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Do family ownership and control influence the consequences of IFRS adoption?

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Abstract

Manuscript Type: Empirical

Research Question/Issue: This study investigates whether the impact of the mandatory adoption of the International Financial Reporting Standards (IFRS) on earnings management practices varies between family and non-family firms. Specifically, we examine the effects of different family ownership configurations and the CEO family identity.

Research Findings/Insights: We find that firms in Taiwan use less accrual-based earnings management (ABEM) under the IFRS, but more real earnings management (REM). On average, IFRS adoption is less likely to result in upward ABEM and REM in family firms than in non-family firms. However, family firms with greater family ownership, lower family cash–vote divergence, a founder CEO, or a professional CEO are more likely to promote the positive effect of the IFRS on ABEM and mitigate the negative effect of the IFRS on REM. Furthermore, these firms are less likely to substitute ABEM with REM after the transition to the IFRS.

Theoretical/Academic Implications: While recent literature has paid increasing attention to various governance characteristics that shape management's reporting incentives and, thus, affect the consequences of mandatory IFRS adoption, we focus on family firms in which the principal–principal agency relationship between controlling owners and other shareholders is salient. We highlight the effect of family owners' different agency features in relation to a structural change in the accounting regime.

Practitioner/Policy Implications: This study addresses how a firm's corporate governance influences the net benefits of implementing new accounting standards. Our evidence offers insights to policymakers and capital market participants, showing that variations in family owners' reporting incentives may have different impacts on the consequences of adopting the IFRS.

Keywords: Corporate governance, family firms, family ownership, family CEOs, IFRS, earnings management

1. Introduction

The mandatory adoption of the International Financial Reporting Standards (IFRS) in more than 120 countries is arguably the largest change in standards in accounting history. Much literature has pointed to a general improvement in financial reporting quality because the implementation of the standards has enhanced the transparency and comparability of accounting information (De George, Li, & Shivakumar, 2016). However, several studies have argued that the adoption of the IFRS is effective only when managers have incentives to comply in substance (Ball, Robin, & Wu, 2003; Christensen, Lee, Walker, & Zeng, 2015; Soderstrom & Sun, 2007). A recent stream of research has therefore started to investigate the firm-specific factors that influence managers' increased commitment to transparency through IFRS adoption (Christensen et al., 2015; Daske, Hail, Leuz, & Verdi, 2013; Voulgaris, Stathopoulos, & Walker, 2015). Motivated by these studies, this paper investigates the implications of financial reporting considerations which arise from the distinctive agency environment in family firms, for their responses to mandatory IFRS adoption. Specifically, we examine *whether* and *when* family firms are more or less likely to engage in accrual and real earnings manipulations in *response* to IFRS adoption.

Family firms are a unique organizational form (Anderson & Reeb, 2003), in which controlling shareholders and top management are often members of founding families. Family owners are long-term investors, and there is strong interaction and integration between family and business life in family firms. Given these ownership and control features, compared to non-family firms, family firms have a smaller agency conflict between managers and shareholders, but a greater agency conflict between large and minority shareholders. The former leads to better incentive alignment, whereas the latter leads to family entrenchment. Prior studies have suggested that the prevalence of these two agency effects has different impacts on financial reporting decisions in family firms (Chen, Chen, & Cheng, 2008; Prencipe, Bar-Yosef, & Dekker, 2014; Wang, 2006). Accordingly, we argue that while family firms face an exogenous shock to their financial reporting practices when required to adopt the IFRS, their family owners'

underlying reporting incentives are likely to shape how the firms respond to the change by adjusting their reporting practices.

In addition, the agency environment in family firms may provide a differential set of reporting incentives with regard to earnings management under the IFRS. On the one hand, when the family alignment effect prevails, family owners may view the transition to the IFRS as a good opportunity to improve firm transparency for evaluative and monitoring purposes by enhancing the reporting quality (Daske et al., 2013). Given that family owners can benefit from the valuation premium of their ownership in a more transparent information environment (Anderson, Duru, & Reeb, 2009), they have strong motivation to internalize the benefits of the IFRS for improving firm value and, thus, their family wealth.

On the other hand, when the family entrenchment effect prevails, adopting the IFRS may create an opportunity for family owners to manage earnings to freeze out minority shareholders, given the inherent flexibility and discretion afforded to managers under the standards. In particular, the more transparent information environment after adopting the IFRS may also prompt such owners to engage in costly real earnings manipulations, which are more difficult to detect, in order to maintain their private gains and control (see De George et al., 2016).

Taiwan is an ideal setting for examining the effect of IFRS adoption in family firms because of its predominance of family firms with diverse ownership and control features (Claessens, Djankov, Fan, & Lang, 2002; Claessens, Djankov, & Lang, 2000; Hsu, Lin, & Tsao, 2018) (Section 2.2 provides extensive discussions of the institutional background relating to family firms in Taiwan). When listed companies in Taiwan were required to comply with the IFRS in 2013, there was no substantive concurrent change in reporting enforcement. Hence, analyzing this single market allows us to better isolate the effects of the change in standards on financial reporting quality (Bruggemann, Hitz, & Shllhorn, 2013). Because all listed companies adopted the IFRS simultaneously in Taiwan, self-selection at the firm level due to the presence of voluntary adopters is not an issue when studying the effect of the IFRS in this market. Taiwan's capital market therefore provides a relatively natural setting in which to investigate whether

family owners' intrinsic reporting incentive plays an important role in how effectively the new standards are adopted, and thus influences firms' financial reporting quality.

Our findings show that while mandatory IFRS adoption reduces accrual-based earnings management (hereinafter referred to as ABEM), firms are more likely to engage in real earnings management (hereinafter referred to as REM), which suggests that the adoption may unintentionally drive firms to use more REM as a substitute for ABEM. The results indicate that, on average, the introduction of the IFRS is less likely to result in an increase in both ABEM and REM in family firms than in non-family firms. However, this effect is not homogeneous among family firms. Following IFRS adoption, family firms are less likely to engage in upward ABEM and REM when their family owners have greater family ownership and lower excessive voting rights over cash flow rights. In addition, the implementation of the IFRS is less likely to lead to aggressive ABEM and REM when family firms are managed by a founder CEO or a professional CEO, but this effect is not apparent in firms with a descendant CEO. Our findings further reveal that the propensity to substitute ABEM with REM due to IFRS adoption is less pronounced in family firms with greater family ownership, lower family cash-vote divergence, and a founder CEO or a professional CEO.

This study contributes to the literature in three major ways. First, given the widespread presence of family firms worldwide, this research extends the growing literature on how a firm's characteristics shape its financial reporting quality in response to mandatory IFRS adoption by focusing on family ownership and control characteristics (e.g., Bruggemann et al., 2013; Cascino & Gassen, 2015; Daske et al., 2013; Verriest, Gaeremynck, & Thornton, 2013; Wu & Zhang, 2019). In doing so, this study sheds additional light on the importance of firms' reporting incentives based on a context in which the principal–principal agency relationship between controlling owners and other shareholders is salient (Ball et al., 2003; Burgstahler, Hail, & Leuz, 2006).

Second, Prencipe et al. (2014) suggest that the literature on family firms' accounting is still in its early stages. Previous research has explored the relationships between family firms' corporate

governance characteristics and earnings management (e.g., Achleitner, Günther, Kaserer, & Siciliano, 2014; Bonacchi, Cipollini, & Zarowin, 2018; Wang, 2006). This study builds on that literature by focusing on these relationships during periods of significant change in the reporting environment. In particular, extant research has not given enough consideration to how firms with varying agency environments conduct different opportunistic accounting practices when they face uncertainties resulting from a substantial change in the accounting regime associated with IFRS adoption (De George et al., 2016). Our results imply that while the implementation of the IFRS per se is argued to have an impact on a firm's ABEM and REM (e.g., Ahmed, Neel, & Wang, 2013; Ipino & Parbonetti, 2017), this must be considered within the context of family firms.

Third, while early research focused on the differences between family and non-family firms, more recent studies have acknowledged that family firms constitute a heterogeneous group. The potential principal–principal agency problems or benefits associated with different ownership and control features of family owners raise interesting issues surrounding their financial reporting decisions. A few prior studies have addressed this by analyzing the variations in corporate disclosures (Ali, Chen, & Radhakrishnan, 2007) and auditor choices (Hsu et al., 2018) among family firms with different corporate governance features. Our empirical evidence adds to this line of research by highlighting different family owners' reporting behaviors during the transition to a new accounting environment.

The remainder of this study is organized as follows. In the next section, we outline extant literature and develop our hypotheses. The sample selection procedure and the research design are described in the third section. Thereafter, the results are presented and discussed, and we draw conclusions in the final section.

2. Literature review and development of hypotheses

2.1 IFRS and earnings management

The adoption of the IFRS has been mandatorily imposed by many countries over the last two decades. However, whether it can effectively improve the reporting quality has been a topic of debate among academics and practitioners.

Much of the early literature pointed to the benefits of adopting the IFRS to improve the financial reporting quality, in terms of increased corporate transparency and enhanced comparability of financial reporting, by narrowing cross-country differences (De George et al., 2016). Previous studies have argued that the inherent flexibility in the principles-based standards allows managers to report earnings that reflect economic substance (Barth, Landsman, & Lang, 2008). In addition, using a common set of accounting standards would reduce the cost incurred by financial analysts and investors when comparing accounting information across firms (Armstrong, Barth, Jagolinzer, & Riedl, 2010; Horton, Serafeim, & Serafeim, 2013). Therefore, the ease of comparison would put pressure on managers to report accounting information faithfully, thus leading to less ABEM behavior (Sohn, 2016). However, the principles-based IFRS standards have the inherent drawback that they provide less detailed guidance, and thus allow greater discretion for managers in making accounting choices; this increases the potential for opportunistic earnings manipulation (Barth et al., 2008). Therefore, the transition to the IFRS may not necessarily improve a firm's financial reporting quality because the effectiveness of using the IFRS is dependent on the underlying reporting incentive of its managers (e.g., Ahmed et al., 2013; Holthausen, 2009; Jeanjean & Stolowy, 2008).

Previous studies have investigated the impact of the mandatory adoption of the IFRS on ABEM, but the results are inconclusive (e.g., Ahmed et al., 2013; Jeanjean & Stolowy, 2008; Zéghal, Chtourou, & Sellami, 2011). Adding to these studies, Doukakis (2014) examined the impact of the IFRS on both ABEM and REM. He found that the mandatory adoption of the IFRS did not have a significant impact on either ABEM or REM. Ipino and Parbonetti (2017) further documented that mandatory IFRS adoption results in a decrease in ABEM, but an increase in REM. They suggested that mandatory IFRS adoption induces a trade-off between these two earnings management practices.

It is noteworthy that despite extant studies' inconclusive evidence regarding the effect of mandatory IFRS adoption on earnings management practices, they all underscore that the IFRS alone may not improve the financial reporting quality; in particular, they highlight the importance of firm-level reporting incentives as key drivers of reporting quality. Hence, this study aims to advance this debate by investigating whether family ownership and control characteristics play a role in shaping the effect of mandatory IFRS adoption on earnings management.

2.2 Institutional background

Taiwan is an ideal setting in which to study our research questions, as family firms are prevalent in Taiwan, with about 60% of listed firms being controlled by family owners (Claessens et al., 2000; Hsu et al., 2018; Yeh, 2005). They prominently operate in almost every industry and at different generational stages (Yeh & Liao, 2020). Family owners in Taiwan typically have highly concentrated family ownership with excessive voting rights, and hold top executive positions in these firms (Fan & Wong, 2002; Fan, Wei, & Xu, 2011). Specifically, unlike family firms in the US and the UK, family owners in Taiwan generally have relatively long investment horizons and have incentives to maintain their ownership over a longer period of time (Fan et al., 2011; Hsu et al., 2018). An important factor is that Taiwan is a collectivistic society, whose culture emphasizes the value of family; this gives family owners a strong incentive to enhance or preserve their reputational capital in society for long-term family wealth (Chen, Gray, & Nowland, 2013; Hsu et al., 2018).¹ The combination of these structural and cultural features therefore makes Taiwan an optimal setting in which to explore the effect of family ownership and control.

Although Taiwan's capital market is characterized by inferior investor protection and ineffective internal governance mechanisms (Chen et al., 2013; Claessens et al., 2000; La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 2000; La Porta, Lopez-de-Silanes, & Shleifer, 1999), it is very sensitive to trading

According to Hofstede Insights, Taiwan is a collectivistic and long-term-oriented society. The report can be found at https://www.hofstede-insights.com/country-comparison/taiwan/.

activities of foreign institutional investors (Huang & Shiu, 2009). Using the IFRS can facilitate monitoring by investors by improving the cross-border transparency and comparability of accounting information (Byard, Li, & Yu, 2011). Managers would therefore be sensitive to such a change and would adapt their reporting practices in order to suit their best interests. As noted previously, there was no concurrent change in reporting enforcement around the introduction of the IFRS in Taiwan. This provides an appropriate setting in which to investigate how the agency incentives of family owners affect the impact of IFRS adoption.

2.3 Hypothesis development

2.3.1 Family firms, IFRS, and earnings management

The family firm is the most widespread form of firm structure around the world (Faccio & Lang, 2002; La Porta et al., 1999; Shleifer & Vishny, 1986). There are two competing theories explaining the behavior of family owners: the alignment effect and the entrenchment effect. According to the alignment effect, the interests of managers and shareholders are more aligned in family firms than in non-family firms due to the unique economic and psychological ties that family owners have with their businesses. These ties establish an inherent family identity, whereby causing family owners to prioritize the protection of their family's reputation and the continuation of the family dynasty through effective monitoring practices (Ali et al., 2007; Anderson & Reeb, 2003). As a result, the Type I agency problem between managers and shareholders is less severe in family firms than in non-family firms.

Existing literature suggests that when the alignment effect prevails, controlling family owners are likely to place value on the monitoring benefits of high-quality financial reporting, as this protects their interests in the firm (e.g., Ali et al., 2007). If the implementation of the IFRS improves corporate transparency and information comparability (De George et al., 2016), these owners may expect that accounts prepared under the IFRS will more effectively enhance management oversight and firm value. Thus, they are motivated to comply with the IFRS in substance. Additionally, the alignment effect will also make family owners more alert to the potential damage to their family reputation and wealth if they

are found to be exploiting the accounting discretion available under the standards. In family firms that prioritize long-term firm value, the use of more REM (in place of ABEM) after IFRS adoption is also less likely; as such, accounting practices would negatively impact the owners' long-term wealth.

On the other hand, according to the entrenchment effect, highly concentrated ownership and control would give family owners greater incentives and power to expropriate firm assets for their private benefits, thus leading to family entrenchment (Claessens, Djankov, Fan, & Lang, 1999; Claessens et al., 2000). Therefore, the Type II agency problem between controlling owners and minority shareholders is more severe in family firms than in their non-family counterparts.

When the entrenchment effect dominates, family owners are more likely to exploit accounting information in order to extract private benefits of control (Wang, 2006). They have stronger incentives to take advantage of the inherent flexibility provided by the principles-based IFRS for aggressive earnings manipulations so that they can conceal their expropriation behavior. As mandating a higher transparency requirement under the IFRS may lead firms to greater exposure of ABEM in the market (De George et al., 2016), entrenched family owners are thus more likely to employ REM through real transactions for achieving their private goals.

