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# Family ownership and speed of adjustment towards targeted capital structures: A study of ASEAN firms

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**Abstract**

Utilising a sample of ASEAN firms, we examine the effects of family ownership on firms' speed of adjustment to targeted capital structure. We find that family firms adjust their capital structure more slowly than non-family firms. This is due to the higher costs of adjustment associated with high information asymmetry and agency conflicts between family owners and external investors. The effect of family ownership on capital structure adjustment speed is more pronounced when family firms have a higher level of family board involvement and higher ownership concentration. There is also an asymmetric effect of family ownership on capital structure adjustment speed at different levels of debt, by the distance from the targeted capital structure, and between overleveraged and underleveraged firms. Overall, evidence in our study suggests that family ownership is a key determinant on how quickly ASEAN firms may adjust their capital structure towards targeted levels.

**KEYWORDS**

capital structure, family firms, leverage, Southeast Asia, speed of adjustment

**JEL CLASSIFICATION**

G32, O16

## 1 | INTRODUCTION

Firms in general have dynamic targeted capital structures which aim to balance the benefits and costs of using debt (Harford et al., 2009), thereby maximising firm value (Cook & Tang, 2010). Due to the high costs of external financing and the difficulties of capital access, firms, however, cannot quickly adjust towards their capital structure targets (Ahsan et al., 2020; Leary &

Roberts, 2005; Li et al., 2017). In this regard, the speed in which firm adjust towards their capital structure targets (SOA hereafter) can signal the efficiency of firms' financing decisions.[1]

Whilst SOA studies have gained much recent research popularity, those that focus on SOA of family firms have largely remained dormant. As the name suggests, family firms are those with ownership concentration in the hands of large shareholders who are members of one family (Gomez-Mejia et al., 2018; Haider et al., 2021; Pindado et al., 2015). These controlling families tend to invest most of their wealth in their own firms and stay with the firms for a long time, sometimes over many generations (Kappes & Schmid, 2013). Thus, families are particularly concerned about the long-term survival of their firms and can be highly cautious with their investment decisions (Block, 2012). In this study, we investigate whether family ownership of firms in the ASEAN region affects their SOA and the specific channels through which family ownership places an effect on SOA.

Existing theories offer two important reasons why family ownership could be relevant to speed of adjustment towards tarted capital structure. First, family ownership can be associated with a high level of agency costs where interests of the controlling families are not always aligned with those of external investors. The theory of Jensen and Meckling (1976) posits that there should be higher financing costs and/or more constraints to access to capital when there exists agency conflict. This, in turn, makes access to capital more expensive and lowers family firms' speed of capital structure adjustment. Second, family ownership can be associated with a high level of information asymmetry and this issue is especially pertinent among young and small firms. External investors may require higher returns for their investment or decline investing altogether, making costs of external capital higher for family firms (Bhattacharya & Daouk, 2002; He et al., 2013; Lee, 2021). Overall, family ownership can be perceived as an inefficient set-up of ownership by capital providers who focus on firm value maximisation (e.g., minority shareholders) (Athanassiou et al., 2002) and the immediate impact is higher costs of capital and slower speed of capital structure adjustment.

The research question in our study is not without tension. First, maintaining family ownership can be viewed as a mechanism for establishing a credible commitment to the firm's stakeholders, and to debt capital providers in our case. There is a peculiar asymmetric payoff structure from running family firms compared to other firms. Specifically, because there is a strong association between owners and firms, any failure can be exceedingly costly. This asymmetric cost comes about because owners of family firms have less room to disassociate themselves from a poor or defunct business. In other words, they have undiversified investment capital and human capital.[2] This asymmetric market consequence results in higher reputational and investment concerns of family owners, thereby motivating these owners to fulfil the use of debt capital more cautiously, and also curbing any possible post-debt-contract opportunistic behaviour. Based on the premise that family ownership signals commitment to lenders, one can also argue that family firms should be able to borrow or redeem debt capital more easily compared to non-family firms.[3]

[1]There are costs associated with the deviation from targeted leverages, which include bankruptcy costs for overleveraged firms and losses of tax savings for underleveraged firms (Dufour et al., 2018). The speed of adjustment (SOA) towards targeted capital structure has recently received increased attention in the corporate finance literature (e.g., Ahsan et al., 2020; Dang et al., 2019; Devos et al., 2017).

[2]Family firms would be particularly risk-averse to the use of debt capital given failing to meet debt obligations would severely damage the family. In case of any debt contract violation, family owners are in a position to suffer significantly more than typical shareholders as both firm and personal capital/reputations are simultaneously impaired.

[3]The idea that family owners feel pride in their abilities, have fervent personal attachments to their underlying businesses, and signal their strong commitments, is intuitive. Family ownership, when viewed as a latent signal of commitment, could effectively help mitigate information asymmetry in external debt financing. In addition, investors who share the same long-term vision (Anderson et al., 2003; Kappes & Schmid, 2013; Swanpitak et al., 2020) should appreciate this unique characteristic of family firms.

Our study focuses on firms from Association of Southeast Asian Nations (ASEAN) countries where we examine how family firms differ from non-family firms in terms of SOA.[4] There are two important reasons to address our research question using this particular sample. First, the ASEAN economy is largely dominated by family firms. On average, ASEAN family firms account for more than 50% of total listed companies and their market capitalisation is equal to 50% of the regional GDP as of 2010 (Credit Suisse, 2011). These ASEAN family firms are particularly family oriented. This is rooted in the long history of Chinese immigration that extends the influence of Confucianism on the regional culture (Luechapattanaporn & Wongsurawat, 2021; Yan, 2014). Under such influence, controlling families of ASEAN family firms place a strong emphasis on family values and exercise very strong management involvement in the firms. As such, the boundaries between the controlling families and their businesses are weakened (Gupta et al., 2009). It is interesting to investigate if capital markets reflect a lower level of arms-length business transactions in family firms. Second, ASEAN countries have growing economies, and, thus, most family firms in this region are relatively young and small, compared to others from more developed regions (Credit Suisse, 2011). Given this inherent opacity among young and small ASEAN family firms, the question whether family ownership magnifies or mitigates frictions in the adjustment of capital structure is highly pressing.

Our sample is based on a unique dataset of family firms in the ASEAN region where we hand collect data on ownership. Specifically, we examine: (i) firms' annual reports, (ii) official websites and (iii) other online sources to obtain the ownership data of ultimate largest shareholders[5] and, more importantly, their family relationships (if any).[6] We repeat this process for each firm-year to ensure that a firm retains its family firm status during the entire studied period to be classified as a family firm. Our final sample consists of 23,945 firm-year observations from 2478 listed family firms and non-family firms in the major stock exchanges of six ASEAN countries, namely Indonesia, the Philippines, Malaysia, Thailand, Singapore and Vietnam, from 2007 to 2017. We utilise a partial-adjustment model of SOA for our main analyses. Our results show that, on average, SOA of ASEAN family firms is 28.5% lower than that of non-family firms. This conclusion is qualitatively consistent across several verification tests, including different strategies to control for endogeneity bias. In addition, our analyses also show the asymmetric impact of family ownership on SOA, in which the impact is more pronounced for those that are underleveraged and those that are closer to the targeted capital structure.

To address the possibility that our results could be driven by other omitted and correlated variables at the owner and firm levels, we perform several robustness checks, including entropy matching and propensity score matching. Our results are robust to these test designs. We also consider the possibility that family firms may merely capture certain firm attributes. We address this issue by performing placebo tests using random assignment of non-family firms and reinvestigate the main research question. We do not find evidence that these pseudo-family firms exhibit slower SOA. Finally, to check if our results could be

[4]ASEAN is the Association of Southeast Asian Nations, comprising 10 countries in Southeast Asia, namely Cambodia, Brunei, Indonesia, Malaysia, Myanmar, Lao, the Philippines, Singapore, Thailand and Vietnam.

[5]For many firms that are owned by a parent group, we need to identify the ultimate largest shareholders by tracing back the largest individual shareholders of the parent group and their direct and deemed interest (i.e., equivalent share of ownership) in the focal firms.

[6]Family relationships among ultimate largest shareholders include spouses, parents, parents-in-law, siblings, siblings-in-law, sons/daughters, sons/daughters-in-law, grandchildren, grandparents, cousins, aunts and uncles. Family relationships are identified based on (1) family names, (2) family relationship information obtained from annual reports, and (3) family trees obtained from online sources.

driven by unobservable heterogeneity in a given country-year, we re-estimate our regressions to include country-year fixed effects. We continue to document consistent results as in the main regressions.

We further employ sub-samples to understand various mechanisms through which family ownership places an effect on debt contracting. We document that country-level ease of capital access and information asymmetry act as the two external channels that moderate the impact of family ownership on SOA. Specifically, the impact of family ownership on firms' SOA is more prominent if family firms operate in countries with higher ease of capital access and/or lower information asymmetry. This is also consistent with the notion that family ownership matters less when the cost of capital access is generally high. At the firm level, we document that the involvement of family members on boards of directors, as well as firms' ownership concentration, can serve as the internal channels that influence family firms' SOA. Particularly, we find that family firms' SOA is lower when the firms have more family directors and/or higher ownership concentration.

