t} + \beta_2IC\_Improve \\
 & + \beta_3ChgLn\_TA_{i,t} + \beta_4ChgBig4_{i,t} + \beta_5ChgROA_{i,t} + \beta_6ChgLoss_{i,t} + \beta_7ChgEarn\_std_{i,t} + \\
 & \beta_8ChgGrowth_{i,t} + \beta_9ChgSeg\_Num_{i,t} + \beta_{10}ChgForeign_{i,t} + \beta_{11}ChgRestructuring_{i,t}
 \end{aligned}
 \tag{3b}$$

*MIS\_Reduce* is an indicator variable that equals one if the firm has misstatements in its first internal control disclosure year (year 2004 or 2005) but no misstatements in year 2006, and zero otherwise.<sup>29</sup> *FamilyCEO* and *ProfessionalCEO* are measured in the first internal control disclosure year, while all the control variables are measured as changes from the first internal control disclosure year to year 2006. The difference between models (3a) and (3b) is that in (3b) we add *IC\_Improve* as an additional control variable. This variable captures the influence of *IC\_Improve* on the reduction of entrenchment activities.

If the likelihood of misstatements in family CEO firms significantly decreases from the first internal control disclosure year to year 2006, the coefficient on *FamilyCEO* should be significantly positive in model (3a). If this reduction in misstatements is mainly through improved internal control, then, once we include *IC\_Improve* as an independent variable in model (3b), the coefficient on *IC\_Improve* should be significantly positive and the coefficient on *FamilyCEO* should become insignificant.

Table 8 reports the regression results for the reduction in misstatement. As the first three columns show, the coefficient on *FamilyCEO* is significantly positive in model (3a) (two-tailed *p* value =0.050), suggesting that family CEO firms experience a significant decrease in the likelihood of misstatements from the first internal control disclosure year to year 2006 relative to nonfamily firms. However, once we add *IC\_Improve* in model (3b), the coefficient on *FamilyCEO* becomes insignificant (two-tailed *p* value =0.221), and *IC\_Improve* itself is significantly positive (two-tailed *p* value =0.001). Together, the results in Table 8 suggest that, after public disclosure of internal control effectiveness, family CEO firms reduce their misstatements more than nonfamily firms, and this reduction appears to be mainly through improved internal control. Therefore, the public disclosure requirement and the associated remediation of ICMWs appear to help reduce the misstatements of family CEO firms.

<sup>29</sup> We only examine the change in misstatements because our sample firms have very few frauds (only 3) in 2006, and we do not have related party transaction data for 2006.

**Table 8 Family CEO firms and the reduction of misstatements**

	Coef.	Chi-sqr.	p-value	Coef.	Chi-sqr.	p-value
Intercept	-1.346	188.267	0.001	-1.678	231.921	0.001
<b>FamilyCEO</b>	<b>0.330</b>	<b>3.833</b>	<b>0.050</b>	<b>0.226</b>	<b>1.498</b>	<b>0.221</b>
<i>ProfessionalCEO</i>	0.167	0.760	0.383	0.232	1.293	0.256
<b>IC_Improve</b>				<b>2.487</b>	<b>133.054</b>	<b>0.001</b>
<i>ChgLn_TA</i>	-0.843	8.741	0.003	-0.739	5.968	0.015
<i>ChgBig4</i>	-1.155	6.882	0.009	-0.510	0.960	0.327
<i>ChgROA</i>	-0.141	0.018	0.893	-0.612	0.308	0.579
<i>ChgLoss</i>	0.135	0.324	0.570	0.167	0.441	0.507
<i>ChgEarn_std</i>	1.444	0.328	0.567	3.521	1.578	0.209
<i>ChgGrowth</i>	-0.256	0.950	0.330	-0.162	0.322	0.570
<i>ChgSeg_Num</i>	0.252	9.443	0.002	0.265	9.672	0.002
<i>ChgForeign</i>	-0.286	1.280	0.258	-0.103	0.146	0.703
<i>ChgRestructuring</i>	-0.250	1.857	0.173	-0.291	2.188	0.139
Total N	1287			1287		
MIS_Reduce N =	275			275		
Pseudo R <sup>2</sup> =	0.041			0.204		

The dependent variable is *MIS\_Reduce*, an indicator variable that is equal to one if the firm has misstatements in its first internal control disclosure year (either 2004 or 2005) but not in 2006, and zero otherwise. *IC\_Improve* is an indicator variable that is equal to one if the firm has remediated internal control material weaknesses from its first internal control disclosure year to 2006, and zero otherwise. All the other variables are measured as changes from the first internal control disclosure year to 2006. The sample is restricted to companies with available data in the first internal control disclosure year and 2006. See Table 1 for the other variable definitions. All *p*-values are two-tailed

An alternative explanation for the remediation results is that after SOX 404, the heightened scrutiny and attention faced by firms with ICMWs pressured those firms to remediate their material weaknesses and to reduce their opportunistic behavior. The story of heightened scrutiny, however, cannot explain why family CEO firms receive more scrutiny and have stronger incentives to remediate the ICMWs than nonfamily firms do. Nevertheless, to alleviate this concern, we examine whether family CEO firms that are under greater scrutiny are more likely to improve their ICMWs and reduce their misstatements, compared with other family CEO firms. We use two measures to capture greater scrutiny. The first is whether the firm is an S&P 500 company, and the second is whether the firm has more analysts following it (we define an indicator equal to one if the firm has more than the median number of analysts following it). We then interact the high scrutiny dummy with family CEO firms in the ICMW remediation model and misstatement reduction model (Tables 7 and 8). The results show that none of the interactions are significant. Thus, we do not find evidence that family CEO firms with higher scrutiny are more likely to improve ICMWs and to reduce misstatements than are other family CEO firms. These results suggest that our results in Tables 7 and 8 are unlikely to be driven by the higher scrutiny after SOX 404 for family firms with ICMWs.