Thus, ex ante, it is unclear as to whether family firms are more or less likely than non-family firms to engage in ABEM or REM following the adoption of the IFRS. Consequently, our hypotheses are nondirectional and we address these issues empirically.

Hypothesis 1a: The effect of IFRS adoption on ABEM is systematically different between family and non-family firms.

Hypothesis 1b: The effect of IFRS adoption on REM is systematically different between family and non-family firms.

2.3.2 Family ownership configurations, IFRS, and earnings management

Prior literature has suggested that family firms are not equal in their motivations to exercise their discretion over financial reporting decisions (Gómez-Mejia, Cruz, & Imperatore, 2014). Variations in

the level of family ownership configurations may have different implications for the agency environment in family firms, thus affecting the firms' earnings management activities differently under the IFRS.

The extent of family ownership reflects family owners' proximity to their family firms. Owners with highly concentrated, undiversified shareholdings usually have longer investment horizons and greater economic and non-economic interests tied up with the value of their firms (Gómez-Mejia, Cruz, Berrone, & De Castro, 2011). They are therefore more concerned with any financial and reputational benefits or costs that would have an impact on their firm value (Chen et al., 2008). As some potential benefits, such as a lower cost of capital and better informed monitoring, accompany the adoption of the IFRS (Daske et al., 2013), family owners who hold greater shareholdings are likely to be more committed to properly applying the standards in order to capitalize on such benefits. Additionally, these owners are relatively reluctant to use aggressive ABEM and REM following IFRS adoption, given that they will need to bear a large proportion of the costs that these improper accounting practices incur for their long-term reputational capital and family wealth.

There is a possibility that family owners' concentrated ownership may give them incontestable power with which to divert resources from their firms to themselves at the expense of minority shareholders. This may motivate such owners to pervert the managerial discretion allowed under the IFRS to cover up such misbehavior. However, due to the traditional collectivistic culture in Taiwan, as discussed previously, a higher level of family ownership often stimulates a sense of stewardship, thereby leading to closer alignment between family owners and other shareholders (Tsai, Hung, Kuo, & Kuo, 2006). Consequently, we hypothesize the following:

Hypothesis 2a: IFRS adoption is less likely to result in greater ABEM for firms with higher family ownership.

Hypothesis 2b: IFRS adoption is less likely to result in greater REM for firms with higher family ownership.

Family owners often use certain control-enhancing mechanisms, such as cross-shareholding and a pyramidal ownership structure, to keep voting rights in addition to cash flow rights within their family

firms (e.g., Fan & Wong, 2002; Villalonga & Amit, 2006). A significant disparity between family cash flow rights and voting rights can enable owners to secure their control over the firm. Nevertheless, this may cause a severe principal–principal agency problem because the incentives for controlling owners to deprive minority shareholders of their wealth increase as the wedge between cash flow rights and voting rights increases (Fan & Wong, 2002). To avoid expropriation activities being discovered, controlling family owners have incentives to manipulate accounting information (Ali et al., 2007).

The introduction of the IFRS confers greater reporting discretion on managers due to the principlesbased nature of the standards. This may encourage family owners with excessive control rights to take advantage of this inherent loophole of the IFRS and withhold information in order to mask their entrenched activities through opportunistic ABEM. The increased complexity resulting from the large control–ownership wedge can also minimize the negative reputational impact on family identity due to improper accounting, as it is more difficult for outside shareholders to clearly identify the identity of controlling owners (Yeh & Woidtke, 2005). In addition, there is a possibility that the benefits of engaging in ABEM are extenuated by the closer scrutiny from the market in the more transparent reporting environment following IFRS adoption (Doukakis, 2014; Ipino & Parbonetti, 2017). This may motivate family owners with greater voting rights over cash flow rights to conduct more costly real activity manipulations in order to compensate for their reduced gains from ABEM. Although such manipulations may negatively affect a firm's wealth, controlling family owners only need to bear the associated costs proportionately while enjoying the benefits from such excessive control. Accordingly, we hypothesize the following:

Hypothesis 3a: The adoption of the IFRS is more likely to increase ABEM for family firms with greater cash–vote divergence.

Hypothesis 3b: The adoption of the IFRS is more likely to increase REM for family firms with greater cash–vote divergence.

2.3.3 Family identity of CEOs, IFRS, and earnings management

Family firms are led by a founder, a descendant, or a professional CEO. These three different types of CEOs each have a different sense of identity within family firms, and such differences may drive them to behave differently in decision making (Chang & Shim, 2015; Lin & Hu, 2007; Mullins & Schoar, 2016; Villalonga & Amit, 2006).

Founders possess a unique emotional and economic link to their founded firms. They typically place emphasis on long-term family value and take extra care of the family reputation and identity in the market in order to perpetuate their family business (Gómez-Mejía, Haynes, Núñez-Nickel, Jacobson, & Moyano-Fuentes, 2007). As a result, the interests between controlling family owners and other shareholders are more aligned when the CEO is a founder (Barontini & Caprio, 2006; Chen, Liu, Yang, & Chen, 2016; Tsai et al., 2006; Villalonga & Amit, 2006). Prior literature has suggested that founder CEOs value the benefits of transparency for their family firms' long-term performance (Anderson & Reeb, 2003) and are cautious about the potential reputational damage caused by undertaking aggressive earnings manipulations (Achleitner et al., 2014). We therefore argue that founder CEOs would have stronger incentives to utilize the benefits of the IFRS for improving corporate transparency and, thus, firm value. In addition, they are less likely to exploit the flexibility given by the standards for ABEM in order to avoid damage to their family image if detected. Founders' intrinsic motivation to ensure transgenerational sustainability of the business will also prevent them from using REM, instead of ABEM, in response to the close scrutiny by the market under the IFRS.

As family firms evolve, family descendants may take over the CEO positions from the founders. Family ownership typically becomes more dispersed after the business is passed on to a later generation (Ensley & Pearson, 2005; Hsu et al., 2018). In this circumstance, descendant CEOs and other family members often seek to attain the best interests for their own branch of the extended family. This often leads to inner family conflicts, which increasingly dilute the psychological ties between family members and the firm (Ensley & Pearson, 2005; Gómez-Mejía et al., 2007). As such, descendants have a greater incentive to be entrenched when they become CEOs of family firms (Villalonga & Amit, 2006). They may attempt to withhold valuable internal information in order to accrue private benefits from control, and to avoid informed challenges from other family members (Hsu et al., 2018). Therefore, family firms with descendant CEOs may not be serious IFRS adopters. Rather, they may endeavor to utilize the increased managerial discretion in order to opportunistically manage earnings. Moreover, it is possible that a more transparent environment under the IFRS leads these firms to engage in costly REM, as descendant CEOs are less concerned about the negative impact of this practice on firms' long-term value. Due to the dispersed family ownership, they only need to share the negative consequences of implementing REM proportionately in terms of their shares, while enjoying the benefits of control.

Family firms can also appoint professional CEOs. Unlike CEOs of non-family firms, these professionals typically possess lower control power because they are under tight scrutiny by the family owners (Mullins & Schoar, 2016). Prior literature has suggested that family owners can effectively monitor professional CEOs and, thereby, increase the earnings quality (Wang, 2006). Given that the adoption of the IFRS can facilitate corporate transparency and firm value (De George et al., 2016), we argue that family owners would prompt professional CEOs to comply with the IFRS in substance in order to capitalize on the benefits of the IFRS for family wealth. In addition, since family owners usually possess good knowledge that enables effective monitoring, this would discourage professional CEOs from engaging in earnings manipulations that would inhibit the firm's long-term value. Accordingly, our research hypothesizes the following:

Hypothesis 4a: The adoption of the IFRS is less likely to increase ABEM in family firms with a founder CEO or a professional CEO than with a descendant CEO.

Hypothesis 4b: The adoption of the IFRS is less likely to increase REM in family firms with a founder CEO or a professional CEO than with a descendant CEO.

3. Research methodology

3.1 Sample selection

The data used in the empirical testing are based on a sample of firms publicly listed on the Taiwan Stock Exchange between 2007 and 2017. Listed companies in Taiwan did not adopt the IFRS until it became mandatory in 2013 (i.e., from the fiscal year beginning on or after January 1, 2013). Table 1 presents the sample selection criteria and the distribution of the final sample according to year and industry. The initial sample includes 11,797 firm-year observations for the pre-IFRS period (2007–2011) and the post-IFRS period (2013–2017).² Firms in the financial sector were excluded from the sample because they have sector-specific accounting systems. Data were collected from the Taiwan Economic Journal (TEJ) database. The presence of family members within the firms was identified based on information provided by *Business Group in Taiwan*, which is published annually by the China Credit Information Service, Ltd., and the Market Observation Post System. Observations without complete financial and corporate governance information were omitted. The final sample consists of 9,315 firm-year observations.³ Following prior family firm research (Anderson & Reeb, 2003; Anderson, Duru, & Reeb, 2012; Chen et al., 2013; Hsu et al., 2018), a firm is defined as a family firm if (1) the founders or their descendants are top managers or hold board positions in the firm, or (2) its family members collectively control more than 5% of shares in the firm. Overall, family firms account for 62.68% of the listed firms in Taiwan over the sample period.

[Insert Table 1 Here]

3.2 Measure of accrual-based earnings management

To measure ABEM, this study uses the discretionary accrual model developed by Jones (1991), as modified by Dechow, Sloan, and Sweeney (1995).⁴ The modified Jones model adds the change in accounts receivable so as to control for the possibility that managers manipulate earnings through

² 2012 is the transitional year for mandatory IFRS adoption in Taiwan. We omit 2012 from our sample and tests because the listed companies in Taiwan were required to prepare financial statements based on the local GAAP and disclose the statements in accordance with the IFRS in the notes for this year.

³ The final sample is not balanced in terms of the pre-IFRS and post-IFRS periods. We therefore also use alternative sample selection criteria that require each sample firm to have at least one observation in both the pre- and post-IFRS periods. The findings (untabulated) are largely consistent with the main results reported in Table 3. The table is available in the online supplementary materials.

⁴ We also adopt two alternative ABEM measures developed by Jones (1991) and Kothari, Leone, and Wasley (2005). The findings (untabulated) are consistent with those based on the modified Jones model, as reported in Table 3. The table is available in the online supplementary materials.

revenue recognition. To estimate discretionary accruals, we calculate the following equation, using OLS regression:

$$\frac{ACC_{i,t}}{Assets_{i,t-1}} = \alpha_0 + \beta_1 \left(\frac{1}{Assets_{i,t-1}}\right) + \beta_2 \left(\frac{\Delta Sales_{i,t}}{Assets_{i,t-1}}\right) + \beta_3 \left(\frac{PPE_{i,t}}{Assets_{i,t-1}}\right) + \varepsilon_{i,t}$$
(1)

where $ACC_{i,t}$ is the total accruals, defined as the earnings before extraordinary items and discontinued operations, minus the operating cash flow reported in the statement of cash flows in year *t*; $Assets_{t-1}$ is the total assets in year *t*-1; $Sales_{i,t}$ is the total sales in year *t*; $\Delta Sales_{i,t}$ is the change in sales from year *t*-1 to year *t*; and $PPE_{i,t}$ represents the gross property, plant, and equipment in year *t*. We estimate Equation (1) for each year and industry cluster, with at least eight observations per year.

Thereafter, the coefficient estimates from Equation (1) are used to estimate the firm-specific nondiscretionary accruals for the sample firms:

$$NA_{i,t} = \alpha_0 + \hat{\beta}_1 \left(\frac{1}{Assets_{i,t-1}}\right) + \hat{\beta}_2 \left(\frac{\Delta Sales_{i,t} - \Delta AR_{i,t}}{Assets_{i,t-1}}\right) + \hat{\beta}_3 \left(\frac{PPE_{i,t}}{Assets_{i,t-1}}\right) + \varepsilon_{i,t}$$
(2)

where $NA_{i,t}$ is the non-discretionary accruals for firm *i* in year *t*, and $\Delta AR_{i,t}$ is the change in accounts receivable from year *t*-1 to year *t*. All other variables are as previously defined.

The difference between the total accruals $(ACC_{i,t}/Assets_{i,t-1})$ and the fitted non-discretionary accruals $(NA_{i,t})$ yields the proportion of discretionary (abnormal) accruals (DA), which we use to capture ABEM (Aerts, Cheng, & Tarca, 2013; García-Meca & Sánchez-Ballesta, 2009).

3.3 Measure of real earnings management

To construct our proxy of REM, we follow prior literature (Cohen, Dey, & Lys, 2008; Doukakis, 2014) and combine three individual REM proxies developed by Roychowdhury (2006) to compute an aggregate measure for REM (*REM_AGG*). The individual proxies are abnormal levels of cash flows from operations (*REM_CFO*), production costs (*REM_PROD*), and discretionary expenses (*REM_EXP*). We estimate the normal levels of these three proxies by means of the following models:

$$\frac{CFO_{i,t}}{Assets_{i,t-1}} = \alpha_0 + \beta_1 \left(\frac{1}{Assets_{i,t-1}}\right) + \beta_2 \left(\frac{Sales_{i,t}}{Assets_{i,t-1}}\right) + \beta_3 \left(\frac{\Delta Sales_{i,t}}{Assets_{i,t-1}}\right) + \varepsilon_{i,t}$$
(3)

$$\frac{PROD_{i,t}}{Assets_{i,t-1}} = \alpha_0 + \beta_1 \left(\frac{1}{Assets_{i,t-1}}\right) + \beta_2 \left(\frac{Sales_{i,t}}{Assets_{i,t-1}}\right) + \beta_3 \left(\frac{\Delta Sales_{i,t}}{Assets_{i,t-1}}\right) + \beta_4 \left(\frac{\Delta Sales_{i,t-1}}{Assets_{i,t-1}}\right) + \varepsilon_{i,t}$$
(4)

$$\frac{DISEXP_{i,t}}{Assets_{i,t-1}} = \alpha_0 + \beta_1 \left(\frac{1}{Assets_{i,t-1}}\right) + \beta_2 \left(\frac{Sales_{i,t-1}}{Assets_{i,t-1}}\right) + \varepsilon_{i,t}$$
(5)

where $CFO_{i,t}$ represents the cash flow from operations in year *t*; $PROD_{i,t}$ is the production costs, defined as the sum of the cost of goods sold and the change in inventories in year *t*; and $DISEXP_{i,t}$ represents discretionary expenses in year *t*, defined as the sum of advertising expenses, R&D expenses, and selling, general, and administrative (SG&A) expenses. All other variables are as previously defined.