We also conduct several additional analyses to understand the impact of family ownership on SOA in different contexts. We argue that the costs and benefits of capital structure adjustments are varied, depending on firms' level of debt, whether firms have underleveraged or overleveraged capital structure, and firms' distance from targeted capital structure. Thus, the decision on SOA across family firms with different capital structures cannot be the same. Consistent with our expectation, we find that the impact of family ownership on SOA is more pronounced for those firms that have lower debt ratios, have underleveraged capital structure, and/or are farther from their targeted capital structure. Finally, we examine debt of different maturities and the varying effect of family ownerships on SOA. Since the costs and difficulties of accessing short-term and long-term debt are not the same,[7] it is of great interest to explore whether family firms' SOAs for debt of different maturities are also different. We find that ASEAN family firms' SOA for both short-term and long-term debt ratios are slower than those of non-family firms. However, the impact of family ownership on SOA is slightly stronger for short-term debt than that for long-term debt.

Our study contributes to the literature in at least three important ways. First, we add to the literature on SOA with a focus on family ownership. So far, a number of studies have investigated SOA between family and non-family firms and research findings are vastly inconsistent. For example, studying European family firms, Pindado et al. (2015) find that family firms tend to move to their targets faster than non-family peers do. In contrast, using a sample of Austrian small and mid-size enterprises (SMEs), Burgstaller and Wagner (2015) conclude that family firms adjust their capital structure in a slower manner than non-family firms.[8] Utilising a unique and novel dataset of family firms in the ASEAN region, our study adds to this stream of literature by documenting how family ownership impedes firms' SOA.[9] Our study also emphasises that research findings drawn from a particular sample should not be immediately generalised to other settings and highlights that researchers should take into account specific institutional characteristics in understanding how family ownership may affect SOA.

Second, our study provides insights into the channels that moderate the impact of family ownership on SOA. In particular, we show that institutional factors, for example,

[7]Short-term debt has higher refinancing costs due to higher rollover risk, whereas long-term debt has higher accessing and financing costs due to higher default risk.

[8]The disagreement in conclusions can be partially explained by endogeneity issues (Evert et al., 2016; Hansen & Block, 2020). Research findings from larger sample size, however, are not yet possible due to data unavailability.

[9]We also employ various strategies to ensure that our conclusion is likely unaffected by endogeneity bias. These include utilising the generalised method of moments (GMM) model, employing instrumental variables to instrument for family ownership, and performing entropy matching and propensity score matching to pair our family and non-family firm samples, and conducting placebo test to randomly assign family firm status among all firms in our sample.

country-level information asymmetry and ease of capital access, play a critical role in driving the impact of family ownership on SOA. These findings should offer important implications for regulators in further streamlining firms' access to capital markets and promoting corporate information disclosure.[10] From the firms' perspectives, the findings that family directors and ownership concentration can further slow down family firms' SOA are valuable for governance and corporate strategies. Specifically, family firms should consider the trade-off between family controls and ownership structures that enable more agile SOA for value maximisation.

Finally, our study adds to the emerging literature that investigates attributes of firms and business practice in the ASEAN region. While the ASEAN region has grown into both a significant economy in the world and an attractive hub for foreign investment flows, research on firms in this region is relatively scant. We show that family firms play a dominant role in the ASEAN economy and that these firms have distinctive characteristics compared to family firms in other regions.[11] As such, the findings in our study are informative to regulators in the formation of policies that allow family firms to have better access to capital and generate higher SOA.

The remainder of this paper is structured into four sections. Section 2 presents our review of the literature on SOA, family firms and ASEAN backgrounds, as well as our hypothesis development. In Section 3, we document our data and methodology. Section 4 reports our main findings and robustness checks. Section 5 discusses our further analyses. Finally, Section 6 presents our conclusions.

## 2 | LITERATURE REVIEW

### 2.1 | Speed of adjustment towards targeted capital structure (SOA)

Extant literature on the corporate capital structure theoretically and empirically supports the perspective that firms have dynamic targeted capital structures which balance the benefits and costs of debt (Harford et al., 2009). When firms deviate from their targeted leverage, they incur deviation costs, which are bankruptcy costs for overleveraged firms and losses of tax savings for underleveraged firms (Dufour et al., 2018). Therefore, firms have the incentive to conform to their targeted capital structures (Devos et al., 2017). However, capital structure adjustment can be expensive because of higher costs of external capital and costs of capital access (Ahsan et al., 2020; Leary & Roberts, 2005; Li et al., 2017). Such adjustment costs act as the key friction that slows down firms' speed of adjustment towards their capital structure targets (Dufour et al., 2018; Hüttel et al., 2010).

Both agency theory and information asymmetry theory provide plausible explanations for the costs of capital structure adjustment. From the agency theory perspective, Jensen and Meckling (1976) conclude that agency conflicts of interest can discourage external investors from investing in firms. This can result in higher financing costs and/or more constraints to access to capital (Gao et al., 2020; Martins et al., 2020). Because of such frictions, agency conflict makes capital structure adjustment more costly, which, in turn, reduces the firms' speed of capital structure adjustment. From the theory of information asymmetry, external investors often lack information about the actual quality of firms' projects. Thus,

[10]These, in turn, can help narrow the gap between the SOA of family and non-family firms, making family firms more attractive to investors, especially foreign investors who are seeking investment opportunities in ASEAN markets.

[11]While prior research has investigated family firms in Europe (Croci et al., 2011; Pindado et al., 2015), East Asia (Gao et al., 2020; Haider et al., 2021), and the United States (Baek et al., 2016), our study is the first to examine family firms in ASEAN countries.

investors may require higher returns for their investment or decline investing altogether, making costs of external capital increase (Bhattacharya & Daouk, 2002; He et al., 2013; Lee, 2021). In this regard, information asymmetry can amplify the costs of capital structure adjustment and impede the speed of adjustment (Dang et al., 2019; Myers & Majluf, 1984; Oztekin & Flannery, 2012).

## 2.2 | Speed of capital structure adjustment in family firms

Family firms, with their peculiarities, can be an ideal case to explore SOA. By definition, family firms are those with ownership concentration in the hands of large shareholders who are members of one family. The controlling families are the largest shareholders in family firms and are often involved in firm management (Croci et al., 2011; González et al., 2013). Controlling families tend to invest most of their wealth in the firms and stay with the firms for generations (Kappes & Schmid, 2013). Hence, these families are mostly interested in the long-term survival of their firms and are often very cautious with investment decisions (Block, 2012).

Given their typical characteristics, family firms exhibit different conflicts of interest than non-family firms, which can affect their speed of capital structure adjustment. First, family shareholders with great controlling powers and involvement in firm management tend to know more about their firms than other investors such as minority shareholders and creditors. In particular, family firms in the ASEAN region are controlled tightly by the controlling families, especially through the involvement of controlling family members on the board (Driffield et al., 2007; Gupta et al., 2009). This exacerbates information asymmetry problems between family shareholders and other investors (i.e., non-family shareholders and creditors), resulting in higher costs of accessing external capital and higher adjustment costs for these firms (Myers, 1984).[12] Second, family firms not only pursue financial goals of maximising firm values but also have non-financial goals such as promoting the family reputation and family relationships (Gomez-Mejia et al., 2018). Sometimes, these non-financial goals can outweigh the desire to maximise the firm value, which means family firms prioritise their interests at the cost of other stakeholders (Gomez-Mejia et al., 2007, 2018).[13] Third, because of an inherent interest in long-term survival, the risk aversion of family firms may lead to inefficient investment decisions (e.g. underinvestment), resulting in suboptimal firm value (Jensen & Meckling, 1976). These choices can be perceived as ineffective entrepreneurship by external investors (Anderson et al., 2003).

As a result, investors can require higher costs of capital to compensate for the inherent ineffectiveness from the ownership set-up of family firms (Guidara et al., 2016; Hashim & Amrah, 2016; Yen et al., 2015). Indeed, we document that family firms in the ASEAN region face significantly higher interest rates than non-family firms.[14] Altogether, these characteris-

[12]For example, Cruz and Nordqvist (2012) document that family firms are particularly susceptible to information asymmetry due to the close personal relationships and emotional ties between family members, which can make it difficult to separate personal and business issues. Similarly, Sieger et al. (2014) find that family owners of firms often rely on informal and personal sources of information, which can lead to biased and incomplete decision-making. The study also highlights that family owners may be more likely to delay or avoid sharing information with external stakeholders, which can further exacerbate information asymmetry.

[13]This can create more severe conflicts between family shareholders and other investors (Cronqvist & Nilsson, 2003; Zhang & Cao, 2016), leading to higher costs of external financing.

[14]The average interest rate of ASEAN family firms (6.7%) is statistically higher compared to the average interest rate of non-family peers (6.2%).

tics lead to higher costs of capital structure adjustment, resulting in family firms having lower SOA (Burgstaller & Wagner, 2015).