## 5 Additional analyses

### 5.1 SEC lawsuits on CEOs

The above results are consistent with the argument that the stronger associations between ICMWs and misstatements, frauds, and related party transactions in family CEO firms are driven by family owners' entrenchment activities. To further corroborate the results, we investigate whether family CEOs are more likely to be sued by the SEC than CEOs from professional CEO family firms and nonfamily firms when frauds have



been detected.<sup>30</sup> We hand-collected information on whether CEOs are sued by the SEC by coding AAERs related to the fraud cases in our sample. We find that family CEOs are significantly more likely to be sued by the SEC, compared with the CEOs in professional CEO family firms and nonfamily firms (69% vs. 41%, t-stat. = 1.71, *p* value = 0.096). Thus, the results support the family entrenchment explanation of misreporting.

## 5.2 Stock market reaction tests

If family members in family CEO firms are more likely to exploit ICMWs to entrench, investors should react more negatively when family CEO firms announce ICMWs than when nonfamily firms do. We therefore examine cumulative abnormal stock returns over the 3-day window surrounding the release of the auditor's internal control report (as part of the firm's 10-K) for years 2004 and 2005. We include the variables in Model (1) as well as an indicator for whether companies disclose ICMWs in the prior Section 302 disclosures, because prior studies find that Section 302 disclosures have information content (e.g., Beneish et al. 2008). We find that the coefficient on *FamilyCEO* × *ICMW* is  $-0.009$  with a *p* value of 0.072, suggesting that among firms disclosing ICMWs, family CEO firms experience significantly more negative stock returns than nonfamily firms. In contrast, the coefficient on *ProfessionalCEO* × *ICMW* is not significant. We further find that the more negative market reaction to ICMW disclosures of family CEO firms is due to general material weaknesses. The results are similar when we examine 5-day or 11-day window returns.

## 5.3 Accrual quality in family firms

Our finding that family firms have more restatements and frauds than nonfamily firms seems to be at odds with Ali et al. (2007) and Wang (2006), who show that, for Fortune 500 firms, family firms are on average associated with better earnings quality than nonfamily firms, where earnings quality is measured as discretionary accrual quality, earnings response coefficient, and earnings persistence. To understand the reasons behind the different results between our paper and these prior studies, we compare earnings quality (measured as the absolute value of discretionary accruals) between family firms and nonfamily firms. We also find that earnings quality, on average, is higher for family firms than for nonfamily firms in our sample. We then examine earnings quality for family firms with effective and ineffective internal control separately. We find that only family firms with effective internal control are associated with better earnings quality than nonfamily firms with effective internal control. We conjecture that the seemingly contrasting results can be explained by the concentration of the entrenchment effect in the subset of family firms with ineffective internal control. Consequently, we observe both better average earnings quality in family firms with effective internal control and evidence of family entrenchment in family firms with ineffective internal control.

## 5.4 Controlling for corporate transparency and earnings quality

Given that corporate transparency and earnings quality can be associated with internal control quality and family entrenchment (e.g., Anderson et al. 2009; Wang 2006), we conduct additional tests to ensure that the influence of internal control is separate from transparency and earnings quality. We use the opacity measure in Anderson et al. (2009) to capture lack of transparency and the absolute value of discretionary accruals to capture earnings quality. We control for opacity/earnings quality and its interaction with family firm indicators when we examine the association between internal control weaknesses and family entrenchment. Our inferences do not change qualitatively.

In addition, the more negative market reaction to internal control weaknesses in family CEO firms could be due to poor earnings quality in these firms, and the reduction in misstatement in family CEO firms after SOX 404 could also be related to improvement in earnings quality in these firms. We thus control for earnings quality and change in earnings quality in these two tests, respectively. Again, our findings do not change qualitatively.

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<sup>30</sup> We rely on the SEC's decisions, because while the SEC likely decides whom to sue based on wrongdoings, shareholders may pay more attention to recouping losses and thus are more likely to sue parties with deep pockets. To the extent that family CEOs are wealthier than other CEOs, using litigation data such as class action lawsuits will bias toward finding that family CEOs are more likely to be sued than other CEOs.

Overall, these additional tests suggest that the effect of internal control is robust to controlling for earnings quality and corporate transparency.

## Conclusions

We examine the consequences of weak internal control in family firms surrounding the implementation of SOX Section 404. We find that, in years 2004 and 2005, the initial years of SOX 404 implementation, the internal control weaknesses in family CEO firms are associated with higher incidences of misstatements, frauds, and related party transactions than those in nonfamily firms, suggesting that family owners take advantage of weak internal control to engage in entrenchment activities. This association increases with family control power. Furthermore, we find that, from the first internal control disclosure year (2004 or 2005) to year 2006, family CEO firms are more likely to remediate ICMWs than nonfamily firms are, and family CEO firms experience a reduction in internal control related entrenchment activities, as proxied by the occurrence of misstatements; this reduction in misstatements appears to be facilitated mainly through improved internal control.

Overall, our findings suggest that the unique conflict of interest between family owners and minority shareholders in family CEO firms significantly influences the consequences of internal control. This study enhances our understanding of how internal mechanisms fail to limit and detect family entrenchment, and it documents the significant role of public disclosure in influencing family entrenchment.

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