The abnormal CFO (*REM_CFO*), abnormal production costs (*REM_PROD*), and abnormal discretionary expenses (*REM_EXP*) are computed as the difference between the actual values and the normal levels, estimated based on Equations (3), (4), and (5). More negative values of *REM_CFO* and *REM_EXP*, as well as a larger value of *REM_PROD*, imply more earnings-increasing REM. In order for the three individual REM proxies to conform to the same ordering, we multiply *REM_CFO* and *REM_EXP* by minus one so that greater values of *REM_CFO*, *REM_PROD*, and *REM_EXP* imply higher REM. Following prior studies (Cohen et al., 2008; Doukakis, 2014), we compute the aggregate REM measure, *REM_AGG*, as the sum of the standardized variables, *REM_CFO*, *REM_PROD*, and *REM_EXP*. We report results corresponding to the aggregate proxy (*REM_AGG*) in the main analyses.⁵ We interpret a larger value of *REM_AGG* as evidence of higher levels of overall REM.

3.4 Model specification

To test our hypotheses, we estimate our regression models as follows:

⁵ We also conduct our analyses based on the three individual REM proxies: abnormal levels of cash flows from operations (REM_CFO), production costs (REM_PROD), and discretionary expenses (REM_EXP). The results (untabulated) are largely similar to those based on the aggregate measure (REM_AGG) reported in Table 3. The table is available in the online supplementary materials.

$$EM_{i,t} = f(IFRS_{i,t}, FAMILY_{i,t}, CONTROLS_{i,t}) + \varepsilon_{i,t}$$
(6)

$$EM_{i,t} = f(IFRS_{i,t}, FAMILY_{i,t}, IFRS*FAMILY_{i,t}, CONTROLS_{i,t}) + \varepsilon_{i,t}$$
(7)

The dependent variable, earnings management (EM), represents ABEM (DA) and REM (*REM_AGG*), as defined in previous sections. For independent variables, we employ the mandatory adoption of the IFRS (IFRS) to examine its effect on earnings management before and after IFRS adoption becomes mandatory (Judge, Li, & Pinsker, 2010). IFRS is a dummy variable with a value of 1 for fiscal years ending after the mandatory adoption of the IFRS, and 0 for fiscal years ending before the mandatory adoption of the IFRS. FAMILY represents the presence of family firms (FAM), family ownership (FOWN), family cash-vote divergence (FDIV), and the presence of a founder CEO (F_CEO), descendant CEO (D_CEO) or professional CEO (H_CEO) in family firms. The presence of family firms (FAM) is used to test the overall effect of family firms on earnings management. FAM is a dummy variable that equals 1 if the firm is classified as a family firm, and 0 otherwise (see Section 3.1 for a detailed definition of family firms). Family ownership (FOWN) is measured by the proportion of common shares (cash flow rights) owned by the family members (Chung, Cho, & Kim, 2015). The degree of disparity between the cash flow rights and the voting rights of family owners (FDIV) is measured by the ratio of family voting rights to family cash flow rights. The CEO identity in family firms is classified into three different categories: founder CEO (F CEO), which equals 1 if a family firm has the founder as the CEO, and 0 otherwise; descendant CEO (D CEO), which has a value of 1 when the CEO is a family descendant; and professional CEO (H CEO), which equals 1 if a family firm has a professional CEO, and 0 otherwise.

We use interaction terms to measure the combined effects between the IFRS and the various family ownership and control characteristics. *IFRS*FAMILY* represents the combined effects between IFRS adoption and the presence of family firms (*IFRS*FAM*), between IFRS adoption and family ownership (*IFRS*FOWN*), between IFRS adoption and cash–vote divergence (*IFRS*FDIV*), between IFRS adoption and the presence of a founder CEO ($IFRS*F_CEO$), between IFRS adoption and the presence of a descendent CEO ($IFRS*D_CEO$), or between IFRS adoption and the presence of a professional CEO ($IFRS*H_CEO$).

The control variables (*CONTROLS*) are potential factors that have an impact on a firm's earnings management, according to previous studies. The definitions of the control variables are summarized in Appendix 1. First, we control for firm size (*SIZE*) because prior studies have argued that the increased complexity of operation as well as investors' scrutiny associated with a greater firm size affect a firm's incentive to engage in earnings management (Dechow & Dichev, 2002; Doukakis, 2014). Second, we also control for Z-score (*ZSCORE*) and return on assets (*ROA*) because prior literature has suggested that a firm's financial health and profitability affect its tendency to manipulate earnings (Achleitner et al., 2014; Chan, Chen, Chen, & Yu, 2015; Zang, 2012). Third, we use market-to-book ratio (*MB*) and annual percentage change in sales (*SALE_G*) to control for a firm's growth opportunities. Greater growth opportunities may give managers a stronger incentive to adopt income-increasing earnings management in order to meet market expectations (Hribar & Nichols, 2007). Alternatively, such opportunities may reduce the pressure on them to manage earnings (Dechow, Ge, Larson, & Sloan, 2011).

Fourth, we use the Herfindahl–Hirschman industry concentration index (*HERFINDAL*) and market share (*MASHARE*) to capture the market competition in an industry and a firm's market share in an industry, respectively. It is suggested that firms in a less competitive market or with a greater market share have more flexibility with which to engage in real activity manipulation; hence, they use less ABEM (Chan et al., 2015; Zang, 2012). Fifth, we control for litigious industries (*LITIGATION*), which include pharmaceutical/biotechnology, computers, and electronics, given that a firm's propensity to use ABEM or REM is dependent on the litigation environment of its industry (Cohen & Zarowin, 2010).

Sixth, we control for equity issuance (*EISSUE*). Managers may have an incentive to manage earnings at the time of an equity offering in order to increase the share valuation. Equally, they may avoid engaging in earnings manipulation because they are subject to close scrutiny by investors and regulators

at the time (Cohen & Zarowin, 2010; Kothari, Mizik, & Roychowdhury, 2016). Seventh, we control for leverage (*LEV*) (Bharath, Sunder, & Sunder, 2008; Cohen & Zarowin, 2010) because some have argued that highly leveraged firms may have an incentive to engage in earnings management in order to avoid violating the debt covenant. On the other hand, it is also possible that firms with high leverage have less of an incentive to opportunistically manipulate management due to the need to avoid potential damage to their reputation in the debt market.

Eighth, we control for percentage of institutional ownership (*INST*), percentage of outside directors (*OUTSIDE*), and auditor size (*AUDIT*). Prior literature has suggested that firms with greater institutional shareholdings, outside directors, and large auditors are under tight scrutiny and, thus, less likely to engage in earnings management (Chan et al., 2015; Marra, Mazzola, & Prencipe, 2011; Zang, 2012). Ninth, we control for REM (*REM_AGG*) in the ABEM model as well as ABEM (*DA*) in the REM model, as prior studies have suggested that there is a trade-off between accrual-based and real earnings management activities (e.g., Zang, 2012). Finally, we also include year and industry dummies in our analyses.

4. Empirical findings

4.1 Descriptive statistics and univariate analysis

Table 2 presents the descriptive statistics for the variables. To limit the effect of abnormal extreme values, all continuous variables are winsorized. Panel A reports the statistics for the family ownership and control characteristics of family firms. As noted above, 62.7% of companies in Taiwan are family firms (*FAM*). The mean value for common shares (i.e., cash flow rights) held by founding family members (*FOWN*) is 35.79%. This finding is significantly higher than the value of 11% reported in the US by Ali et al. (2007). The results further show that the average proportion of family voting rights is 43.81%, which is also significantly higher than the value of 18% in the US reported by Ali et al. (2007). The average of the ratio of family voting rights to cash flow rights (*FDIV*) is 1.22, which suggests that family owners' voting rights in Taiwanese family firms are greater than their cash flow rights. Further analysis shows that 45.45% of family firms have cash–vote divergence in Taiwan. Moreover, 22.41%

and 16.98% of family firms adopt cross-holdings and a pyramidal structure, respectively, to enhance family control, and 6.06% of the firms simultaneously use these mechanisms. With regard to the CEO identity, in 27.64%, 32.55%, and 39.81% of family firms, this position is held by a founder (F_CEO), family descendant (D_CEO), and professional manager (H_CEO), respectively. This suggests that all three types of CEO are commonly present in Taiwanese family firms.

Panel B of Table 2 presents the summary statistics for family ownership configurations, CEO family identity, ABEM, REM, and control variables for all samples. Panel C further analyzes changes in ABEM and REM across pre- and post-IFRS periods. It also compares changes in these earnings management practices between family and non-family firms. Furthermore, we distinguish family firms according to the median value of family ownership, the presence of family cash–vote divergence, and the types of family identity of the CEO in order to analyze the differences in earnings management activities under the IFRS between the corresponding subsamples. The T test is used to examine the differences in ABEM and REM between the pre- and post-IFRS periods and the subsamples.

Panel C-1 displays that overall ABEM (*DA*) significantly decreases after the implementation of the IFRS at the 1% level, whereas there is a significant increase in REM at the 1% level (*REM_AGG*). These findings are similar to those of Ipino and Parbonetti (2017) and imply that the mandatory adoption of the IFRS may inadvertently drive firms to use real activities as an alternative mechanism with which to manipulate earnings, while it reduces discretionary accruals. Panel C-2 shows that ABEM (*DA*) becomes significantly smaller in both family and non-family firms after the transition to the IFRS. The extent of the decrease in ABEM (*DA*) is more apparent in family firms than in their non-family counterparts, despite the fact that the ABEM level had been lower in family firms before IFRS adoption. Panels C-3 and C-4 further report that family firms with high family ownership (*High_FOWN*) and without family cash–vote divergence (*No_FDIV*) show a higher level of reduction in ABEM following IFRS adoption than those with low family ownership (*Low_FOWN*) and with family cash–vote divergence (*With_FDIV*), respectively. Additionally, Panel C-5 indicates that family firms with a founder CEO (*F_CEO*) or a

professional CEO (H_CEO) significantly reduce their ABEM after the adoption of the IFRS, whereas those with a descendant CEO (D_CEO) do not have a significant decrease in ABEM.

With regard to the changes in REM, Panel C-2 displays that both family and non-family firms significantly use more REM (REM_AGG) after the transition to the IFRS, although this upward trend is less apparent in family firms than in non-family firms. Panels C-3 and C-4 further report that family firms with high family ownership ($High_FOWN$) and without family cash–vote divergence (No_FDIV) do not significantly change the amount of their use of REM after the adoption of the IFRS, whereas the amounts of REM in family firms with low family ownership (Low_FOWN) and with family cash–vote divergence ($With_FDIV$) become significantly larger. Additionally, Panel C-5 documents that family firms with a descendant CEO (D_CEO) engage in significantly more REM after the implementation of the IFRS, whereas those with a founder CEO (F_CEO) or a professional CEO (H_CEO) do not significantly use more REM.

Taken together, the results in Panel C imply that although there is an overall reduction in accrualbased manipulation after the transition to the IFRS, IFRS adoption may bring the unintended consequence of certain firms shifting their earnings manipulation practices from ABEM to REM, especially firms with greater potential agency conflicts, in connection with lower family ownership, greater family cash–vote divergence, or a descendant CEO.

Panel D presents the Pearson correlation matrix for the variables used in our empirical analyses. Correlations between the independent variables included in the regression analysis are all lower than 0.2, whereby suggesting that multicollinearity is not a major problem in the regression analysis.

[Insert Table 2 Here]

4.2 Results of the regression analysis

Table 3 presents the regression results regarding the impact of IFRS adoption and the characteristics of family firms on ABEM and REM. It reports that the adoption of the IFRS (*IFRS*) is

associated with a decrease in ABEM (*DA*) (p < 0.05), but is related to an increase in REM (*REM_AGG*) (p < 0.01). These results are consistent with the findings by Ipino and Parbonetti (2017) and imply that, while the benefit of using the IFRS in enhancing the transparency and comparability of accounting information can effectively limit the engagement in accrual earnings manipulations, the adoption of the IFRS may inadvertently motivate managers to engage in costly real earnings manipulations.

Panel A reports the results regarding the difference in the effect of IFRS adoption on ABEM and REM between family and non-family firms. The panel displays that family firms (*FAM*) are less likely to engage in both ABEM (*DA*) (Model (1), p < 0.01) and REM (*REM_AGG*) (Model (3), p < 0.05), consistent with Achleitner et al. (2014). These results suggest that, on average, family firms use less earnings management than do non-family firms. Panel A further shows that the interaction term between the adoption of the IFRS and family firms (*IFRS*FAM*) is significantly and negatively related to both ABEM (*DA*) (Model (2), p < 0.01) and REM (*REM_AGG*) (Model (4), p < 0.05), consistent with the family alignment perspective. These findings reveal that the effects of IFRS adoption on ABEM and REM are different between family and non-family firms. Family firms, compared to non-family firms, are more conservative in applying both ABEM and REM. Such reporting behavior is even more apparent after firms mandatorily adopt the IFRS. The results imply that, on average, family owners' alignment incentive dominates their entrenchment incentive when they exercise discretion over financial reporting decisions in response to IFRS adoption.

Panel B shows how different family ownership configurations affect the impact of IFRS adoption on ABEM and REM. The panel documents that family ownership (*FOWN*) negatively relates to both ABEM (*DA*) (Model (1), p < 0.01) and REM (*REM_AGG*) (Model (7), p < 0.05), whereas the disparity between family owners' cash flow rights and voting rights (*FDIV*) is positively associated with ABEM (*DA*) (Model (3), p < 0.01) and REM (*REM_AGG*) (Model (9), p < 0.01). These results imply that family firms may use more discretionary accruals and real activities to manipulate earnings upward in the presence of higher agency problems, in connection with lower family ownership or greater family cash– vote divergence.

Consistent with Hypotheses 2a and 2b, the interaction term between the adoption of the IFRS and family ownership (*IFRS*FOWN*) has a negative association with both ABEM (*DA*) (Model (2), p < 0.01) and REM (*REM_AGG*) (Model (8), p < 0.05). Furthermore, in line with Hypotheses 3a and 3b, the findings reveal that the interaction term between the adoption of the IFRS and the divergence of family owners' cash flow rights and voting rights (*IFRS*FDIV*) is positively related to both ABEM (*DA*) (Model (4), p < 0.01) and REM (*REM_AGG*) (Model (10), p < 0.01). These results suggest that firms with greater family ownership and lower family cash–vote divergence are more sensitive to close oversight from the market when they are in a more transparent environment under the IFRS, and thereby use a relatively smaller amount of ABEM. In the meantime, family owners in these firms have a lower incentive to undertake real earnings manipulations in response to the stricter monitoring after IFRS adoption, as such costly accounting practices will damage their long-term family wealth.⁶

Panel B also reports how the different family identities of CEOs may shape the effect of IFRS adoption on earnings management activities. The panel documents that family firms with a founder CEO (*F_CEO*) and a professional CEO (*H_CEO*) are less likely to engage in both ABEM (*DA*) (Model (5), p < 0.1; p < 0.01) and REM (*REM_AGG*) (Model (11), p < 0.05; p < 0.05), whereas the effects of the presence of a descendant CEO (*D_CEO*) on ABEM (*DA*) and REM (*REM_AGG*) are not significant. The panel further shows that the interaction terms between IFRS adoption and the presence of a founder CEO (*IFRS*F_CEO*) as well as between IFRS adoption and the presence of a professional CEO (*IFRS*H_CEO*) have significant negative associations with both ABEM (*DA*) (Model (6), p < 0.05; p <

⁶ The descriptive statistics (untabulated) show that the extent of family ownership (*FOWN*) and family cash-vote divergence (*FDIV*) significantly decreases following the adoption of the IFRS. To mitigate the potential effect of IFRS adoption on these ownership configurations, we use an alternative test by partitioning the family firm sample based on the pre-IFRS level of family ownership and the presence of family cash-vote divergence. We split family firms by the median value of family ownership and the presence of family cash-vote divergence at the end of the pre-IFRS period (i.e., 2011). The results are largely consistent with the main findings reported in Panel B of Table 3. We do not discuss these results in detail here, for the sake of brevity, but we report them in the online supplementary materials.