We also acknowledge that family owners theoretically also have incentives to be transparent in their disclosures to alleviate investors' concerns, as they have a strong interest in maintaining their reputation. Empirical evidence supports this theory, as studies by Ma et al. (2017) show a higher level of disclosure of family firms. Considering this evidence, one can also argue that family firms may be associated with a lower level of information asymmetry. Additionally, creditors can view controlling families' focus on the long-term survival of the firms to be in line with their interests (Michiels & Molly, 2017). Family firms' risk aversion and strong concern about family reputation make them reluctant to adopt risky investments. Creditors should also view their investments in family firms as safer than in non-family firms (Croci et al., 2011). Therefore, the conflicts between family shareholders and creditors can be attenuated in family firms (Daily & Dollinger, 1992), resulting in family firms' having lower costs of debt (Anderson et al., 2003; Zhang & Cao, 2016) and fewer constraints in accessing debt capital (Pindado et al., 2015). These attributes may allow family firms to adjust faster towards their capital structure targets. Given this mixed evidence, the answer to our research question is not immediately clear ex-ante.[15] As such, we reformulate our main hypothesis in a null form to reflect this dual-hypothesis setting as follows:

> **H1.** There is no difference in the speed of capital structure adjustment between family and non-family firms in the ASEAN region.

# 3 | METHODOLOGY

## 3.1 | Data

To test our hypothesis, we utilise a sample of listed firms in the main stock exchanges of six ASEAN countries (namely Indonesia, the Philippines, Malaysia, Thailand, Singapore and Vietnam). We follow Hamadi (2010) and Santos et al. (2014) and only include firms trading on the markets for at least six consecutive years in our sample to ensure the consistency and availability of company financial information. We exclude firms in the utility and finance sectors due to their distinct regulations and accounting treatments (Croci et al., 2011; Devos et al., 2017). The sampling period covers from 2007 to 2017.

We derive annual firm-level fundamental data from Bloomberg. Given a lack of a database of ownership for these firms, we hand collect ownership data from various sources. Specifically, we examine: (i) firms' annual reports, (ii) official websites and (iii) other online sources to obtain the ownership data of the ultimate largest shareholders and, more importantly, their family relationships (if any). We repeat this process for each firm-year to ensure that a firm retains its family firm status during the entire studied period to be classified as a family firm. Following studies in the field (An et al., 2015; Cook & Tang, 2010; Dang et al., 2019), we winsorise all data at the 1% level in both tails to eliminate outlier bias. Our final sample comprises 2478 firms with 23,945 firm-year observations, in which family firms account for 52% of the sample.

[15]On the one hand, considering the possibility that family firms may have higher levels of information asymmetry (Cruz & Nordqvist, 2012; Sieger et al., 2014), one can argue that great controlling powers and involvement of family members should exacerbate information asymmetry problems as they tend to know more about their firms than other investors such as minority shareholders and creditors. On the other hand, if family firms exhibit higher quality disclosure so that they satisfy the demand of external stakeholders (Fan et al., 2023; Ma et al., 2017), it is possible that the conflicts between family shareholders and creditors can be attenuated in family firms.

## 3.2 | Baseline partial-adjustment model of SOA

Based on the most widely used two-stage partial-adjustment model for SOA (i.e., Ahsan et al., 2020; Cook & Tang, 2010; Pindado et al., 2015), the targeted capital structure ($Debt\ Ratio^{*}_{i,t}$) is determined by the most common firm-level factors ($X_{i,t}$) as identified in the capital structure literature (Ahsan et al., 2016; Dang et al., 2014; Frank & Goyal, 2009). This is depicted in the following equation:

$$Debt\ Ratio^{*}_{i,t} = \gamma + \beta X_{i,t-1} + \mu_{i,t} \tag{1}$$

where *Debt Ratio* is measured by total debt divided by total assets (Cook & Tang, 2010; Devos et al., 2017). $X_{i,t}$ is the vector of firm-level factors including firm size (*Size*), tangibility (*Tangibility*), profitability (*ROA*) and sales growth (*Growth*). Specifically, *Size* is measured by the natural logarithm of firms' total assets (Li et al., 2017). Larger firms are perceived to be less risky and more transparent, and they tend to have better access to debt (Croci et al., 2011). *Tangibility* is calculated by the ratio of net fixed assets to total assets (Burgstaller & Wagner, 2015; Li et al., 2017). Firms with higher tangibility have more collateralisable assets to pledge for borrowing; therefore, they are preferred by creditors (Dang et al., 2014). As a result, firms with higher *Size* and *Tangibility* are expected to have more debt. *ROA* is the ratio of operating income to assets (Baek et al., 2016). More profitable firms (those with higher *ROA*) tend to have larger self-generated capital to service their investments; hence, they tend to have lower levels of debt (Aderajew et al., 2019). *Growth* is measured by the increase of a firm's annual sales (Croci et al., 2011; Pindado et al., 2015). Firms with high growth rates are likely to have greater demand for external capital, particularly debt, because they have more investment opportunities to finance (Jensen & Meckling, 1976). $\mu_{i,t}$ are the error components of firm $i$ at time $t$.

Due to the presence of adjustment costs, firms do not fully adjust their capital structure at once. They gradually adjust their capital structure towards targets (Cook & Tang, 2010; Dang et al., 2014). Accordingly, the speed of adjustment ($\alpha$) is estimated as in Equation (2):

$$Debt\ Ratio_{i,t} - Debt\ Ratio_{i,t-1} = \alpha\left(Debt\ Ratio^{*}_{i,t} - Debt\ Ratio_{i,t-1}\right) \tag{2}$$

where $\alpha$ has values ranging from 0 to 1 and $Debt\ Ratio_{i,t}$ is the actual capital structure of firm $i$ at time $t$. Combining Equations (1) and (2) we have:

$$Debt\ Ratio_{i,t} - Debt\ Ratio_{i,t-1} = \alpha\left(\gamma + \beta X_{i,t-1} + \mu_{i,t} - Debt\ Ratio_{i,t-1}\right) \tag{3}$$

Lastly, we have the final partial adjustment model deriving from Equation (3) as follows:

$$Debt\ Ratio_{i,t} = c + (1-\alpha) Debt\ Ratio_{i,t-1} + \partial X_{i,t-1} + \varepsilon_{i,t} \tag{4}$$

where $X_{i,t-1}$ is the vector of determinant factors and $\partial$ is the coefficient vector. $(1-\alpha)$, the coefficient of $Debt\ Ratio_{i,t-1}$, is higher if the firm's speed of adjustment ($\alpha$) is slower and vice versa. $\varepsilon_{i,t}$ represents the error terms.

## 3.3 | Model specification

This paper examines the impact of family ownership on the speed of adjustment towards targeted capital structure. Therefore, we add the main experiment variable *Family* into Equation (4) and have the baseline model specification as follows:

**TABLE 1** Summary statistics.

Panel A: Descriptive statistics of variables

| | Obs. | Mean | Median | SD | Min | Max |
|---|---|---|---|---|---|---|
| *Debt Ratio* | 23,945 | 0.2082 | 0.1812 | 0.1825 | 0.0000 | 0.7338 |
| *Family* | 23,945 | 0.5640 | 1.0000 | 0.4959 | 0.0000 | 1.0000 |
| *ROA* | 23,945 | 0.0348 | 0.0375 | 0.1070 | −0.4655 | 0.3445 |
| *Size* | 23,945 | 4.6420 | 4.4994 | 1.7273 | 0.5731 | 9.2824 |
| *Tangibility* | 23,945 | 0.3445 | 0.3110 | 0.2324 | 0.0016 | 0.9496 |
| *Growth* | 23,945 | 0.1326 | 0.0544 | 0.5558 | −0.7776 | 3.8338 |

Panel B: Correlation matrix

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| (1) *Debt Ratio* | 1.0000 | | | | | |
| (2) *Family* | 0.0012 | 1.0000 | | | | |
| (3) *ROA* | −0.1656 | 0.1001 | 1.0000 | | | |
| (4) *Size* | 0.2741 | 0.1551 | 0.1703 | 1.0000 | | |
| (5) *Tangibility* | 0.2253 | 0.0153 | −0.0312 | 0.2020 | 1.0000 | |
| (6) *Growth* | 0.0078 | −0.0187 | 0.1324 | 0.0264 | −0.0481 | 1.0000 |

*Note*: This table presents the summary statistics of all variables of interest. Panel A shows the descriptive statistics of the variables. Panel B documents the correlation matrix of the variables. All variables are winsorised at the 1% level in both tails. The definitions for all variables are presented in Appendix 1.

$$Debt\ Ratio_{i,t} = \delta_0 + \left(\delta_1 + \theta_1\ Family\right) Debt\ Ratio_{i,t-1} + \theta_2\ Family + \partial X_{i,t-1} + \epsilon_{i,t} \quad (5)$$

where *Family* is a dummy variable that equals 1 if a firm is a family firm and 0 otherwise. Family firms are those having a family (including all family members) as the largest and ultimate shareholder of a firm with at least 10% shareholding.[16] To ensure consistency in our definition, this criterion must be satisfied for the whole sampling period for a firm to be classified as a family firm. $\alpha_1 = \left(1 - \delta_1\right)$ is the SOA for non-family firms, and the SOA of family firms is denoted by $\left(1 - \left(\delta_1 + \theta_1\right)\right)$. In this model, we also control for country, industry and year fixed effects. $\epsilon_{i,t}$ denotes our robust error terms.