0.05) and REM (*REM_AGG*) (Model (12), p < 0.01; p < 0.05). However, the adoption of the IFRS and the presence of a descendant CEO (*IFRS*D_CEO*) is not significantly related to ABEM (*DA*) (Model (6)) or REM (*REM_AGG*) (Model (12)). Overall, consistent with Hypotheses 4a and 4b, these findings suggest that the family alignment effect is present in family firms led by a founder CEO or a professional CEO. The adoption of the IFRS is less likely to motivate family firms to engage in upward ABEM if they have a founder CEO or a professional CEO (rather than a descendant CEO). The presence of founder or professional CEOs can also mitigate the possible increase in real activity manipulations due to IFRS adoption in family firms.

[Insert Table 3 Here]

4.3 Robustness tests for endogeneity concerns

Potential endogeneity bias may exist between family ownership configurations and financial reporting quality (Jaggi, Leung, & Gul, 2009). We therefore adopt a two-stage least squares model (2SLS) to address this potential problem. Two instrumental variables in the first stage of 2SLS are chosen based on prior studies: the gender of the family successor (*FGENDER*), measured by a dummy variable that equals 1 if the first child of the controlling family owner is male, and 0 otherwise; and the number of founders (*NFOUNDER*). Prior studies have suggested that family owners have a stronger incentive or capability to sustain their control through holding family ownership if their firstborn child is male (Bennedsen, Nielsen, Pérez-González, & Wolfenzon, 2007) or their firms have multiple founders (Adams, Almeida, & Ferreira, 2009; Ma, Ma, & Tian, 2017).

Table 4 documents that in the first stage, *FGENDER is* significantly positively related to the presence of family firms (*FAM*, p < 0.01), family ownership (*FOWN*, p < 0.01), and family cash–vote divergence (*FDIV*, p < 0.01). Moreover, *NFOUNDER* has significant positive associations with *FAM* (p < 0.01), *FOWN* (p < 0.05), and *FDIV* (p < 0.01). In the second stage, the interaction terms between *IFRS* and Predicted *FAM* (*IFRS*PFAM*) as well as between *IFRS* and Predicted *FOWN* (*IFRS*PFOWN*) are

negatively related to ABEM (*DA*) (Model (1), p < 0.05; Model (2), p < 0.01) and REM (*REM_AGG*) (Model (7), p < 0.05; Model (8), p < 0.05); meanwhile, the interaction term between *IFRS* and Predicted *FDIV* (*IFRS*PFDIV*) is positively related to ABEM (*DA*) (Model (3), p < 0.05) and REM (*REM_AGG*) (Model (9), p < 0.01). These findings are consistent with the main test results presented in Table 3.

We also report the test results regarding the C statistic, Hansen's J statistic, and the Anderson– Rubin F statistic. The C statistic results reject the null hypothesis that *FOWN* and *FDIV* may be treated as exogenous at the 1% level of significance; this suggests that using 2SLS would be more appropriate in the presence of this endogeneity issue. The results regarding Hansen's J statistic cannot reject the null hypothesis that the instruments are not correlated with the structural error terms in the second-stage regressions. Moreover, the Anderson–Rubin F statistic results reject the null hypothesis that the endogenous repressors are irrelevant at the 1% level of significance, whereby suggesting that the adopted instruments are not weak. Overall, the results of these three tests support the validity and relevance of the adopted instrumental variables and the main findings.

[Insert Table 4 Here]

Additionally, being a family firm may not be randomly determined. Therefore, we adopt propensity score matching methods to mitigate concerns that any reported effects are merely the results of family firms differing systematically from non-family firms, so as to address potential self-selection bias. We build a sample of family and non-family firms that are the most similar as the treatment and control samples, respectively.

In the first stage, we run a logistic regression to predict the possibility of being a family firm. The dependent variable is the presence of a family firm (*FAM*), a dichotomous variable that equals 1 if the firm is classified as a family firm, and 0 otherwise. We estimate the model separately for each year and use all of the control variables employed in the main analysis as per Table 3. We also control for industry effect in the regressions. Thereafter, we use the propensity scores obtained from the logistic estimations

and perform a nearest-neighbor match with replacement. To ensure that we obtain good matches, we use a caliper distance of 0.01. After performing this procedure, we obtain a matched sample of 2,380 firm-year observations.⁷

Table 5 reports the results using the propensity-score-matched samples. It documents that the interaction terms between the adoption of the IFRS and family firms (*IFRS*FAM*) as well as between the adoption of the IFRS and family ownership (*IFRS*FOWN*) are negatively related to ABEM (*DA*) (Model (1), p < 0.01; Model (2), p < 0.01) and REM (*REM_AGG*) (Model (4), p < 0.05; Model (5), p < 0.1), respectively. With regard to the interaction term between the adoption of the IFRS and family cash-vote divergence (*IFRS*FDIV*), the results document positive relationships with ABEM (*DA*) (Model (3), p < 0.05) and REM (*REM_AGG*) (Model (6), p < 0.01), respectively. These findings are consistent with the main test results presented in Table 3.

[Insert Table 5 Here]

4.4 Additional tests

Next, we conduct subsample analyses to further explore the possible trade-off between ABEM and REM driven by the implementation of the IFRS, and whether the extent of this trade-off varies between family and non-family firms, or among family firms with different family ownership and control features. We use an interaction term between DA and IFRS (DA*IFRS) to capture the effect of adopting the IFRS on the relationship between ABEM and REM. Table 6 shows that ABEM (DA) has a negative relationship with REM (REM_AGG) (p < 0.05) in both family and non-family firms, whereby suggesting a trade-off between these two types of earnings manipulation activities. Furthermore, DA*IFRS has a significant negative association with REM_AGG in both family firms (Model (1), p < 0.01) and non-

⁷ We also adopt a nearest-neighbor matching approach without setting a caliper distance, which results in a matched sample of 7,140 firm-year observations. The results (untabulated) from this procedure are largely consistent with those obtained using a caliper distance of 0.01. Additionally, we use a one-to-one stratified match and find that the results (untabulated) are qualitatively consistent with those reported based on the nearest-neighbor match. The table is available in the online supplementary materials.

family firms (Model (2), p < 0.05). However, the magnitude of the coefficient for *DA*IFRS* is significantly larger in the subsample of family firms (Model (1)) than in the subsample of non-family firms (Model (2)) (T test, p < 0.01). These findings suggest that IFRS adoption may induce a trade-off between ABEM and REM, and both family and non-family firms substitute REM for ABEM after the adoption of the IFRS. On average, the extent of this substitutive effect caused by the implementation of the IFRS is more apparent in family firms than in non-family firms.

We further examine the substitutive effect among family firms. We split the firms by the median value of family ownership, the presence of family cash-vote divergence, and the types of family identity of the CEO. The results report a significant negative relationship between DA*IFRS and REM AGG in firms with low family ownership (Low_FOWN) (Model (4), p < 0.01) and with family cash-vote divergence (*With_FDIV*) (Model (5), p < 0.01), whereas this relationship is insignificant in family firms with high family ownership (High_FOWN) (Model (3)) and without family cash-vote divergence (No_FDIV) (Model (6)). The coefficient of DA*IFRS is smaller in family firms with low family ownership and with family cash-vote divergence than in firms with high family ownership (T test, p <0.01) and without family cash-vote divergence (T test, p < 0.01), respectively. In addition, DA*IFRS is negatively and significantly associated with REM_AGG when family firms have a descendant CEO (Model (8), p < 0.01), but is not significantly related to *REM_AGG* in firms with a founder CEO (Model (7)) or a professional CEO (Model (9)). The coefficient of DA*IFRS in the descendant CEO subsample is significantly smaller than that in the founder CEO subsample (T test, p < 0.01) or the professional CEO subsample (T test, p < 0.01). These findings suggest that the adoption of the IFRS is more likely to drive a change from ABEM to REM in family firms with greater agency problems.

Collectively, our results imply that while the mandatory adoption of the IFRS is an important cause of changes in a firm's reporting behavior, such behavior is subject to the firm's intrinsic reporting incentives. Although the implementation of the IFRS may make firms treat ABEM and REM in a substitutive manner, and thus impose greater real costs on firms due to increased engagement in real activity manipulations, this unfavorable pattern appears to be less pronounced in family firms with greater family ownership, lower family cash–vote divergence, a founder CEO, or a professional CEO, in connection with lower agency conflicts.

[Insert Table 6 Here]

5. Conclusion

One objective of the IFRS is to provide useful information to financial statement users; therefore, the question of whether IFRS adoption has improved the reporting quality has attracted the attention of researchers and practitioners. Given that existing research provides mixed evidence regarding the impacts of IFRS adoption on earnings management, an increasing number of studies have suggested that the net benefits of implementing the IFRS are subject to managers' reporting incentives (e.g., De George et al., 2016). Due to the prevalence of family firms in the global economy, this study investigates whether family ownership and control characteristics are associated with changes in accrual-based and real earnings management practices due to the mandatory adoption of the IFRS.

Our findings indicate that firms are less likely to use ABEM after the mandatory adoption of the IFRS, whereas they are more likely to engage in REM. It appears that firms may increase their use of REM, as a substitute for ABEM, in response to the implementation of the IFRS. The results further suggest that, on average, the adoption of the IFRS is less likely to result in upward ABEM and REM in family firms than in non-family firms. However, the impact of IFRS adoption on financial reporting practices appears not to be homogenous among family firms. Firms are less likely to engage in both ABEM and REM under the IFRS when they have greater family ownership, whereas the adoption of the IFRS is more likely to have negative effects on both ABEM and REM in family firms with greater voting rights over cash flow rights held by family owners. With regard to the CEO's family identity, IFRS implementation is less likely to lead to upward ABEM and REM when family firms are managed by a founder CEO or a professional CEO, but this effect is not apparent in firms with a descendant CEO.

Our findings also reveal that the tendency to replace ABEM with REM following IFRS adoption is less pronounced in family firms with greater family ownership, lower family cash-vote divergence, a founder CEO, or a professional CEO. Overall, our results suggest that the reporting quality is not only determined by the accounting standards, but also driven by firm-level reporting incentives. Variations in the reporting incentives of family owners may have different impacts on the consequences of the mandatory adoption of the IFRS.

This study has important implications for standard setters and accounting regulators, as the findings show that the mandatory adoption of the IFRS, which is supposedly designed to improve the reporting quality, has the unintended consequence of increasing real earnings management activities for certain types of firms. Moreover, our empirical evidence informs the ongoing debate surrounding how firm-level incentives shape how changes in the accounting system affect management's choice of alternative earnings management mechanisms.

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Panel A: Sam	ple selection criteria								
Selection mod	e		Number of firm-year observations						
All companies	s from year 2007-2017			11,797					
Less:	•								
2012 IFRS tr	ansition period data			(1,052)					
Financial ins	titutions			(520)					
Data unavail	able for computing earnings management variables			(374)					
Missing data	for financial and corporate governance variables			(536)					
Final sample				<u>9,315</u>					
Panel B: Dist	ribution crossing years								
Year	All (n)	Family (n)	No	on-family (n)	Family (%)				
2007	999	620		379	62.06%				
2008	956	593		363	62.03%				
2009	918	568		350	61.87%				
2010	886	551		335	62.19%				
2011	884	550		334	62.22%				
2013	899	561		338	62.40%				
2014	916	577		339	62.99%				
2015	945	597		348	63.17%				
2016	948	605		343	63.82%				
2017	964	617		347	64.00%				
Total	<u>9,315</u>	<u>5,839</u>		<u>3,476</u>	62.68%				
Panel C: Dist	ribution crossing industries								
TEJ code	Industry name	All (n)	Family (n)	Non-family (n)	Family (%)				
11	Cement	66	60	6	90.91%				
12	Foods	299	258	41	86.29%				
13	Plastics	329	240	89	72.95%				
14	Textiles	595	407	188	68.40%				
15	Electric Machinery	528	291	237	55.11%				
16	Electrical and Cable	147	93	54	63.27%				
17	Chemical, Biotechnology and Medical	596	427	169	71.64%				
18	Glass, Ceramics	65	57	8	87.69%				
19	Paper, Pulp	72	62	10	86.11%				
20	Iron and Steel	286	223	63	77.97%				
21	Rubber	203	189	14	93.10%				
22	Automobile	60	56	4	93.33%				
23	Electron	4,499	2,312	2,187	51.39%				
25	Building Materials and Construction	480	327	153	68.13%				
26	Shipping and Transportation	272	209	63	76.84%				
27	Tourism	144	124	20	86.11%				
29	Trading and Consumer Goods	199	154	45	77.39%				
99	Others	475	350	125	73.68%				
Total		<u>9,315</u>	<u>5,839</u>	<u>3,476</u>	<u>62.68%</u>				

This table displays sample selection criteria and the distribution of final sample across sample periods and industries.

Panel A: Ownership and c	untion characteristics	of the 3,839 family in m	5				
1	Characteristics		%		Characteristics		%
1. Family ownership, mean	(FOWN)		35.79%	6. Family firms w	ith adopt pyramid structure	only	16.98%
2. Family voting rights, mea	n		43.81%	7. Family firms w	ith both cross-holdings & p	byramid structure	6.06%
3. Family voting rights to ca	sh-flow rights, mean (I	PDIV)	122%	8. Family firms w	ith founder CEO (F CEO)		27.64%
4. Family firms with cash-ve	ote divergence		45.45%	9. Family firms w	ith descendant CEO (D_CE	20)	32.55%
5. Family firms with cross-h	oldings structure only		22.41%	10. Family firms	with professional CEO (H	CEO)	39.81%
Panel B: Descriptive statis	tics for full sample (N	o. of obs. = 9,315)		~ ~ ~			
Variables	Me	an	Median	Std. dev	Minimu	ım	Maximum
FAM	0.6	527	1.000	0.491	0.000		1.000
FOWN	0.2	24	0.156	2.210	0.000		0./16
FDIV	0.7	67	0.592	0.107	0.000		2.537
F CEO	0.1	73	0.000	1.971	0.000		1.000
D CEO	0.2	204	0.000	1.7/4	0.000		1.000
H CEO	0.2	249	0.000	1.542	0.000		1.000
DA	-0.0	128	-0.019	1.692	-0.053		0.013
REM_AGG	-0.1	04	-0.086	2.233	-0.219		0.027
SIZE	15.3	30	14.812	1.740	12.405		17.234
ZSCORE	8.3	49	5.003	1.184	1./60		11.132
KOA	0.0	149	0.008	0.101	-0.158		0.283
MB SALE C	4.0	25	2.779	2.118	1.243		0.802
SALE U UEDEIND AI	0.1	.55	0.071	1.701	-0.093		0.502
MASHADE	0.7	44	0.0301	0.437	0.300		0.914
MASHARE LITIC ATION	0.0	940	0.040	0.080	0.019		1.000
FISSUE	0.2	200	0.000	0.549	0.000		1.000
	0.2	43	0.000	0.105	0.000		0.676
INST	0.3	145	0.319	0.170	0.077		0.670
OUTSIDE	0.5	37	0.115	0.130	0.207		0.602
AUDIT	0.1	27	1 000	0.150	0.000		1,000
nobn	0.0		1.000	0.207	0.000		1.000
Panel C: Differences in Ea	rnings Management						
Panel C: Differences in Ea	rnings Management	Change	s in discretionary accrua	ls (DA)	Changes in real e	earnings manageme	nt (<i>REM_AGG</i>)
Panel C: Differences in Ea Panel C-1: Full sample (No	rnings Management	Changes	s in discretionary accrua	ls (DA)	Changes in real e	earnings manageme	nt (<i>REM_AGG</i>)
Panel C: Differences in Ea Panel C-1: Full sample (No	rnings Management b. of obs. = 9,315)	Changes Pre-IFRS (A)	s in discretionary accrua Post-IFRS (B)	lls (<i>DA</i>) Difference (B)-(A)	Changes in real e	earnings manageme Post-IFRS (B)	nt (<i>REM_AGG</i>) Difference (B)-(A)
Panel C: Differences in Ea Panel C-1: Full sample (No	rnings Management o. of obs. = 9,315)	Changes Pre-IFRS (A)	o in discretionary accrua Post-IFRS (B) -0 049	Difference (B)-(A)	Changes in real of Pre-IFRS (A)	earnings managemen Post-IFRS (B) -0 071	nt (<i>REM_AGG</i>) Difference (B)-(A) 0 070***
Panel C: Differences in Ea Panel C-1: Full sample (No Panel C-2: Family firms vs	rnings Management . of obs. = 9,315) . on-family firms (No	Changes Pre-IFRS (A) -0.004 of obs = 9 315)	s in discretionary accrua Post-IFRS (B) -0.049	lls (DA) Difference (B)-(A) -0.045***	Changes in real of Pre-IFRS (A) -0.141	earnings managemen Post-IFRS (B) -0.071	nt (<i>REM_AGG</i>) Difference (B)-(A) 0.070***
Panel C: Differences in Ea Panel C-1: Full sample (No Panel C-2:Family firms vs	rnings Management o. of obs. = 9,315) - - non-family firms (No	Changes Pre-IFRS (A) -0.004 . of obs.= 9,315) Pre-IFRS (A)	s in discretionary accrus Post-IFRS (B) -0.049 Post-IFRS (B)	bifference (B)-(A) -0.045*** Difference (B)-(A)	Changes in real of Pre-IFRS (A) -0.141 Pre-IFRS (A)	earnings managemen Post-IFRS (B) -0.071 Post-IFRS (B)	nt (<i>REM_AGG</i>) Difference (B)-(A) 0.070*** Difference (B)-(A)
Panel C: Differences in Ea Panel C-1: Full sample (No Panel C-2: Family firms vs FAM	rnings Management b. of obs. = 9,315) non-family firms (No	Changes Pre-IFRS (A) -0.004 . of obs.= 9,315) Pre-IFRS (A) -0.004	s in discretionary accrus Post-IFRS (B) -0.049 Post-IFRS (B) -0.036	Difference (B)-(A) -0.045*** Difference (B)-(A)	Changes in real e Pre-IFRS (A) -0.141 Pre-IFRS (A) -0.074	Post-IFRS (B) -0.071 Post-IFRS (B) -0.050	nt (<i>REM_AGG</i>) Difference (B)-(A) 0.070*** Difference (B)-(A) 0.024**
Panel C: Differences in Ea Panel C-1: Full sample (No Panel C-2: Family firms vs FAM Non-FAM	rnings Management b. of obs. = 9,315) non-family firms (No (I)	Changes Pre-IFRS (A) -0.004 of obs.= 9,315) Pre-IFRS (A) -0.004 0.002	s in discretionary accrus Post-IFRS (B) -0.049 Post-IFRS (B) -0.036 -0.009	Difference (B)-(A) -0.045*** Difference (B)-(A) -0.032*** -0.011*	Changes in real e Pre-IFRS (A) -0.141 Pre-IFRS (A) -0.074 -0.056	Post-IFRS (B) -0.071 Post-IFRS (B) -0.050 -0.050	nt (<i>REM_AGG</i>) Difference (B)-(A) 0.070*** Difference (B)-(A) 0.024** 0.041***
Panel C: Differences in Ea Panel C-1: Full sample (No Panel C-2: Family firms vs FAM Non-FAM Difference	rnings Management . of obs. = 9,315) 	Changes Pre-IFRS (A) -0.004 • of obs.= 9,315) Pre-IFRS (A) -0.004 0.002 0.006**	s in discretionary accrus Post-IFRS (B) -0.049 Post-IFRS (B) -0.036 -0.009 0.027***	ls (DA) Difference (B)-(A) -0.045*** Difference (B)-(A) -0.032*** -0.011* 0.021***	Changes in real 6 Pre-IFRS (A) -0.141 Pre-IFRS (A) -0.074 -0.056 0.018**	Post-IFRS (B) -0.071 Post-IFRS (B) -0.050 -0.015 0.035***	nt (<i>REM_AGG</i>) Difference (B)-(A) 0.070*** Difference (B)-(A) 0.024** 0.041*** 0.041***
Panel C: Differences in Ea Panel C-1: Full sample (No Panel C-2: Family firms vs FAM Non-FAM Difference Panel C-3: High (low) fam	rnings Management . of obs. = 9,315) - non-family firms (No (I) (II) - (II) - (I) ownershin (No. of	Changes Pre-IFRS (A) -0.004 . of obs.= 9,315) Pre-IFRS (A) -0.004 0.002 0.006** obs.= 5,839)	s in discretionary accrus Post-IFRS (B) -0.049 Post-IFRS (B) -0.036 -0.009 0.027***	ls (DA) Difference (B)-(A) -0.045*** Difference (B)-(A) -0.032*** -0.011* 0.021***	Changes in real 6 Pre-IFRS (A) -0.141 Pre-IFRS (A) -0.074 -0.056 0.018**	Post-IFRS (B) -0.071 Post-IFRS (B) -0.050 -0.015 0.035***	nt (<i>REM_AGG</i>) Difference (B)-(A) 0.070*** Difference (B)-(A) 0.024** 0.041*** 0.017**
Panel C: Differences in Ea Panel C-1: Full sample (No Panel C-2: Family firms vs FAM Non-FAM Difference Panel C-3: High (low) family	rnings Management . of obs. = 9,315) - non-family firms (No (I) (I) (II) (II) – (I) ily ownership (No. of	Changes Pre-IFRS (A) -0.004 . of obs.= 9,315) Pre-IFRS (A) -0.004 0.002 0.006** obs.= 5,839) Pre-IFRS (A)	s in discretionary accrus Post-IFRS (B) -0.049 Post-IFRS (B) -0.036 -0.009 0.027*** Post-IFRS (B)	Difference (B)-(A) -0.045*** Difference (B)-(A) -0.032*** -0.011* 0.021*** Difference (B)-(A)	Changes in real 6 Pre-IFRS (A) -0.141 Pre-IFRS (A) -0.074 -0.056 0.018** Pre-IFRS (A)	Post-IFRS (B) -0.071 Post-IFRS (B) -0.050 -0.015 0.035*** Post-IFRS (B)	nt (<i>REM_AGG</i>) Difference (B)-(A) 0.070*** Difference (B)-(A) 0.024** 0.041*** 0.017** Difference (B)-(A)
Panel C: Differences in Ea Panel C-1: Full sample (No Panel C-2: Family firms vs FAM Non-FAM Difference Panel C-3: High (low) fam High FOWN	rnings Management . of obs. = 9,315) 	Changes Pre-IFRS (A) -0.004 of obs.= 9,315) Pre-IFRS (A) -0.004 0.002 0.006** obs.= 5,839) Pre-IFRS (A) -0.010	s in discretionary accrus Post-IFRS (B) -0.049 Post-IFRS (B) -0.036 -0.009 0.027*** Post-IFRS (B) -0.057	bifference (B)-(A) -0.045*** Difference (B)-(A) -0.032*** -0.011* 0.021*** Difference (B)-(A) -0.021***	Changes in real 6 Pre-IFRS (A) -0.141 Pre-IFRS (A) -0.074 -0.056 0.018** Pre-IFRS (A) -0.125	Post-IFRS (B) -0.071 Post-IFRS (B) -0.050 -0.015 0.035*** Post-IFRS (B) -0.115	nt (<i>REM_AGG</i>) Difference (B)-(A) 0.070*** Difference (B)-(A) 0.024** 0.041*** 0.041*** Difference (B)-(A) 0.010
Panel C: Differences in Ea Panel C-1: Full sample (No Panel C-2: Family firms vs FAM Non-FAM Difference Panel C-3: High (low) fam High_FOWN Low FOWN	rnings Management . of obs. = 9,315) non-family firms (No (I) (II) (II) – (I) ily ownership (No. of (III) (II)	Changes Pre-IFRS (A) -0.004 of obs.= 9,315) Pre-IFRS (A) -0.004 0.002 0.006** obs.= 5,839) Pre-IFRS (A) -0.010 0.007	s in discretionary accrus Post-IFRS (B) -0.049 Post-IFRS (B) -0.036 -0.009 0.027*** Post-IFRS (B) -0.057 -0.022	big (DA) Difference (B)-(A) -0.045*** Difference (B)-(A) -0.032*** -0.011* 0.021*** Difference (B)-(A) -0.047*** -0.029***	Changes in real 6 Pre-IFRS (A) -0.141 Pre-IFRS (A) -0.074 -0.056 0.018** Pre-IFRS (A) -0.125 -0.026	Post-IFRS (B) -0.071 Post-IFRS (B) -0.050 -0.015 0.035*** Post-IFRS (B) -0.115 0.018	nt (<i>REM_AGG</i>) Difference (B)-(A) 0.070*** Difference (B)-(A) 0.024** 0.041*** 0.017** Difference (B)-(A) 0.010 0.044**
Panel C: Differences in Ea Panel C-1: Full sample (No Panel C-2: Family firms vs FAM Non-FAM Difference Panel C-3: High (low) fami High_FOWN Low_FOWN Difference	rnings Management . of obs. = 9,315) non-family firms (No (I) (II) – (I) ily ownership (No. of (III) (IV) (IV) – (III)	Changes Pre-IFRS (A) -0.004 . of obs.= 9,315) Pre-IFRS (A) -0.004 0.002 0.006** obs.= 5,839) Pre-IFRS (A) -0.010 0.007 0 0017**	s in discretionary accrus Post-IFRS (B) -0.049 Post-IFRS (B) -0.036 -0.009 0.027*** Post-IFRS (B) -0.057 -0.022 0.035***	bifference (B)-(A) -0.045*** Difference (B)-(A) -0.032*** -0.011* 0.021*** Difference (B)-(A) -0.047*** -0.029*** 0.018**	Changes in real 6 Pre-IFRS (A) -0.141 Pre-IFRS (A) -0.074 -0.056 0.018** Pre-IFRS (A) -0.125 -0.026 0.099***	Post-IFRS (B) -0.071 Post-IFRS (B) -0.050 -0.015 0.035*** Post-IFRS (B) -0.115 0.018 0.133***	nt (<i>REM_AGG</i>) Difference (B)-(A) 0.070*** Difference (B)-(A) 0.024** 0.041*** 0.017** Difference (B)-(A) 0.010 0.044** 0.034**
Panel C: Differences in Ea Panel C-1: Full sample (No Panel C-2: Family firms vs FAM Non-FAM Difference Panel C-3: High (low) fam High_FOWN Low_FOWN Difference Panel C-4: With (without) 1	rnings Management . of obs. = 9,315) non-family firms (No (II) (II) – (I) ily ownership (No. of (III) (IV) – (III) family cash-vote divertion (1) (IV) – (III)	Changes Pre-IFRS (A) -0.004 . of obs.= 9,315) Pre-IFRS (A) -0.004 0.002 0.006** obs.= 5,839) Pre-IFRS (A) -0.010 0.007 0.007 0.007 abs = 5,838	s in discretionary accrus Post-IFRS (B) -0.049 Post-IFRS (B) -0.036 -0.009 0.027*** Post-IFRS (B) -0.057 -0.022 0.035*** 9)	Is (DA) Difference (B)-(A) -0.045*** Difference (B)-(A) -0.032*** -0.011* 0.021*** Difference (B)-(A) -0.047*** -0.047*** -0.047*** -0.029*** 0.018**	Changes in real 6 Pre-IFRS (A) -0.141 Pre-IFRS (A) -0.056 0.018** Pre-IFRS (A) -0.125 -0.026 0.099***	Post-IFRS (B) -0.071 Post-IFRS (B) -0.050 -0.015 0.035*** Post-IFRS (B) -0.115 0.018 0.133***	nt (<i>REM_AGG</i>) Difference (B)-(A) 0.070*** Difference (B)-(A) 0.024** 0.041*** 0.017** Difference (B)-(A) 0.010 0.044** 0.034**
Panel C: Differences in Ea Panel C-1: Full sample (No Panel C-2: Family firms vs FAM Non-FAM Difference Panel C-3: High (low) fam High_FOWN Low_FOWN Difference Panel C-4: With (without) f	rnings Management . of obs. = 9,315) non-family firms (No (I) (II) (II) – (I) ily ownership (No. of (IV) (IV) – (III) family cash-vote diver	Changes Pre-IFRS (A) -0.004 of obs.= 9,315) Pre-IFRS (A) -0.004 0.002 0.006** obs.= 5,839) Pre-IFRS (A) -0.010 0.007** 'gence (No. of obs.= 5,83) Pre-IFRS (A) Pre-IFRS (A)	s in discretionary accrus Post-IFRS (B) -0.049 Post-IFRS (B) -0.036 -0.009 0.027*** Post-IFRS (B) -0.057 -0.022 0.035*** 39) Post-IFRS (B)	bifference (B)-(A) -0.045*** Difference (B)-(A) -0.032*** -0.011* 0.021*** Difference (B)-(A) -0.047*** -0.029*** 0.018** Difference (B)-(A)	Changes in real of Pre-IFRS (A) -0.141 Pre-IFRS (A) -0.074 -0.056 0.018** Pre-IFRS (A) -0.125 -0.026 0.099*** Pre-IFRS (A)	Post-IFRS (B) -0.071 Post-IFRS (B) -0.050 -0.015 0.035*** Post-IFRS (B) -0.115 0.018 0.133*** Post-IFRS (B)	nt (<i>REM_AGG</i>) Difference (B)-(A) 0.070*** Difference (B)-(A) 0.024** 0.041*** 0.017** Difference (B)-(A) 0.010 0.044** 0.034** Difference (B)-(A)
Panel C: Differences in Ea Panel C-1: Full sample (No Panel C-2: Family firms vs FAM Non-FAM Difference Panel C-3: High (low) fam High_FOWN Low_FOWN Difference Panel C-4: With (without) f With_EDIV	rnings Management . of obs. = 9,315) non-family firms (No (I) (II) – (I) ily ownership (No. of (II) (IV) (IV) – (II) family cash-vote diven (V)	Changes Pre-IFRS (A) -0.004 of obs.= 9,315) Pre-IFRS (A) -0.004 0.002 0.006** obs.= 5,839) Pre-IFRS (A) -0.017 0.007 0.017** rgence (No. of obs.= 5,83) Pre-IFRS (A) 0.005	s in discretionary accrus Post-IFRS (B) -0.049 Post-IFRS (B) -0.036 -0.009 0.027*** Post-IFRS (B) -0.057 -0.022 0.035*** 19) Post-IFRS (B) -0.011	ls (DA) Difference (B)-(A) -0.045*** Difference (B)-(A) -0.032*** -0.011* 0.021*** Difference (B)-(A) -0.047*** -0.018** Difference (B)-(A) -0.016**	Changes in real 6 Pre-IFRS (A) -0.141 Pre-IFRS (A) -0.074 -0.056 0.018** Pre-IFRS (A) -0.125 -0.026 0.099*** Pre-IFRS (A) -0.025 -0.085 -0.085	Post-IFRS (B) -0.071 Post-IFRS (B) -0.050 -0.015 0.035*** Post-IFRS (B) -0.115 0.018 0.133*** Post-IFRS (B) Post-IFRS (B) 0.018	nt (<i>REM_AGG</i>) Difference (B)-(A) 0.070*** Difference (B)-(A) 0.024** 0.041*** 0.017** Difference (B)-(A) 0.010 0.044** 0.034** Difference (B)-(A) 0.103***
Panel C: Differences in Ea Panel C-1: Full sample (No Panel C-2: Family firms vs FAM Non-FAM Difference Panel C-3: High (low) fam High_FOWN Low_FOWN Difference Panel C-4: With (without) f With_FDIV No FDIV	rnings Management . of obs. = 9,315) non-family firms (No (I) (II) – (I) (II) – (I) ily ownership (No. of (III) (IV) – (III) family cash-vote diver (V) (V)	Changes Pre-IFRS (A) -0.004 of obs.= 9,315) Pre-IFRS (A) -0.004 0.002 0.006** obs.= 5,839) Pre-IFRS (A) -0.010 0.007 0.007 0.007 sence (No. of obs.= 5,83 Pre-IFRS (A) 0.005 -0.011	s in discretionary accrus Post-IFRS (B) -0.049 Post-IFRS (B) -0.036 -0.009 0.027*** Post-IFRS (B) -0.057 -0.022 0.035*** 19) Post-IFRS (B) -0.011 -0.057	Is (DA) Difference (B)-(A) -0.045*** Difference (B)-(A) -0.032*** -0.011* 0.021*** Difference (B)-(A) -0.047*** -0.029*** 0.018** Difference (B)-(A) -0.047*** -0.018**	Changes in real 6 Pre-IFRS (A) -0.141 Pre-IFRS (A) -0.074 -0.056 0.018** Pre-IFRS (A) -0.125 -0.026 0.099*** Pre-IFRS (A) -0.085 -0.085 -0.087	Post-IFRS (B) -0.071 Post-IFRS (B) -0.050 -0.015 0.035*** Post-IFRS (B) -0.115 0.018 0.133*** Post-IFRS (B) 0.018 -0.085	nt (<i>REM_AGG</i>) Difference (B)-(A) 0.070*** Difference (B)-(A) 0.024** 0.041*** 0.017** Difference (B)-(A) 0.010 0.044** 0.034** Difference (B)-(A) 0.103*** 0.002