## 3.4 | Descriptive statistics

Panel A of Table 1 provides the summary statistics of all variables. The mean of *Debt Ratio* for the sample is 20.82%, which is close to the statistics of debt levels reported in previous studies for ASEAN firms (Haider et al., 2021; Hamid et al., 2015). *Family* has a mean value of 56.4%, which means more than half of our sample firms are family firms. During the studied period, firms in the sample exhibit an average *ROA* of 3.5%, and their sales grow (*Growth*) at an

[16]The 10% threshold is in accord with most notable studies on family firms, such as Croci et al. (2011), Haider et al. (2021) and Santos et al. (2014). In addition, according to the laws of all six ASEAN countries of interest, shareholders with more than 10% ownership are considered major shareholders with more controlling power than other shareholders, whereas shareholders with more than 20% ownership are considered controlling shareholders. For a number of firms, we are unable to identify the exact ownership percentage due to data availability. We then identify those firms' family firm status based on whether the families have controlling power over the firms as disclosed in their annual reports, official websites and/or other official documents released by the firms.

average annual rate of 13.3%. *Size* has a mean value of 4.642, meaning that investigated firms have average total assets of $US103.75 million (i.e., $103.75 = e^{4.642}$), 34.45% of which are net fixed assets (*Tangibility*).[17]

Panel B of Table 1 documents the correlation matrix for the variables. All independent variables except for *ROA* exhibit positive correlations with *Debt Ratio*. In addition, the correlations between independent variables are all lower than 0.5, indicating low risk of multicollinearity issues in our regression model.

# 4 | MAIN FINDINGS AND ROBUSTNESS TESTS

## 4.1 | Baseline model results

Table 2 reports our baseline regression results. Specifically, column (1) focuses solely on the impact of family ownership on capital structure and SOA without the inclusion of control variables and fixed effects. In column (2), we add four control variables, and in column (3) we also add country, industry and year fixed effects. In all three columns, we document positive coefficients for lagged *Debt Ratio* and these coefficients are statistically significant at the 1% level. These suggest that ASEAN firms do adjust their capital structure towards their targets over time. In addition, in all columns, we find negative and significant coefficients for *Family*, and positive and significant coefficients for the interaction between *L.Debt Ratio* and *Family*. This means family firms tend to use less debt and have lower SOA compared to non-family firms.

These results are opposite to those reported in Pindado et al. (2015) who study SOA of European family firms. Our findings are plausible given the characteristics of family firms in the ASEAN region. First, ASEAN family firms are small, young and have high ownership concentration with most of them having family members on the board of directors (Driffield et al., 2007). Therefore, family shareholders tend to be privy to more information than other shareholders and have superior controlling power over the firms. Hence, it is expected that ASEAN family firms suffer from a higher level of information asymmetry and agency conflicts of interest than non-family firms in the region. These characteristics make it harder for ASEAN family firms to acquire debt capital due to higher borrowing constraints and higher costs of debt (Gao et al., 2020; Gracia & Siregar, 2021). Altogether, these results suggest that ASEAN family firms have more difficulty in accessing external capital, resulting in their slower SOA.

Focusing on column (3), the coefficient of *L.Debt Ratio* is 0.8546, and the coefficient of the interaction term is 0.0415. Both coefficients are significant at the 1% level. This suggests that the average SOA of non-family firms is 14.54% (0.1454 = 1 − 0.8546), whilst the average SOA of family firms is 10.39% (0.1039 = 1 − (0.8546 + 0.0415)). Thus, family firms tend to be 28.5% slower than non-family firms in adjusting their capital structure toward the targets. Overall, the empirical results in Table 2 provide support for H1.

Regarding our control variables, there is a positively significant coefficient on *Size*, which is consistent with the prior conclusion that larger firms have better access to debt (Croci et al., 2011) and thus have higher leverage. *Tangibility* also exerts a positive effect on *Debt Ratio* as the coefficient is significant at the 10% level. This result echoes the findings by Baek et al. (2016) and Santos et al. (2014) that firms with more fixed assets to secure their borrowings have a higher level of debt in their capital structure. We also find that profitable firms in the ASEAN region tend to have less debt, as shown by a negative coefficient of *ROA*. This is reasonable since firms tend to utilise their internal funds before resorting to external sources

[17]In our Table 1, we provide the descriptive statistics for our variables using the full sample of 23,945 firm-year observations. However, in our baseline regressions, given we lag all right-hand-side variables, the sample size reduces to 21,131 observations.

**TABLE 2** Baseline results of the impact of family ownership on speed of adjustment.

| | (1) | (2) | (3) |
|---|---|---|---|
| Dependent variable | Debt Ratio | Debt Ratio | Debt Ratio |
| *L.Debt Ratio* | 0.8746*** | 0.8640*** | 0.8546*** |
| | (0.0072) | (0.0078) | (0.0081) |
| *Family* | −0.0082*** | −0.0101*** | −0.0066*** |
| | (0.0019) | (0.0019) | (0.0019) |
| *Family* × *L.Debt Ratio* | 0.0421*** | 0.0423*** | 0.0415*** |
| | (0.0086) | (0.0086) | (0.0087) |
| *L.ROA* | | −0.0008 | −0.0139* |
| | | (0.0081) | (0.0084) |
| *L.Size* | | 0.0037*** | 0.0042*** |
| | | (0.0004) | (0.0004) |
| *L.Tangibility* | | 0.0029 | 0.0054* |
| | | (0.0027) | (0.0028) |
| *L.Growth* | | 0.0021 | 0.0014 |
| | | (0.0014) | (0.0014) |
| Observations | 21,131 | 21,131 | 21,131 |
| $R^2$ | 0.8005 | 0.8016 | 0.8033 |
| Country FE | No | No | Yes |
| Industry FE | No | No | Yes |
| Year FE | No | No | Yes |

*Note*: This table documents the baseline results (Equation 4) of the impact of family ownership on the speed of adjustment towards targeted capital structure of ASEAN firms during the period of 2007–2017. The dependent variable in all models is the firms' debt to assets ratio (*Debt Ratio*). The independent variable of interest is *Family*, a dummy variable that equals one if the firm has family ownership and zero otherwise. Control variables include *ROA*, *Size*, *Tangibility* and *Growth*. Column (1) presents the results when we include no control variables and fixed effects in the regression model. Column 2 shows the results when we include control variables in the model. Column (3) documents the results when we include control variables and all fixed effects in the model. The definitions for all variables are presented in Appendix 1. Robust standard errors are in parentheses. ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

when they have large profits to retain (Aderajew et al., 2019; Haider et al., 2021). Finally, there is no statistically significant effect of sales growth on the capital structure of ASEAN firms during the investigated period. Given that high costs of financing may prevent family firms from borrowing more (Gracia & Siregar, 2021), the demand of capital to sponsor growth may be constrained (Jensen & Meckling, 1976).

## 4.2 | Robustness tests

In this section, we perform several robustness checks to further affirm our main conclusion from the baseline model. First, we aim to ensure that our results are not driven by cross-sectional differences in capital structure due to the variety of capital needs and preferences across industries (Ahsan et al., 2016; Frank & Goyal, 2009; Li et al., 2017). To address this concern, we replace our dependent variable *Debt Ratio* with the variable *Adjusted Debt Ratio*. This is calculated by taking the difference between a firm's debt ratio and the industry average debt ratio for each year, then dividing this by the industry average for the same year. The results of our modified model are reported in column (1) of Table 3. We find that the sign and

**TABLE 3** Robustness tests.

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---|---|---|---|---|---|---|---|
| Model | Industry adjusted debt ratio | Exclude crisis period | Country-year fixed effects | GMM | Instrument variables | Entropy matching | Propensity score matching |
| Dependent variable | Adjusted Debt Ratio | Debt Ratio | Debt Ratio | Debt Ratio | Debt Ratio | Weighted Debt Ratio | Debt Ratio |
| *L.Adjusted Debt Ratio* | 0.8523*** | | | | | | |
| | (0.0086) | | | | | | |
| *Family* | 0.0103* | −0.0070*** | −0.0065*** | −0.0195** | | −0.0039** | −0.0066*** |
| | (0.0061) | (0.0020) | (0.0019) | (0.0085) | | (0.0387) | (0.0019) |
| *Family × L.Adjusted Debt Ratio* | 0.0441*** | | | | | | |
| | (0.0096) | | | | | | |
| *L.Debt Ratio* | | 0.8561*** | 0.8549*** | 0.8164*** | 0.8460*** | | 0.8546*** |
| | | (0.0083) | (0.0081) | (0.0427) | (0.0000) | | (0.0081) |
| *Family × L.Debt Ratio* | | 0.0393*** | 0.0414*** | 0.0868** | | | 0.0415*** |
| | | (0.0088) | (0.0087) | (0.0399) | | | (0.0087) |
| $\widehat{Family}$ | | | | | −0.0081 | | |
| | | | | | (0.1213) | | |
| $\widehat{Family} \times L.Debt\ Ratio$ | | | | | 0.0583*** | | |
| | | | | | (0.0005) | | |
| *L.Weighted Debt Ratio* | | | | | | 0.8706*** | |
| | | | | | | (0.0000) | |
| *Family × L.Weighted Debt Ratio* | | | | | | 0.0275*** | |
| | | | | | | (0.0007) | |
| Observations | 21,131 | 19,610 | 21,131 | 21,131 | 16,570 | 21,131 | 21,131 |
| $R^2$ | 0.7963 | 0.8062 | 0.8042 | – | 0.8034 | 0.8397 | 0.8033 |
| AR(2) | – | – | – | 0.886 | – | – | – |
| Hansen | – | – | – | 0.842 | – | – | – |