Panel C: Differences in Ea Panel C-1: Full sample (No Panel C-2: Family firms vs FAM Non-FAM Difference Panel C-3: High (low) fam High_FOWN Low_FOWN Difference Panel C-4: With (without) 1 With_FDIV No Pifference	rnings Management . of obs. = 9,315) non-family firms (No (I) (II) (II) (II) (IV) (IV) – (III) family cash-vote diver (V) (V) (V) – (V)	Changes Pre-IFRS (A) -0.004 . of obs.= 9,315) Pre-IFRS (A) -0.004 0.002 0.006** obs.= 5,839) Pre-IFRS (A) -0.010 0.007 .0.017** rgence (No. of obs.= 5,83 Pre-IFRS (A) 0.005 -0.011 -0.016**	s in discretionary accrus Post-IFRS (B) -0.049 Post-IFRS (B) -0.036 -0.009 0.027*** Post-IFRS (B) -0.057 -0.022 0.035*** 19) Post-IFRS (B) -0.011 -0.057 -0.026 -0.011 -0.057 -0.046***	ls (DA) Difference (B)-(A) -0.045*** Difference (B)-(A) -0.032*** -0.011* 0.021*** Difference (B)-(A) -0.047*** -0.029*** 0.018** Difference (B)-(A) -0.046*** -0.046*** -0.030***	Changes in real (Pre-IFRS (A) -0.141 Pre-IFRS (A) -0.074 -0.056 0.018** Pre-IFRS (A) -0.125 -0.026 0.099*** Pre-IFRS (A) -0.085 -0.087 -0.002	Post-IFRS (B) -0.071 Post-IFRS (B) -0.050 -0.015 0.035*** Post-IFRS (B) -0.115 0.018 0.133*** Post-IFRS (B) 0.018 -0.085 -0.0085 -0.013***	nt (<i>REM_AGG</i>) Difference (B)-(A) 0.070*** Difference (B)-(A) 0.024** 0.041*** 0.017** Difference (B)-(A) 0.010 0.044** 0.034** Difference (B)-(A) 0.103*** 0.002 -0.101***
Panel C: Differences in Ea Panel C-1: Full sample (No Panel C-2: Family firms vs FAM Non-FAM Difference Panel C-3: High (low) fam High_FOWN Low_FOWN Difference Panel C-4: With (without) f With_FDIV No_FDIV Difference Panel C-5: Family CEO atf	rnings Management . of obs. = 9,315) non-family firms (No (I) (II) (II) – (I) ily ownership (No. of (IV) (IV) – (III) family cash-vote diven (V) (V) (V) (V) (V) (V) (V) (V)	Changes Pre-IFRS (A) -0.004 . of obs.= 9,315) Pre-IFRS (A) -0.004 0.002 0.006** obs.= 5,839) Pre-IFRS (A) -0.010 0.007 0.017** gence (No. of obs.= 5,83 Pre-IFRS (A) 0.005 -0.011 -0.016** 5,839)	s in discretionary accrus Post-IFRS (B) -0.049 Post-IFRS (B) -0.036 -0.009 0.027*** Post-IFRS (B) -0.057 -0.022 0.035*** B9) Post-IFRS (B) -0.011 -0.057 -0.046***	ls (DA) Difference (B)-(A) -0.045*** Difference (B)-(A) -0.032*** -0.011* 0.021*** Difference (B)-(A) -0.047*** -0.029*** 0.018** Difference (B)-(A) -0.016** -0.046*** -0.030***	Changes in real 6 Pre-IFRS (A) -0.141 Pre-IFRS (A) -0.074 -0.056 0.018** Pre-IFRS (A) -0.125 -0.026 0.099*** Pre-IFRS (A) -0.025 -0.026 0.099***	Post-IFRS (B) -0.071 Post-IFRS (B) -0.050 -0.015 0.035*** Post-IFRS (B) -0.115 0.018 0.133*** Post-IFRS (B) 0.018 -0.018 -0.018 -0.018 -0.018 -0.018 -0.018	nt (<i>REM_AGG</i>) Difference (B)-(A) 0.070*** Difference (B)-(A) 0.024** 0.041*** 0.017** Difference (B)-(A) 0.010 0.044** 0.034** Difference (B)-(A) 0.103*** 0.002 -0.101***
Panel C: Differences in Ea Panel C-1: Full sample (No Panel C-2: Family firms vs FAM Non-FAM Difference Panel C-3: High (low) fam High_FOWN Low_FOWN Difference Panel C-4: With (without) f With_FDIV No_FDIV Difference Panel C-5: Family CEO att	rnings Management . of obs. = 9,315) non-family firms (No (I) (II) (II) – (I) ily ownership (No. of (III) (IV) – (III) family cash-vote diver (VI) (VI) – (V) :ributes (No. of obs.= 5)	Changes Pre-IFRS (A) -0.004 . of obs.= 9,315) Pre-IFRS (A) -0.002 0.006** obs.= 5,839) Pre-IFRS (A) -0.010 0.007 0.017** rgence (No. of obs.= 5,83 Pre-IFRS (A) 0.005 -0.011 -0.016** 5,839) Pre-IFRS (A)	s in discretionary accrus Post-IFRS (B) -0.049 Post-IFRS (B) -0.036 -0.009 0.027*** Post-IFRS (B) -0.057 -0.057 -0.022 0.035*** 19) Post-IFRS (B) -0.011 -0.057 -0.046*** Post-IFRS (B)	ls (DA) Difference (B)-(A) -0.045*** Difference (B)-(A) -0.032*** -0.011* 0.021*** Difference (B)-(A) -0.047*** -0.029*** 0.018** Difference (B)-(A) -0.046*** -0.030*** Difference (B)-(A)	Changes in real 6 Pre-IFRS (A) -0.141 Pre-IFRS (A) -0.074 -0.056 0.018** Pre-IFRS (A) -0.125 -0.026 0.099*** Pre-IFRS (A) -0.085 -0.085 -0.087 -0.002 Pre-IFRS (A)	Post-IFRS (B) -0.071 Post-IFRS (B) -0.050 -0.015 0.035*** Post-IFRS (B) -0.115 0.018 0.133*** Post-IFRS (B) 0.018 -0.085 -0.103*** Post-IFRS (B)	nt (<i>REM_AGG</i>) Difference (B)-(A) 0.070*** Difference (B)-(A) 0.024** 0.041*** 0.017** Difference (B)-(A) 0.010 0.044** 0.034** Difference (B)-(A) 0.103*** 0.002 -0.101*** Difference (B)-(A)
Panel C: Differences in Ea Panel C-1: Full sample (No Panel C-2: Family firms vs FAM Non-FAM Difference Panel C-3: High (low) fam High_FOWN Low_FOWN Difference Panel C-4: With (without) f With_FDIV No FDIV Difference Panel C-5: Family CEO att	rnings Management . of obs. = 9,315) non-family firms (No (I) (II) (II) (II) (IV) (IV) – (II) family cash-vote diven (VI) (VI) – (V) ributes (No. of obs.= :	Changes Pre-IFRS (A) -0.004 . of obs.= 9,315) Pre-IFRS (A) -0.004 0.002 0.006** obs.= 5,839) Pre-IFRS (A) -0.010 0.007 0.017** rgence (No. of obs.= 5,83 Pre-IFRS (A) -0.011 -0.016 -0.011 -0.016** 5,839) Pre-IFRS (A) -0.009 -0.009	s in discretionary accrus Post-IFRS (B) -0.049 Post-IFRS (B) -0.036 -0.009 0.027*** Post-IFRS (B) -0.057 -0.022 0.035*** 39) Post-IFRS (B) -0.011 -0.057 -0.046*** Post-IFRS (B) -0.040	lls (DA) Difference (B)-(A) -0.045*** Difference (B)-(A) -0.032*** -0.011* 0.021*** Difference (B)-(A) -0.047*** -0.018** Difference (B)-(A) -0.046*** -0.030*** Difference (B)-(A) -0.045** -0.030*** Difference (B)-(A)	Changes in real 6 Pre-IFRS (A) -0.141 Pre-IFRS (A) -0.074 -0.056 0.018** Pre-IFRS (A) -0.125 -0.026 0.099*** Pre-IFRS (A) -0.085 -0.085 -0.087 -0.002 Pre-IFRS (A)	Post-IFRS (B) -0.071 Post-IFRS (B) -0.050 -0.015 0.035*** Post-IFRS (B) -0.115 0.018 0.133*** Post-IFRS (B) -0.085 -0.103*** Post-IFRS (B) -0.073	nt (<i>REM_AGG</i>) Difference (B)-(A) 0.070*** Difference (B)-(A) 0.024** 0.041*** 0.017** Difference (B)-(A) 0.010 0.044** 0.034** Difference (B)-(A) 0.103*** 0.002 -0.101*** Difference (B)-(A)
Panel C: Differences in Ea Panel C-1: Full sample (No Panel C-2: Family firms vs FAM Non-FAM Difference Panel C-3: High (low) fami High_FOWN Low_FOWN Difference Panel C-4: With (without) f With_FDIV No FDIV Difference Panel C-5: Family CEO att F_CEO	rnings Management . of obs. = 9,315) non-family firms (No (I) (II) (II) – (I) ily ownership (No. of (III) (IV) – (III) family cash-vote diver (VI) (VI) – (V) ributes (No. of obs.= 4 (VII) (VII)	Changes Pre-IFRS (A) -0.004 . of obs.= 9,315) Pre-IFRS (A) -0.004 0.002 0.006** obs.= 5,839) Pre-IFRS (A) -0.010 0.007 0.017** 'gence (No. of obs.= 5,83 Pre-IFRS (A) 0.005 -0.011 -0.016** 5,839) Pre-IFRS (A) -0.009 -0.016	s in discretionary accrus Post-IFRS (B) -0.049 Post-IFRS (B) -0.036 -0.009 0.027*** Post-IFRS (B) -0.057 -0.022 0.035*** 99 Post-IFRS (B) -0.011 -0.057 -0.046*** Post-IFRS (B) -0.046***	Is (DA) Difference (B)-(A) -0.045*** Difference (B)-(A) -0.032*** -0.011* 0.021*** Difference (B)-(A) -0.047*** -0.029*** 0.018** Difference (B)-(A) -0.016** -0.046*** -0.030*** Difference (B)-(A)	Changes in real 6 Pre-IFRS (A) -0.141 Pre-IFRS (A) -0.074 -0.056 0.018** Pre-IFRS (A) -0.125 -0.026 0.099*** Pre-IFRS (A) -0.085 -0.087 -0.002 Pre-IFRS (A) -0.077	Post-IFRS (B) -0.071 Post-IFRS (B) -0.050 -0.015 0.035*** Post-IFRS (B) -0.115 0.018 0.133*** Post-IFRS (B) -0.085 -0.103*** Post-IFRS (B) -0.073 -0.071	nt (<i>REM_AGG</i>) Difference (B)-(A) 0.070*** Difference (B)-(A) 0.024** 0.041*** 0.017** Difference (B)-(A) 0.010 0.044** 0.034** Difference (B)-(A) 0.103*** 0.002 -0.101*** Difference (B)-(A) 0.004 0.004 0.004
Panel C: Differences in Ea Panel C-1: Full sample (No Panel C-2: Family firms vs FAM Non-FAM Difference Panel C-3: High (low) fam High_FOWN Low, FOWN Difference Panel C-4: With (without) f With_FDIV No FDIV Difference Panel C-5: Family CEO att F_CEO D_CEO	rnings Management . of obs. = 9,315) non-family firms (No (I) (II) (II) – (I) ily ownership (No. of (II) (IV) (IV) – (III) family cash-vote diven (V) (VI) – (V) ributes (No. of obs.= : (VII) (VII) (VI) (VI) – (X)	Changes Pre-IFRS (A) -0.004 of obs.= 9,315) Pre-IFRS (A) -0.004 0.002 0.006** obs.= 5,839) Pre-IFRS (A) -0.010 0.007 0.017** rgence (No. of obs.= 5,83 Pre-IFRS (A) 0.005 -0.011 -0.016** 5,839) Pre-IFRS (A) -0.009 -0.016 -0.002	s in discretionary accrus Post-IFRS (B) -0.049 Post-IFRS (B) -0.036 -0.009 0.027*** Post-IFRS (B) -0.057 -0.022 0.035*** 19) Post-IFRS (B) -0.011 -0.057 -0.046*** Post-IFRS (B) -0.046 -0.040 -0.021 -0.015	ls (DA) Difference (B)-(A) -0.045*** Difference (B)-(A) -0.012*** -0.011* 0.021*** Difference (B)-(A) -0.047*** -0.018** Difference (B)-(A) -0.016** -0.016** -0.030*** Difference (B)-(A) -0.03(*** -0.03(*** -0.015* -0.005 -0.013**	Changes in real (Pre-IFRS (A) -0.141 Pre-IFRS (A) -0.074 -0.056 0.018** Pre-IFRS (A) -0.125 -0.026 0.099*** Pre-IFRS (A) -0.085 -0.087 -0.002 Pre-IFRS (A) -0.055 -0.002 0.077	Post-IFRS (B) -0.071 Post-IFRS (B) -0.050 -0.015 0.035*** Post-IFRS (B) -0.115 0.018 0.133*** Post-IFRS (B) 0.018 -0.085 -0.103*** Post-IFRS (B) -0.073 -0.021 -0.065	Difference (B)-(A) 0.070*** Difference (B)-(A) 0.024** 0.041*** 0.017** Difference (B)-(A) 0.010 0.044** 0.034** Difference (B)-(A) 0.010 0.044** 0.034** Difference (B)-(A) 0.103*** 0.002 -0.101*** Difference (B)-(A) 0.004 0.034*** 0.004 0.034*** 0.004 0.034*** 0.004 0.034*** 0.006
Panel C: Differences in Ea Panel C-1: Full sample (No Panel C-2: Family firms vs FAM Non-FAM Difference Panel C-3: High (low) fam High_FOWN Low_FOWN Difference Panel C-4: With (without) f With_FDIV No FDIV Difference Panel C-5: Family CEO att F_CEO D_CEO H_CEO	rnings Management . of obs. = 9,315) non-family firms (No (I) (II) (II) (II) (II) (IV) (IV) (IV) (IV) (IV) (V) (V) (VI) (VI) (VI) (VI) (VII) (V	Changes Pre-IFRS (A) -0.004 .of obs.= 9,315) Pre-IFRS (A) -0.004 0.002 0.006** obs.= 5,839) Pre-IFRS (A) -0.010 0.007 0.017** rgence (No. of obs.= 5,83 Pre-IFRS (A) -0.011 -0.015 -0.011 -0.016** 5,839) Pre-IFRS (A) -0.009 -0.016 -0.002 -0.007	s in discretionary accrus Post-IFRS (B) -0.049 Post-IFRS (B) -0.036 -0.009 0.027*** Post-IFRS (B) -0.057 -0.022 0.035*** 9) Post-IFRS (B) -0.011 -0.057 -0.046*** Post-IFRS (B) -0.040 -0.021 -0.015 0.019**	Is (DA) Difference (B)-(A) -0.045*** Difference (B)-(A) -0.032*** -0.011* 0.021*** Difference (B)-(A) -0.045*** -0.011* 0.021*** 0.018** Difference (B)-(A) -0.016** -0.030*** Difference (B)-(A) -0.030*** Difference (B)-(A) -0.031*** -0.005 -0.013** 0 026**	Changes in real (Pre-IFRS (A) -0.141 Pre-IFRS (A) -0.074 -0.056 0.018** Pre-IFRS (A) -0.125 -0.026 0.099*** Pre-IFRS (A) -0.085 -0.085 -0.087 -0.002 -0.077 -0.055 -0.071	Post-IFRS (B) -0.071 Post-IFRS (B) -0.050 -0.015 0.035*** Post-IFRS (B) -0.115 0.018 0.133*** Post-IFRS (B) 0.018 -0.085 -0.103*** Post-IFRS (B) -0.073 -0.021 -0.065 0.052***	nt (<i>REM_AGG</i>) Difference (B)-(A) 0.070*** Difference (B)-(A) 0.024** 0.041*** 0.017** Difference (B)-(A) 0.034** 0.002 -0.101*** Difference (B)-(A) 0.002 -0.101*** Difference (B)-(A) 0.004 0.034*** 0.006 0.030**
Panel C: Differences in Ea Panel C-1: Full sample (No Panel C-2: Family firms vs FAM Non-FAM Difference Panel C-3: High (low) fami High_FOWN Low_FOWN Difference Panel C-4: With (without) f With_FDIV No_FDIV Difference Panel C-5: Family CEO att F_CEO D_CEO H_CEO Difference	rnings Management . of obs. = 9,315) non-family firms (No (I) (II) (II) – (I) ily ownership (No. of (III) (IV) – (III) family cash-vote diver (VI) (VI) – (V) ributes (No. of obs.= 4 (VII) (VII) (IX) (VII) – (VII) (IX) – (VII)	Changes Pre-IFRS (A) -0.004 .of obs.= 9,315) Pre-IFRS (A) -0.004 0.002 0.006** obs.= 5,839) Pre-IFRS (A) -0.010 0.007 0.017** 'gence (No. of obs.= 5,83 Pre-IFRS (A) -0.016 -0.016 -0.016 -0.002 -0.017 0.017*	s in discretionary accrus Post-IFRS (B) -0.049 Post-IFRS (B) -0.036 -0.009 0.027*** Post-IFRS (B) -0.057 -0.022 0.035*** 99 Post-IFRS (B) -0.011 -0.057 -0.046*** Post-IFRS (B) -0.046*** Post-IFRS (B) -0.021 -0.021 -0.015 0.019** 0.006	ls (DA) Difference (B)-(A) -0.045*** Difference (B)-(A) -0.032*** -0.011* 0.021*** Difference (B)-(A) -0.047*** -0.029*** 0.018** Difference (B)-(A) -0.046*** -0.030*** Difference (B)-(A) -0.031*** -0.005 -0.013** 0.026** -0.008	Changes in real of Pre-IFRS (A) -0.141 Pre-IFRS (A) -0.056 0.018** -0.018** Pre-IFRS (A) -0.026 -0.026 0.099*** Pre-IFRS (A) -0.085 -0.085 -0.087 -0.002 -0.077 -0.055 -0.071 -0.022** -0.016*	Post-IFRS (B) -0.071 Post-IFRS (B) -0.050 -0.015 0.035*** Post-IFRS (B) -0.115 0.018 0.133*** Post-IFRS (B) -0.085 -0.103*** Post-IFRS (B) -0.073 -0.021 -0.052*** -0.044***	nt (<i>REM_AGG</i>) Difference (B)-(A) 0.070*** Difference (B)-(A) 0.024** 0.041*** 0.017** Difference (B)-(A) 0.010 0.044** 0.034** Difference (B)-(A) 0.103*** 0.002 -0.101*** Difference (B)-(A) 0.034*** 0.034*** 0.034*** 0.030** -0.028**
Panel C: Differences in Ea Panel C-1: Full sample (No Panel C-2: Family firms vs FAM Non-FAM Difference Panel C-3: High (low) fam High_FOWN Low, FOWN Difference Panel C-4: With (without) f With_FDIV No_FDIV Difference Panel C-5: Family CEO att F_CEO D_CEO H_CEO Difference	rnings Management . of obs. = 9,315) non-family firms (No (I) (II) (II) – (I) ily ownership (No. of (III) (IV) – (III) family cash-vote diven (V) (VI) – (V) ributes (No. of obs.= 1 (VII) (IX) (VII) – (VII) (IX) – (VII) (IX) – (VII) (IX) – (VII) (IX) – (VII) (IX) – (VII)	Changes Pre-IFRS (A) -0.004 .of obs.= 9,315) Pre-IFRS (A) -0.004 0.002 0.006** obs.= 5,839) Pre-IFRS (A) -0.010 0.007 0.017** rgence (No. of obs.= 5,83) Pre-IFRS (A) -0.011 -0.015* -0.016 -0.009 -0.016 -0.002 -0.007 0.014* 0.007	s in discretionary accrus Post-IFRS (B) -0.049 Post-IFRS (B) -0.036 -0.009 0.027*** Post-IFRS (B) -0.057 -0.022 0.035*** B9 Post-IFRS (B) -0.011 -0.057 -0.046*** Post-IFRS (B) -0.046*** Post-IFRS (B) -0.046 -0.015 0.019** 0.006 0.025**	Is (DA) Difference (B)-(A) -0.045*** Difference (B)-(A) -0.032*** -0.011* 0.021*** Difference (B)-(A) -0.047*** -0.018** Difference (B)-(A) -0.016** -0.016** -0.030*** Difference (B)-(A) -0.016** -0.030*** Difference (B)-(A) -0.03*** -0.013*** -0.013** -0.026** -0.008 0.018*	Changes in real (Pre-IFRS (A) -0.141 Pre-IFRS (A) -0.074 -0.056 0.018** Pre-IFRS (A) -0.125 -0.026 0.099*** Pre-IFRS (A) -0.085 -0.087 -0.002 Pre-IFRS (A) -0.077 -0.017 -0.025 -0.017 -0.016* -0.017 -0.025	Post-IFRS (B) -0.071 Post-IFRS (B) -0.050 -0.015 0.035*** Post-IFRS (B) -0.115 0.018 0.133*** Post-IFRS (B) 0.018 -0.085 -0.103*** Post-IFRS (B) -0.073 -0.021 -0.065 0.052*** -0.044*** 0.008	at (REM_AGG) Difference (B)-(A) 0.070*** Difference (B)-(A) 0.024** 0.041*** 0.017** Difference (B)-(A) 0.010 0.044** 0.034** Difference (B)-(A) 0.103*** 0.002 -0.101*** Difference (B)-(A) 0.002 -0.101*** 0.004 0.004 0.030** 0.006 0.30** 0.002

TABLE 2 Descriptive Statistics and Correlation Matrix

Panel D: Pears	on corr	elation	matrix																			
Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.
1. FAM	1																					
2. FOWN	0.119	1																				
3. FDIV	0.073	0.054	1																			
4. F_CEO	0.135	0.122	0.114	1																		
5. D_CEO	0.096	0.083	0.073	0.117	1																	
6. H_CEO	0.118	0.106	0.096	0.067	0.082	1																
7. IFRS	0.093	0.105	-0.122	0.097	0.052	0.068	1															
8. DA	-0.116	-0.091	0.083	-0.176	-0.023	-0.053	-0.105	1														
9. REM_AGG	-0.129	-0.078	0.163	-0.125	-0.011	-0.060	0.134	-0.092	1													
10.SIZE	-0.060	-0.053	0.081	-0.113	-0.045	-0.049	0.117	-0.086	0.095	1												
11.ZSCORE	-0.052	-0.085	0.112	-0.141	0.030	-0.037	0.057	-0.081	0.045	0.062	1											
12.ROA	0.038	0.050	0.088	0.043	-0.037	0.079	0.063	-0.139	-0.022	0.132	0.081	1										
13.MB	0.073	0.092	-0.076	0.024	-0.031	0.023	0.083	0.147	-0.128	0.124	0.057	0.106	1									
14. SALE_G	0.085	0.069	-0.064	0.112	-0.027	0.061	0.107	0.128	0.074	-0.057	-0.083	0.111	0.137	1								
15. HERFINDAL	-0.057	-0.083	-0.062	-0.129	0.081	-0.111	-0.115	-0.127	0.108	-0.058	-0.127	0.152	0.139	0.068	1							
16.MASHARE	0.125	0.139	0.112	0.085	-0.033	0.081	-0.038	-0.124	0.133	0.017	0.139	-0.088	-0.078	0.126	0.119	1						
17. LITIGATION	0.095	0.077	0.038	0.052	0.082	0.029	-0.116	-0.091	0.127	0.035	0.026	-0.127	-0.057	0.048	0.015	-0.143	1					
18.EISSUE	-0.114	-0.046	0.071	-0.078	-0.112	-0.073	-0.074	-0.136	0.093	0.086	0.115	-0.083	-0.019	0.039	0.084	-0.125	-0.095	1				
19. LEV	0.133	0.082	0.096	0.136	0.124	0.158	-0.125	0.077	-0.089	0.046	0.061	-0.095	-0.045	0.027	0.121	-0.044	-0.089	0.117	1			
20.1NST	0.074	0.069	0.115	0.159	-0.047	0.060	-0.101	0.061	-0.105	0.029	0.043	-0.118	-0.036	0.142	0.135	-0.028	0.155	0.130	-0.124	1		
21.OUTSIDE	0.088	0.128	-0.043	0.118	-0.083	0.047	-0.038	-0.085	-0.119	-0.106	-0.072	0.122	0.115	0.158	0.109	-0.045	-0.046	-0.068	0.085	-0.059	1	
22.AUDIT	-0.069	-0.135	-0.057	-0.120	-0.043	-0.061	0.087	-0.062	0.112	0.047	0.093	0.031	0.051	-0.085	-0.059	0.128	-0.039	0.052	0.127	-0.108	0.059	

TABLE 2 Descriptive Statistics and Correlation Matrix (continued)

This table displays the summary statistics for the variables used in this study. Panel A reports the ownership and control characteristics of the family firms. Panel B reports the summary statistics for the variables for all samples. Panel C reports the differences in the mean value of accrual-based (*DA*) and real earnings management (*REM_AGG*) between pre- and post-IFRS periods, between family and non-family firms, and between the subsamples categorized by different family ownership characteristics and different family identity of CEO. Panel D reports the Pearson correlation matrix for the variables included in the regression analyses. T-test included in Panels B is adopted to examine differences in mean. Significance: * p < 0.05, *** p < 0.01. Coefficients in bold presented in Panel D indicate that the correlations are significant at the 5% level or better, respectively (two-tailed test). The variables are defined in Appendix 1.