**TABLE 3** (Continued)

| Model | (1) Industry adjusted debt ratio | (2) Exclude crisis period | (3) Country-year fixed effects | (4) GMM | (5) Instrument variables | (6) Entropy matching | (7) Propensity score matching |
|---|---|---|---|---|---|---|---|
| Dependent variable | Adjusted Debt Ratio | Debt Ratio | Debt Ratio | Debt Ratio | Debt Ratio | Weighted Debt Ratio | Debt Ratio |
| Number of instruments | – | – | – | 12 | – | – | – |
| Control variables | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Country FE | Yes | Yes | No | Yes | Yes | Yes | Yes |
| Industry FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | No | Yes | Yes | Yes | Yes |
| Country-year FE | No | No | Yes | No | No | No | No |

*Note*: This table documents various robustness tests to confirm our main findings (Equation 4). The dependent variable in all models is the firms' debt to assets ratio (*Debt Ratio*). The independent variable of interest is *Family*, a dummy variable that equals one if the firm has family ownership and zero otherwise. Control variables include *ROA*, *Size*, *Tangibility* and *Growth*. In column (1), we utilise industry adjusted debt ratios instead of normal debt ratios. Column (2) shows the results when we exclude the global financial crisis period from our sample. Column (3) documents the results when we control for country-year fixed effects. Column (4) reports the results of the Generalised Method of Moments (GMM) model. In column (5), we document the results of the regression model which utilises two instrument variables *Fvalue* and *SdFvalue* to estimate the probability of a firm being a family firm. Columns (6) and (7) show the regression results when we utilise a matched sample using entropy matching and propensity score matching, respectively. The definitions for all variables are presented in Appendix 1. Robust standard errors are in parentheses. ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

significance of the coefficient of the interaction *Family* × *L.Adjusted Debt Ratio* remain consistent with those in our baseline model.

Second, we address the concern that our results can be distorted by a crisis period, for example the Global Financial Crisis (GFC). Specifically, during the GFC, the levels of both financial and operational risk of firms drastically increased (Sangsubhan & Basri, 2012). This can result in escalating costs of capital as well as costs of capital structure adjustment for all firms, which may affect family firms' SOA. To ensure that our results are not driven by this macroeconomic turbulence, we rerun our baseline regression but exclude all observations in the GFC period of 2007–2008. The results are reported in column (2) of Table 3 and are consistent with our main findings.

Third, to check if our results could be driven by unobservable heterogeneity in a given country-year, we re-estimate our regressions to include country-year fixed effects in the model. The results are documented in column (3) of Table 3 and are similar to our baseline results in terms of sign and significance of the interaction *Family* × *L.Adjusted Debt Ratio*.

Fourth, endogeneity is one of the main issues that can cause biases in the results of most corporate finance research (Dang et al., 2014; Santos et al., 2014; Wintoki et al., 2012). Our study is not exempted, because capital structure decisions have a dynamic nature that raises great concerns for endogeneity problems (Pindado et al., 2015). To mitigate this problem, we follow major studies on SOA (Aderajew et al., 2019; Devos et al., 2017; Flannery & Hankins, 2013), and rerun our model (Equation 4) using the system generalised method of moments (GMM) model.[18] The results are reported in column (4) of Table 3 and are consistent with our main findings in the baseline models. In addition, the results of our Hansen test and serial autocorrelation test for the second order suggest that the assumptions of the GMM model are satisfied and the model is valid.

Fifth, we attempt to mitigate the reverse causality issue which can occur between debt ratios and family ownership. This can result in simultaneous endogeneity bias in our regression model. Specifically, we follow the common method of utilising instrumental variables to address this issue in the family firm literature (e.g., González et al., 2013; Pindado et al., 2015; Schmid, 2013). We follow Bennedsen et al. (2015) and adopt two instrumental variables including a measure of family value (*Fvalue*) and the variation of this measure (*SdFvalue*). These variables are retrieved from the World Values Survey, specifically the responses to one question that asks how important family is to one's life. The response can take the value of 1 (Very important) to 4 (Not at all important). Our instrument variables (*Fvalue* and *SdFvalue*) are calculated as the mean value and standard deviation of all responses from one country to this question, respectively. We argue that countries with stronger and more consistent family values can have more families desiring to retain their business activities within their family members, which leads to higher probability of having family firms. At the same time, the World Values Survey is based on responses from only 1000–4000 randomly selected participants for each country who are less likely to have any connection with family firms in the same country. Therefore, it is unlikely related to the capital structure decision of family firms. For these reasons, we believe that *Fvalue* and *SdFvalue* are good instrumental variables for our analyses.

Following Pindado et al. (2015), we adopt a two-stage regression procedure. In the first-stage regression, we regress *Family* against the two instrumental variables and all control variables. Based on the regression results, we generate a predicted series for $\widehat{Family}$ (i.e., the average treatment effect). Since the responses to the World Values Survey are unlikely related to the financing decisions of family firms in the same country, this predicted series based

[18]The GMM model is considered an efficient and superior model to deal with dynamic endogeneity where lagged dependent variables can influence the current dependent and independent variables (Dang et al., 2014; Dufour et al., 2018; Wintoki et al., 2012).

on the survey responses is likely free of endogeneity. It is then used to replace *Family* in our main regression (second stage). The results of this regression are documented in column (5) of Table 3. We find that the sign and significance of the coefficient of the interaction $\widehat{Family} \times L.$ *Debt Ratio* are consistent with our baseline results.

Sixth, we attempt to mitigate the potential endogeneity problem arising from the heterogeneity in firm characteristics between family and non-family firms. Specifically, we conduct entropy matching to transform our non-family firm sample into one that is highly comparable to our family firm sample. We transform our non-family firm, using a unit weight for each non-family firm, to create a weighted non-family firm sample that is comparable to our family firm regarding the value of all control variables in the year 2013 (i.e., the only year that we have observations for all firms in the sample).[19] These unit weights are then utilised to transform the non-family firm in all the remaining years in the sampling period. We rerun our regression utilising the entropy matched samples and report the results in column (6) of Table 3.

In addition, we also perform propensity score matching to match each family firm in our sample with the one most comparable (i.e., having the closest propensity score calculated based on the value of all control variables in the year 2013, within the calliper of 1%) non-family firm.[20] We rerun our regression utilising the propensity score matched samples and report the results in column (7) of Table 3. Again, the results in both tests suggest similar conclusion to our main findings.

We also consider the possibility that family firms may merely capture certain firm attributes which might be the factors that drive our main results. We address this issue by performing placebo tests using random assignment of family firm status across firms in our sample. We repeat this process 1000 times. For each time, we rerun the baseline regression and record the results for the coefficient and significance level of the interaction *Family* × *L.Adjusted Debt Ratio*. We find not more than 49 significant coefficients (at the 5% confidence level) among the 1000 iterations, which means our main conclusion is not driven by family firms' unobserved attributes. We also provide, in Figure 1, the histogram of *t*-values of the interaction coefficient in the placebo tests in comparison with the *t*-value reported from our baseline regression where the family firm status is not randomly assigned.

Finally, we address the concern that our main findings may be sensitive to the definition of family firms we that utilise. To mitigate this concern, we adopt two alternative definitions of family firms. First, we utilise *Family2*, a dummy variable that equals one if the firm has more than or equal to 20% of family ownership in all years of the studied period, and zero otherwise (i.e., we follow Faccio and Lang (2002), Gottardo and Moisello (2014), and Pindado et al. (2015) to adopt a threshold of 20% of family ownership instead of a 10% threshold as in our main definition). We rerun our baseline regression utilising *Family2* and report the results in column (1) of Table 4. Second, we adopt *Family3*, a dummy variable that equals one if the firm has more than or equal to 10% of family ownership in the first year of the studied period (i.e., 2007), and zero otherwise (i.e., we follow Driffield et al. (2007) and La Porta et al. (1999) to classify a firm as a family firm using the ownership data of only one year and assume that the family firm status holds for the entire studied period). The regression results utilising *Family3* are reported in column (2) of Table 4. Overall, both tests show similar results to our baseline results as we also find that the coefficients of the interactions of *Family2*/*Family3* and *L.Debt Ratio* are positive and statistically significant. This means family firms tend to have slower SOA, regardless of the definitions used.

[19]Our results remain the same if we pair our family and non-family firm samples using the value of all control variables in the year 2007 or 2017 (i.e., the first and last year of our sampling period), though we suffer a substantial decrease in our sample size.

[20]Again, our results remain the same if we match our family and non-family firm samples using the value of all control variables in the year 2007 or 2017.