ranel A: Interactive effects of IFRS an	id family firms on accruat and real ear	Dependent	variable:	
Variables		DA	REM_	AGG
	(1)	(2)	(3)	(4)
Intercept	(1.829)	(1.807)	(-2.854)	-1.346*** (-2.748)
IFRS	-0.083** (-2.528)	-0.080** (-2.503)	0.151*** (3.314)	0.154*** (3.281)
FAM	-0.107*** (-3.101)	`-0.099*** (-2.895)	-1.518** (-2.471)	-1.472** (-2.197)
IFRS*FAM	(2.2.2.)	(-0.287*** (-2.730)	()	(-2.259** (-2.169)
SIZE	-0.061*** (-3.114)	(-0.057*** (-3.252)	0.040*** (3.190)	0.032*** (3.205)
ZSCORE	-0.039***	-0.037*** (-2.606)	0.326***	0.339***
ROA	-0.474***	-0.469*** (-3.508)	-1.150*	-1.177* (-1.749)
MB	0.043	(0.050) (1.401)	-0.473**	-0.485**
SALE_G	0.208	0.215 (1.346)	0.426	0.419 (1.365)
HERFINDAL	-0.184***	-0.188*** (-3.225)	(1.230) (1.429)	(1.372) (1.346)
MASHARE	-0.347***	(-3.26) (-3.340)*** (-3.269)	$(1.72)^{(1.72)***}$ (2.835)	1.708***
LITIGATION	-0.120**	(-3.26) (-0.131**) (-2.326)	(2.033) 1.211 (1.136)	1.220
EISSUE	(-2.399) -0.221** (2.170)	(-2.320) (-0.210**) (-2.262)	0.275**	0.286**
LEV	0.323***	(-2.202) 0.331*** (3,177)	-0.141***	-0.153***
INST	-0.555**	-0.561**	-1.126**	(-3.552) -1.145** (-2.279)
OUTSIDE	(-2.114) -0.272* (-1.721)	(-2.220) -0.281* (1.826)	-0.378***	-0.386***
AUDIT	(-1.721) -0.043*** (-3.550)	(-1.020) -0.047*** (-3.461)	0.152	0.164 (1.469)
REM_AGG	(-3.330) -1.179*** (2.978)	(-1.168*** (2.847)	(1.556)	(1.407)
DA	(-2.9/8)	(-2.047)	-0.125***	-0.131***
Adjusted R^2 <i>F</i> -statistic No. of obs.	0.534 15.128*** 9,315	0.547 15.139*** 9,315	0.545 15.205*** 9,315	0.556 15.216*** 9,315

TABLE 3 Family Firms, IFRS, and Earnings Management

			· · · · · · ·		•	Dependen	t variable:	<u>a</u>				
Variables				DA					REM	_AGG		()
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Intercept	0.969* (1.852)	0.960* (1.836)	0.967*	0.965* (1.890)	0.971* (1.854)	0.97/* (1.871)	-1.352*** (-2.951)	-1.350*** (-2.822)	-1.346*** (-3.158)	-1.349*** (-3.097)	-1.362*** (-2.881)	-1.36/*** (-2.879)
IFRS	-0.080*** (-2.434)	-0.079***	-0.083** (-2.468)	(-2.374)	(-2.275)	-0.095** (-2.291)	(3.117)	(3.085)	(3.049)	(3.121)	(3.247)	(3.168)
FOWN	-0.212*** (-3.424)	-0.19/***					-3.222** (-2.402)	-3.2/4** (-2.438)				
IFRS*FOWN		-0.458*** (-3.159)						-3.962** (-2.239)				
FDIV			0.272*** (3.558)	0.267*** (3.295)					2.666*** (3.231)	2.684*** (3.092)		
IFRS*FDIV				0.513*** (2.675)						3.251*** (3.297)		
F_CEO					-0.166* (-1.861)	-0.160* (-1.912)					-0.520** (-2.418)	-0.461** (-2.376)
D_CEO					-0.070 (-1.253)	-0.078 (-1.194)					-0.326 (-1.188)	-0.335 (-1.202)
H_CEO					-0.256*** (-2.632)	-0.263*** (-2.725)					-1.014** (-2.221)	-1.026** (-2.194)
IFRS*F_CEO						-0.468** (-2.192)						-1.011*** (-3.563)
IFRS*D_CEO						-0.106 (-1.470)						-0.437 (-1.217)
IFRS*H_CEO						-0.531** (-2.212)						-1.939** (-2.125)
Controls Adjusted R^2 F-statistic	Included 0.536 15.132*** 9.315	Included 0.540 15.138*** 0.315	Included 0.538 15.139*** 9.315	Included 0.543 15.142*** 9.315	Included 0.549 15.153*** 9.134	Included 0.552 15.162*** 0.134	Included 0.548 15.209*** 9.315	Included 0.552 15.213*** 0.315	Included 0.550 15.200*** 9.315	Included 0.555 15.215*** 9.315	Included 0.558 15.221*** 0.134	Included 0.563 15.233*** 0.134

TABLE 3 Family Firms, IFRS, and Earnings Management (continued)

This table presents the effects of IFRS and family ownership characteristics on accrual-based (*DA*) and real earnings management (*REM_AGG*). Panel A reports the interactive effect between IFRS and family firms on *DA* and *REM_AGG*. Panel B reports the interactive effects between IFRS, different family ownership configurations and different types of CEO on *DA* and *REM_AGG*. See Appendix 1 for detailed definitions of variables. Fixed effects of years and industries are included in the regressions but not reported. Numbers in parentheses are t-statistics based on robust standard errors. Significance: * p < 0.1, ** p < 0.05, ***p < 0.01.

			DA N	Iodel			REM_AGG Model					
Variables	2"	⁴ Stage Regress	ion	1"	Stage Regressi	on	2 nd	' Stage Regressi	on	1 ^{na}	Stage Regressio	on
variables		DA		FAM	FOWN	FDIV		REM_AGG		FAM	FOWN	FDIV
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
IFRS	-0.073*** (-2.653)	-0.072** (-2.499)	-0.080** (-2.493)				0.140*** (3.478)	0.141*** (3.239)	0.136*** (3.268)			
PFAM	-0.090***						-1.338* (-1.886)					
IFRS*PFAM	-0.261** (-2.482)						-2.054** (-1.972)					
PFOWN		-0.179*** (-2.687)						-2.976** (-2.216)				
IFRS*PFOWN		-0.416*** (-2.872)						-3.602** (-2.035)				
PFDIV			0.252*** (2.995)						2.440*** (2.811)			
IFRS*PFDIV			0.466** (2.432)						2.955*** (2.886)			
Instrumental Variables												
FGENDER				(3.289)	(3.312)	(2.885)				0.916*** (3.306)	(2.743)	0.316^{***} (3.129)
NFOUNDER				0.580*** (3.373)	1.136** (2.223)	1.386*** (3.364)				0.601*** (3.410)	1.151** (2.310)	1.372*** (3.276)
Controls & Intercept C-statistic Hansen J-statistic Anderson-Rubin F test	Included 5.011*** 1.991 13.889***	Included 5.397*** 2.077 14.957***	Included 5.761*** 1.956 14.881***	Included	Included	Included	Included 6.014*** 2.389 16.666***	Included 6.476*** 2.493 17.948***	Included 6.914*** 2.347 17.857***	Included	Included	Included
Adjusted R^2 <i>F</i> -statistic No. of obs.	0.543 15.103*** 9,043	0.546 15.106*** 9,043	0.544 15.108*** 9,043	0.533 15.538*** 9,043	0.526 15.451*** 9,043	0.535 15.629*** 9,043	0.533 14.805*** 9,043	0.536 14.808*** 9,043	0.534 14.810*** 9,043	0.537 15.545*** 9,043	0.530 15.447*** 9.043	0.538 15.634*** 9,043

TABLE 4 Results controlling for endogeneity

This table reports the 2SLS regression results for the effect of family firms, family ownership and family cash-vote divergence on accrual-based (*DA*) and real earnings management *REM_AGG*). *PFAM* is the predicted *FAM* from the first-stage regression. *PFOWN* is the predicted *FOWN* from the first-stage regression. *PFOWN* is the predicted *FOWN* from the first-stage regression. *IFRS*PFAM* is the interaction term between *IFRS* and *PFAM*. *IFRS*PFOWN* is the interaction term between *IFRS* and *PFDIV* is the interaction term between *IFRS* and *PFDIV*. *FGENDER* is the presence of family owners' first child who is male. *NFOUNDER* is the number of founders. See Appendix 1 for detailed definitions of other variables. Fixed effects of years and industries are included in the regressions but not reported. Numbers in parentheses are t-statistics based on robust standard errors. Significance: * p < 0.1, ** p < 0.05, *** p < 0.01.

Variables		DA Model			REM_AGG Model	
v arrables	(1)	(2)	(3)	(4)	(5)	(6)
IFRS	-0.114*** (-2.787)	-0.112*** (-2.625)	-0.125*** (-2.619)	0.218** (2.229)	0.220** (2.076)	0.212** (2.184)
FAM	-0.140*** (-2.870)			-2.087*** (-2.942)		
IFRS*FAM	-0.407*** (-2.608)			-3.204** (-2.136)		
FOWN		-0.279* (-1.823)			-4.643** (-2.401)	
IFRS*FOWN		-0.649*** (-3.017)			-5.619* (-1.878)	
FDIV			0.393*** (3.147)			3.806* (1.802)
IFRS*FDIV			0.627** (2.555)			4.610*** (3.127)
Controls & Intercept	Included	Included	Included	Included	Included	Includéd
<i>F</i> -statistic	14.810***	14.813***	0.535 14.815***	0.544 15.103***	0.547 15.106***	0.545 15.108***
No. of obs.	2,380	2,380	2,380	2,380	2,380	2,380

This table reports the results of propensity score matching approach to address the endogeneity associated with family firm status. See Appendix 1 for detailed definitions of variables. Fixed effects of years and industries are included in the regressions but not reported. Numbers in parentheses are t-statistics based on robust standard errors. Significance: * p < 0.1, ** p < 0.05, *** p < 0.01. The results are based on a nearest-neighbor match with a caliper distance of 0.01.

				Chara					
				Dep	endent variable: REM	AGG			
Variables	Full s	ample				Only Family Sample			
v allables	FAM	Non-FAM	High_FOWN	Low_FOWN	With_FDIV	No_FDIV	F CEO	D CEO	H CEO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Intercept	-0.878** (-2.254)	-0.862** (-2.234)	-0.680** (-2.181)	-0.711** (-2.245)	-0.781** (-2.264)	-0.762** (-2.170)	-1.185*** (-3.000)	-1.179*** (-3.197)	-1.189*** (-3.235)
DA	-0.209** (-2.161)	-0.149** (-2.367)	-0.167** (-2.178)	-0.205** (-2.361)	-0.152** (-2.172)	-0.129** (-2.258)	-0.237** (-2.232)	-0.276** (-2.309)	-0.259** (-2.261)
IFRS	0.195*** (3.518)	0.180*** (3.406)	(1.554)	0.150** (2.371)	0.139*** (2.821)	(1.307)	$0.125 \\ (1.498)$	0.169** (2.313)	0.137 (1.522)
DA*IFRS	-0.664*** (-3.253)	-0.425** (-2.058)	-0.253 (-1.369)	-0.664*** (-3.425)	-0.533*** (-2.796)	-0.102 (-1.471)	-0.198 (-1.389)	-0.745*** (-3.704)	-0.229 (-1.582)
	D : 00		75.100		D : 00			Difference $[(7)-(8)]$ 0.547***(2.817)	
	0.239**	e[(2)-(1)] **(3.109)	-0.411**	e [(4)- (3)] **(-2.721)	0.431**	**(3.549)		$\begin{array}{c} \text{Difference } [(7)-(9)] \\ 0.031(1.428) \end{array}$	
								Difference $[(8)-(9)]$ -0.516***(-3.554)	
Controls	Included	Included	Included	Included	Included	Included	Included	Included	Included
F-statistic	15.055***	15.072***	15.047***	15.079***	15.106***	15.057***	15.059***	15.096***	15.050***
No. of obs	5.839	3.476	2,919	2.920	2.934	2,905	1.613	1.901	2.325

TABLE 6 The effects of IFRS on the relationship between Accrual-based and Real Earnings Management in terms of different Family Ownership Characteristics

This table reports the interactive effect between IFRS and accrual-based (*DA*) on real earnings management (*REM_AGG*) in terms of different family ownership characteristics and different family identity of CEO. *DA*IFRS* is the interaction term between *DA* and *IFRS*. *FAM* is family firms. *Non-FAM* is non-family firms. *High_FOWN* is family firms with family ownership equal to or above the median value of the family sample. *Low_FOWN* is family firms with family cash-vote divergence. *No_FDIV* is family firms with family cash-vote divergence. *No_FDIV* is family firms with family cash-vote divergence. *No_FDIV* is family firms with founder CEO, descendant CEO and professional CEO, respectively. See Appendix 1 for detailed definitions of other variables. Fixed effects of years and industries are included in the regressions but not reported. Numbers in parentheses are t-statistics based on robust standard errors. T-test is adopted to examine the difference in the magnitude of the coefficient of *DA*IFRS* between subsamples. *Significance: * p < 0.1, ** p < 0.05, ***p < 0.01*.

Appendix 1 Variable Definitions

DA	= discretionary accruals computed using the Modified Jones Model
REM AGG	= the sum of the three standardized REM proxies, i.e., REM CFO, REM PROD, and REM EXP
IFRS	= a dummy variable with a value of 1 for fiscal years ending after the mandatory adoption of IFRS, and 0 for fiscal years ending before the mandatory adoption of IFRS
FAM	= a dummy variable with a value of 1 if the firm is classified as a family firm and 0 otherwise
FOWN	= the ratio of common shares held by the family members to total common shares
FDIV	= measured as the ratio of voting rights to cash-flow rights held by the family members
F_CEO	= a dummy variable with a value of 1 if a family firm has the founder as CEO and 0 otherwise
D_CEO	= a dummy variable with a value of 1 if a family firm has a family descendant as CEO and 0 otherwise
H_CEO	= a dummy variable with a value of 1 if a family firm has a professional CEO and 0 otherwise
IFRS*FAM	= interaction term between <i>IFRS</i> and <i>FAM</i>
IFRS*FOWN	= interaction term between <i>IFRS</i> and <i>FOWN</i>
IFRS*FDIV	= interaction term between <i>IFRS</i> and <i>FDIV</i>
IFRS*F_CEO	= interaction term between <i>IFRS</i> and $F_{-}CEO$
IFRS*D_CEO	= interaction term between <i>IFRS</i> and $D_{-}CEO$
IFRS*H_CEO	= interaction term between <i>IFRS</i> and <i>H_CEO</i>
SIZE	= the natural logarithm of total assets
ZSCORE	= Z-score is computed based on Altman's model (1968)
ROA	= the ratio of earnings before interests and tax to total assets
MB	= the market-to-book ratio
$SALE_G$	= the ratio of change in sales from year t-1 to year t to sales in year t-1
HERFINDAHL	= the Herfindahl-Hirschman industry concentration index, computed by the sum of squared market shares of all firms in an industry, deflated by 1,000
MASHARE	= the ratio of the firm's sales to the total sales of its industry
LITIGATION	= dummy variable with a value of 1 if the firm operates in a more litigious industry, 0 otherwise
EISSUE	= a dummy variable with a value of 1 if the firm has a seasoned offering in year t+1, year t+2, or year t+3, and 0 otherwise
LEV	= the ratio of total debts to total assets
INST	= the ratio of common shares held by institutional shareholders to total common shares
OUTSIDE	= the ratio of number of outside directors on the board to total number of board members
AUDIT	= a dummy variable with a value of 1 if the firm is audited by a Big 4 audit firm, 0 otherwise
FGENDER	= a dummy variable that equals 1 if the first child of the controlling family owner is male and 0 otherwise
NFOUNDER	= the number of people founding the firm