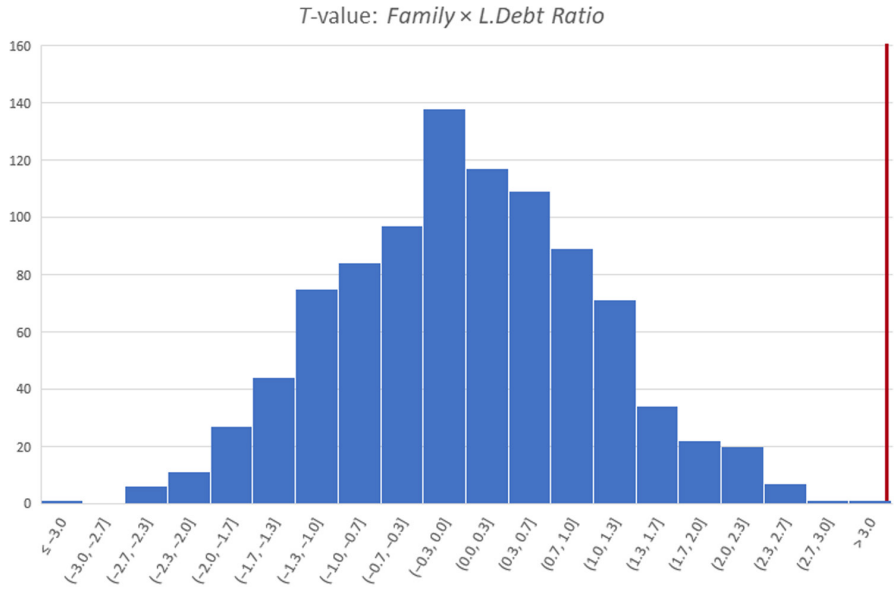


**FIGURE 1** Placebo test results. This histogram plots the distribution of the *Family* × *L.Debt Ratio* coefficient *t*-statistics generated from running 1000 iterations of the baseline regression model. For each iteration, family firm status is randomly assigned among firms in our sample. The vertical line represents the *t*-statistic generated using the actual, non-randomly assigned, data.

**TABLE 4** Alternative definitions of family firms.

| | (1) | (2) |
|---|---|---|
| Dependent variable | Debt Ratio | Debt Ratio |
| *L.Debt Ratio* | 0.8590*** | 0.8522*** |
| | (0.0078) | (0.0085) |
| *Family2* | −0.0058*** | |
| | (0.0019) | |
| *Family2* × *L.Debt Ratio* | 0.0347*** | |
| | (0.0086) | |
| *Family3* | | −0.0066*** |
| | | (0.0020) |
| *Family3* × *L.Debt Ratio* | | 0.0438*** |
| | | (0.0089) |
| Observations | 21,131 | 21,131 |
| $R^2$ | 0.8031 | 0.8033 |
| Country FE | Yes | Yes |
| Industry FE | Yes | Yes |
| Year FE | Yes | Yes |

*Note*: This table documents the regression results (Equation 4) of the impact of family ownership on the speed of adjustment towards targeted capital structure of ASEAN firms during the period of 2007–2017, utilising alternative definitions of family firms. The dependent variable in all models is the firms' debt to assets ratio (*Debt Ratio*). In column (1), the independent variable of interest is *Family2*, a dummy variable that equals one if the firm has more than or equal to 20% of family ownership throughout the studied period, and zero otherwise. Control variables include *ROA*, *Size*, *Tangibility* and *Growth*. In column (2), the independent variable of interest is *Family3*, a dummy variable that equals one if the firm has more than or equal to 10% of family ownership in the first year of the studied period (i.e., 2007), and zero otherwise. The definitions for all variables are presented in Appendix 1. Robust standard errors are in parentheses. ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

# 5 | FURTHER ANALYSES

## 5.1 | External channels for the impact of family ownership on SOA

In this section, we examine the two possible external channels (i.e., institutional factors) through which family ownership can affect SOA, including costs of adjustment and information asymmetry.

According to Oztekin and Flannery (2012), institutional factors can influence firms' capital structure adjustment costs, which can ultimately affect SOA. We, therefore, ask whether country-level capital access and information asymmetry can moderate the impact of family ownership on SOA. First, regarding capital access, in countries where accessing capital is more restricted, the costs of capital access and financing are also higher. Therefore, SOA of firms in such countries tends to be lower. Dufour et al. (2018), Hüttel et al. (2010), and Wu and Yue (2009) also find supporting evidence for the impact of capital accessibility on corporate SOA. For family firms with their high agency conflicts, these firms are expected to experience more difficulties in accessing capital in countries with more constraints to finance. We, therefore, explore whether the impact of family ownership on SOA can be explained by the higher cost of capital structure adjustment that family firms bear.

To answer this question, we examine whether the impact of family ownership on SOA varies with different levels of adjustment costs. To this end, we follow Aggarwal and Goodell (2014) to utilise *Ease to Loan* (i.e., ease of access to loans index) and *Access to Equity* (i.e., financing through local equity market index) as our measure of adjustment costs. The data of these two country-level variables are retrieved from the World Economic Forum database. The higher level of *Ease to Loan* and *Access to Equity* indicate more ease of capital access and lower adjustment cost. We then divide our sample into three subsamples of firms from countries with low (the Philippines and Vietnam), medium (Indonesia and Thailand) and high (Malaysia and Singapore) values of *Ease to Loan* and *Access to Equity*. These correspond with high, medium and low costs of capital structure adjustment, respectively. We rerun our regression model for these three subsamples and report the results in columns (1)–(3) of Table 5.

We find that the coefficients of *L.Debt Ratio* are 0.8859, 0.8719 and 0.8082 for the three subsamples of high, medium and low costs of adjustment, respectively. All the coefficients are significant at the 1% level and show a decreasing trend as the cost of adjustment decreases. This suggests that, on average, firms operating in the countries with lower costs of adjustment tend to adjust more quickly to their targeted capital structure. This finding is consistent with the conclusion by Dufour et al. (2018) and Hüttel et al. (2010) on the relationship between costs of adjustment and SOA. It also adds to the finding by Oztekin and Flannery (2012) that institutional factors can influence firms' capital structure adjustment costs, which can ultimately affect SOA.

Focusing on the interaction *Family* × *L.Debt Ratio*, we find that the coefficient is insignificant for the subsample of firms with high costs of adjustment. The coefficients for the interaction term are significant for both subsamples of firms with medium and low costs of adjustment, but it is higher for the low-cost subsample (0.0768) than the medium-cost subsample (0.0328). This means the impact of family ownership on SOA is less pronounced in countries with higher costs of adjustment than that in countries with lower costs of adjustment.

We also visualise the SOA of family and non-family firms for the three subsamples of low, medium and high levels of capital access in Figure 2a. Accordingly, the difference between the SOA of family and non-family firms is widened when capital access is easier. This finding is reasonable since in countries where costs of adjustment are high for all firms, the difference in adjustment costs between family and non-family firms can be less prominent. Therefore, family firm effect can be less prevalent, resulting in less significant impact of family ownership on capital structure. This provides support for our prior argument that family firms have slower

**TABLE 5** External channels for the impact of family ownership on speed of adjustment.

| | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| Model | High cost of adjustment | Medium cost of adjustment | Low cost of adjustment | High information asymmetry | Low information asymmetry |
| Dependent variable | Debt Ratio | Debt Ratio | Debt Ratio | Debt Ratio | Debt Ratio |
| *L.Debt Ratio* | 0.8859*** | 0.8719*** | 0.8082*** | 0.8859*** | 0.8416*** |
| | (0.0123) | (0.0129) | (0.0155) | (0.0123) | (0.0104) |
| *Family* | 0.0027 | −0.0058 | −0.0125*** | 0.0027 | −0.0090*** |
| | (0.0054) | (0.0038) | (0.0030) | (0.0054) | (0.0023) |
| *Family × L.Debt Ratio* | 0.0097 | 0.0328** | 0.0768*** | 0.0097 | 0.0539*** |
| | (0.0168) | (0.0147) | (0.0156) | (0.0168) | (0.0108) |
| *L.ROA* | 0.0101 | −0.0181 | −0.0166 | 0.0101 | −0.0170* |
| | (0.0201) | (0.0147) | (0.0121) | (0.0201) | (0.0093) |
| *L.Size* | 0.0041*** | 0.0033*** | 0.0048*** | 0.0041*** | 0.0041*** |
| | (0.0010) | (0.0007) | (0.0007) | (0.0010) | (0.0005) |
| *L.Tangibility* | 0.0015 | 0.0014 | 0.0087** | 0.0015 | 0.0055* |
| | (0.0068) | (0.0051) | (0.0041) | (0.0068) | (0.0031) |
| *L.Growth* | −0.0024 | −0.0002 | 0.0046** | −0.0024 | 0.0025 |
| | (0.0024) | (0.0029) | (0.0021) | (0.0024) | (0.0017) |
| Observations | 3604 | 7043 | 10,484 | 3604 | 17,527 |
| $R^2$ | 0.8322 | 0.8132 | 0.7739 | 0.8322 | 0.7966 |
| Country FE | Yes | Yes | Yes | Yes | Yes |
| Industry FE | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes |

*Note*: This table provides our tests for the external channels through which family ownership can affect speed of capital structure adjustment (Equation 4). The dependent variable in all models is the firms' debt to assets ratio (*Debt Ratio*). The independent variable of interest is *Family*, a dummy variable that equals one if the firm has family ownership and zero otherwise. Control variables include *ROA*, *Size*, *Tangibility* and *Growth*. Columns (1)–(3) show the regression results for countries with high, medium and low cost of capital structure adjustment, respectively. Cost of capital adjustment is measured by *Ease to Loan* and *Access to Equity*. Columns (4) and (5) documents the regression results for countries with low and high *Disclosure Index* (i.e., high and low information asymmetry), respectively. The definitions for all variables are presented in Appendix 1. Robust standard errors are in parentheses. ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

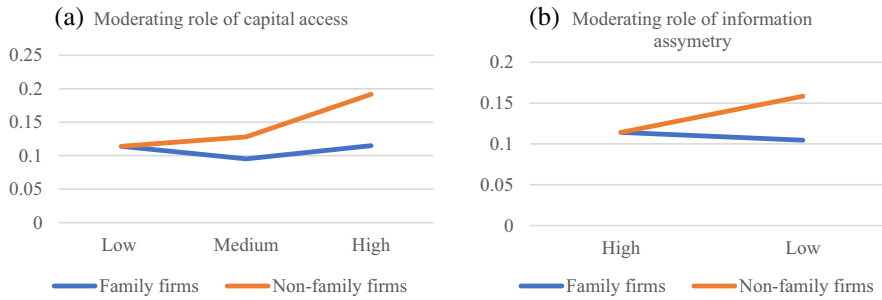


**FIGURE 2** The moderating roles of external channels. This figure depicts the speed of adjustment (SOA) of family firms (blue lines) and non-family firms (orange lines) in different contexts. Part (a) shows the SOA for two subsamples in countries where ease of capital access (measured by *Ease to Loan* and *Access to Equity*) is low, medium and high, respectively. Part (b) shows the SOA in countries where information asymmetry (measured by *Disclosure Index*) is low and high, respectively. The definitions for all variables are presented in Appendix 1.

SOA compared to non-family firms due to the higher costs of adjustment that family firms have to bear.

Second, we test whether information asymmetry can explain the lower SOA of family firms compared to non-family firms. Since information asymmetry increases the costs of financing and constraints in accessing capital (Myers & Majluf, 1984), firms operating in the countries with higher information asymmetry should face higher costs of adjustment, which lead to their slower SOA (An et al., 2015; Dang et al., 2019). In particular, in countries where information asymmetry is generally high for all firms, outside investors may view information asymmetry of family firms, compared to that of non-family firms, as less severe. In contrast, in countries with low levels of information asymmetry, the information asymmetry in family firms can be more prevalent. Hence, the effect of family ownership on SOA may be more prominent.

To test for this channel, we split our sample into two subsamples of firms that operate in countries with low (Malaysia, Singapore and Thailand) and high (Indonesia, the Philippines and Vietnam) levels of information asymmetry. We utilise the country-level *Disclosure Index* to proxy for the level of information asymmetry. The data for this index are also retrieved from the World Development Indicators database. The higher the *Disclosure Index*, the lower the information asymmetry that outside investors in one country suffer. We rerun our regression model for these two subsamples and report the results in columns (4) and (5) of Table 5.

Accordingly, the coefficients of *L.Debt Ratio* are 0.8859 and 0.8416. Both coefficients are significant at the 1% level, for the two subsamples of high and low information asymmetry, respectively. This suggests that, on average, firms operating in the countries with higher information asymmetry tend to adjust more slowly to their targeted capital structure. This finding is consistent with the conclusion documented in An et al. (2015) and Dang et al. (2019).

We further find that the coefficient of the interaction *Family* × *L.Debt Ratio* is insignificant for the subsample of firms in countries with high information asymmetry. The coefficient of the interaction term for the subsample of firms in countries with low information asymmetry is 0.0539 and significant at the 1% level. This suggests that the difference in SOA between family and non-family firms is only significant when information asymmetry is low. The SOA of family and non-family firms for the two subsamples of high and low information asymmetry are visualised in Figure 2b. We find that the difference between the SOA of family and non-family firms is more pronounced when information asymmetry is low.

Arguably, in countries where information asymmetry is high for all firms, outside investors may view the higher information asymmetry of family compared to non-family firms as less severe. Thus, there is no significant difference in SOA between family and non-family firms in those countries. This finding supports our argument that the impact of family ownership on SOA can be explained by the higher information asymmetry of family firms.

## 5.2 | Internal channels for the impact of family ownership on SOA

In this section, we investigate two potential internal channels that can explain the relationship between family ownership and SOA, namely family directorship and ownership concentration. For this purpose, we particularly focus on our sample of family firms for our analyses.

First, we examine whether SOA of family firms is influenced by the involvement of family members on the board of directors. According to Hansen and Block (2020), family involvement on boards of directors can give family owners more power to pursue their interests at the cost of other stakeholders, which can further raise the agency conflicts within the firms. In fact, family shareholders tend to appoint family members (rather than professional managers) to be part of management boards so as to maintain family relationships and controlling power. This can also create the risk of overlooking and bypassing the recruitment of high calibre

managers who can make better decisions to enhance firm value (Caprio & Signori, 2020; Pan & Tian, 2016). Overall, such increased conflicts of interest can lead to higher cost of capital structure adjustment and impede the firms' SOA.

To test this prediction, we modify our regression model by replacing *Family* with *Family Director*, which is measured by the proportion of directors on the board being members of the controlling families. We run this modified model on our sample of family firms and report the results in column (1) of Table 6. We find that the coefficient of the interaction *Family Director* × *L.Debt Ratio* is 0.0516, significant at the 10% level. This means the SOA of family firms is lower for those firms having family involvement on boards of directors. This trend is also depicted in Figure 3 (the blue line). Overall, this result supports the conjecture that family

**TABLE 6** Internal channels for the impact of family ownership on speed of adjustment.

| | (1) | (2) |
|---|---|---|
| Model | Family director | Ownership concentration |
| Dependent variable | Debt Ratio | Debt Ratio |
| *L.Debt Ratio* | 0.8872*** | 0.8894*** |
| | (0.0097) | (0.0108) |
| *Family Director* | −0.0101 | |
| | (0.0066) | |
| *Family Director* × *L.Debt Ratio* | 0.0516* | |
| | (0.0281) | |
| *Concentration* | | −0.0009 |
| | | (0.0007) |
| *Concentration* × *L.Debt Ratio* | | 0.0049* |
| | | (0.0029) |
| *L.ROA* | −0.0042 | −0.0177* |
| | (0.0088) | (0.0103) |
| *L.Size* | 0.0039*** | 0.0043*** |
| | (0.0005) | (0.0005) |
| *L.Tangibility* | −0.0003 | −0.0048 |
| | (0.0035) | (0.0038) |
| *L.Growth* | 0.0007 | 0.0003 |
| | (0.0018) | (0.0021) |
| Observations | 11,931 | 9127 |
| $R^2$ | 0.8318 | 0.8467 |
| Country FE | Yes | Yes |
| Industry FE | Yes | Yes |
| Year FE | Yes | Yes |

*Note*: This table reports our tests for the internal channels through which family ownership can affect speed of capital structure adjustment (Equation 4). We utilise our sample of family firms for both regressions. The dependent variable in all models is the firms' debt to assets ratio (*Debt Ratio*). Control variables include *ROA*, *Size*, *Tangibility* and *Growth*. In column (1), the independent variable of interest is *Family Director*, which is the percentage of family director(s) on the board of directors. This model shows the impact of *Family Director* on the speed of adjustment of family firms in our sample. In column (2), the independent variable of interest is *Concentration*, which is the total percentage of shareholdings by shareholders who have at least 5% of the firm's outstanding shares. This model shows the impact of ownership concentration on the speed of adjustment of family firms. The definitions for all variables are presented in Appendix 1. Robust standard errors are in parentheses. ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

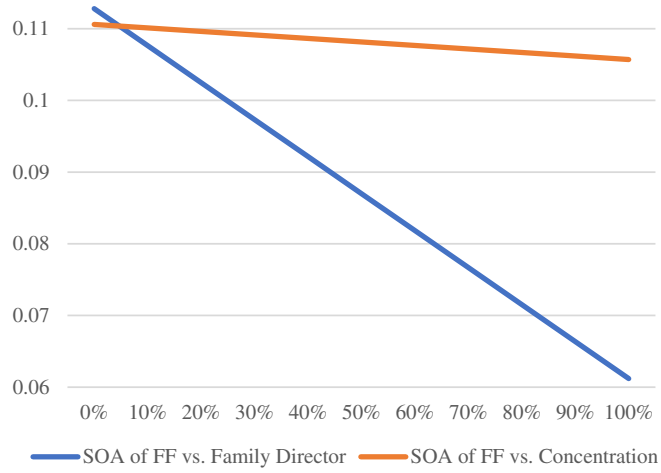


**FIGURE 3** The influence of internal channels on the SOA of family firms. This figure depicts the speed of adjustment (SOA) of family firms at different levels of *Family Director* (blue line) and *Concentration* (orange line). The definitions for all variables are presented in Appendix 1.

ownership can influence the firms' SOA via the presence of controlling family members on the firms' boards of directors.

Second, we ask whether ownership concentration can be the channel through which family ownership can affect SOA. Arguably, family firms with more ownership concentration tend to be more risk averse, which can prevent the firms from accepting risky but efficient projects (Anderson et al., 2003; Jensen & Meckling, 1976). This can lead to more conflicts of interest between large shareholders and minority shareholders, resulting in higher costs of external capital. In addition, higher levels of ownership concentration mean that large shareholders tend to possess more information and controlling power over the firm. This accelerates the information asymmetry in family firms, which further lowers SOA.

To test this prediction, we modify our regression model by replacing *Family* with *Concentration*, measured by the total percentage of shareholdings of shareholders (including both family and non-family shareholders) who have at least 5% of a firm's outstanding shares (Setia-Atmaja et al., 2009). We then run this modified model on our sample of family firms and report the results in column (2) of Table 6. Accordingly, the coefficient of the interaction *Concentration* × *L.Debt Ratio* is 0.0049 and significant at the 10% level. This suggests that the SOA of family firms is lower when the firms have more ownership concentration. This can also be visualised in Figure 3 (the orange line). Altogether, these observations support the notion that ownership concentration is one channel through which family ownership can affect family firms' SOA.

Overall, the results in Table 6 provide evidence to support our arguments that family board involvement and ownership concentration can be the internal channels that explain the relationship between family ownership and SOA. However, since the coefficients of the interaction terms in both regressions are only significant at the 10% level, we can conclude that the internal channels are less important compared to the external channels (i.e., as discussed in Section 5.1) in moderating the relationship between family ownership and SOA.

## 5.3 | Asymmetric impacts of family ownership on SOA

To strengthen and contextualise our findings, we conduct further analyses to examine the impact of family ownership on SOA in different contexts. We first examine whether the impact

of family ownership on SOA is asymmetric for firms with underleveraged and overleveraged capital structure. Prior studies (i.e., Byoun, 2008; Dang et al., 2019; Uysal, 2011) suggest that SOAs in firms that are underleveraged and overleveraged are not the same. From the Pecking Order theory, overleveraged firms face higher financing costs because they lack future debt capacity and need to choose costly external equity (Myers, 1984). This can affect their cost of capital structure adjustment and consequently SOA.

We aim to test whether the impact of family ownership on SOA is asymmetric for firms with underleveraged and overleveraged capital structure. Specifically, we rerun our regression model on two subsamples: overleveraged and underleveraged firms. We identify overleveraged/underleveraged firms as those having debt ratios higher/lower than their targeted debt ratios (Harford et al., 2009; Li et al., 2017). The targeted debt ratio for each firm is determined by the function of firms' characteristics as in our Equation (1) (Harford et al., 2009).

The results, reported in columns (1) and (2) of Table 7, show that the coefficient of *Family* × *L.Debt Ratio* is smaller for the overleveraged sample (0.0507, significant at the 1% level) compared to the underleveraged sample (0.1307, significant at the 1% level). This means the impact of family ownership on SOA is less prominent for overleveraged firms.

Similarly, how far a firm's capital structure is from its target has also been documented to be an important determinant of SOA (Dang et al., 2019; Devos et al., 2017; Dufour et al., 2018). The larger the deviation is, the more value losses firms incur, leading firms to move faster towards the targeted capital structure (Elsas et al., 2014). We, therefore, investigate whether the impact of family ownership on SOA can be moderated by the firms' distance from targeted capital structure.

We split our sample into two subsamples of firms that are closer to/farther from their targeted capital structure. We first compute the distance between the actual and targeted debt ratio for each firm. Then, we identify firms that are closer to/farther from targets as those that have the distance being lower/higher from the median distance across all firms. We rerun our regression model utilising these two subsamples and report the results in columns (3) and (4) of Table 7. Accordingly, the coefficient of *Family* × *L.Debt Ratio* is only significant for the sample of firms that are far from their targeted capital structure, suggesting an asymmetric impact of family ownership on SOA across firms with different distances from targets.

Next, we explore whether the impact of family ownership on the debt ratio SOA is the same, taking into account different debt maturities. In particular, we examine SOA of short-term debt ratio (*ST Debt Ratio*) and long-term debt ratio (*LT Debt Ratio*). We rerun our regression model but replacing *Debt Ratio* by *ST Debt Ratio* and *LT Debt Ratio* and report the results in columns (5) and (6) of Table 7, respectively. The results show that the SOAs for both short-term debt ratio and long-term debt ratio are lower for family firms. However, the impact (i.e., the coefficient of the interaction term) is smaller for long-term debt adjustment (0.0347) than short-term debt adjustment (0.0600).

Finally, we examine whether the impact of family ownership on SOA is asymmetric at different levels of debt ratio. Specifically, firms with high debt levels have high bankruptcy risk and low debt capacity that such firms tend to face exceedingly expensive borrowing costs (DeAngelo & Masulis, 1980). In addition, agency costs between shareholders and creditors tend to be higher in heavily indebted firms (Jensen & Meckling, 1976). These costs are expected to be higher for family firms in the ASEAN region where the markets are still inefficient and creditor protection is somewhat limited. Therefore, we predict that family firms with different levels of debt bear different costs of adjustment and have asymmetric SOA.

To test this conjecture, we conduct quantile regressions and report the results in Table 8, in which we report the coefficients of *L.Debt Ratio*, *Family firm* and *Family* × *L.Debt Ratio* with the significant levels in our regressions at different quantiles of *Debt Ratio*. Figure 4 depicts the change in the coefficients of the interaction term across different quantiles. The estimated coefficients from our baseline regression (see Table 2) are also included in both Table 8 and

**TABLE 7** Asymmetric impact of family ownership on speed of adjustment.

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| Model | Over leveraged | Under leveraged | Close to target | Far from target | Short-term debt ratio | Long-term debt ratio |
| Dependent variables | Debt Ratio | Debt Ratio | Debt Ratio | Debt Ratio | ST Debt Ratio | LT Debt Ratio |
| *L.Debt Ratio* | 0.7718*** | 0.6030*** | 0.8971*** | 0.8143*** | | |
| | (0.0097) | (0.0159) | (0.0019) | (0.0133) | | |
| *Family* | −0.0179*** | −0.0144*** | −0.0043*** | −0.0005 | −0.0038** | −0.0031** |
| | (0.0043) | (0.0028) | (0.0005) | (0.0044) | (0.0015) | (0.0014) |
| *Family × L.Debt Ratio* | 0.0507*** | 0.1307*** | 0.0333*** | 0.0218 | | |
| | (0.0118) | (0.0174) | (0.0022) | (0.0161) | | |
| *L.ST Debt Ratio* | | | | | 0.7841*** | |
| | | | | | (0.0117) | |
| *Family × L.ST Debt Ratio* | | | | | 0.0600*** | |
| | | | | | (0.0140) | |
| *L.LT Debt Ratio* | | | | | | 0.7685*** |
| | | | | | | (0.0122) |
| *Family × L.LT Debt Ratio* | | | | | | 0.0347*** |
| | | | | | | (0.0130) |
| *L.ROA* | −0.0535*** | 0.0020 | −0.0130*** | −0.0092 | −0.0203*** | −0.0210*** |
| | (0.0141) | (0.0082) | (0.0015) | (0.0167) | (0.0066) | (0.0057) |
| *L.Size* | −0.0006 | 0.0113*** | 0.0040*** | 0.0027*** | 0.0016*** | 0.0055*** |
| | (0.0008) | (0.0008) | (0.0001) | (0.0009) | (0.0003) | (0.0004) |
| *L.Tangibility* | −0.0128*** | 0.0254*** | 0.0046*** | 0.0011 | 0.0000 | 0.0179*** |
| | (0.0045) | (0.0041) | (0.0008) | (0.0054) | (0.0023) | (0.0027) |
| *L.Growth* | 0.0026 | 0.0004 | 0.0014*** | 0.0005 | 0.0014 | 0.0010 |
| | (0.0021) | (0.0012) | (0.0003) | (0.0026) | (0.0012) | (0.0012) |

(Continues)

**TABLE 7** (Continued)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| Model | Over leveraged | Under leveraged | Close to target | Far from target | Short-term debt ratio | Long-term debt ratio |
| Dependent variables | Debt Ratio | Debt Ratio | Debt Ratio | Debt Ratio | ST Debt Ratio | LT Debt Ratio |
| Observations | 8636 | 12,495 | 10,568 | 10,563 | 21,131 | 21,131 |
| $R^2$ | 0.8407 | 0.8718 | 0.9911 | 0.6454 | 0.6941 | 0.7140 |
| Country FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |

*Note*: This table presents our tests for the asymmetric impact of family ownership on the speed of capital structure adjustment (Equation 4). The dependent variable in all models is the firms' debt to assets ratio (*Debt Ratio*). The independent variable of interest is *Family*, a dummy variable that equals one if the firm has family ownership and zero otherwise. Control variables include ROA, *Size*, *Tangibility* and *Growth*. Columns (1) and (2) show the regression results for the subsample of firms that are over- and underleveraged, respectively. We identify under/overleveraged firms as those that have their current *Debt Ratio* lower/higher than the targeted *Debt Ratio*, estimated from our baseline model. Columns (3) and (4) document the results for the subsample of firms that are closer and farther from the targeted *Debt Ratio*, respectively. We identify these two subsamples by checking whether the gap between the firm's *Debt Ratio* and its targeted *Debt Ratio* is lower or higher than the median value for each year. Columns (5) and (6) show the results when we focus on the speed of adjustment of the firms' short-term debt ratio (*ST Debt Ratio*) and long-term debt ratio (*LT Debt Ratio*), respectively. The definitions for all variables are presented in Appendix 1. Robust standard errors are in parentheses. ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

**TABLE 8** Quantile regressions.

| Quantile | L.Debt ratio | Family | Family × L.Debt ratio |
|---|---|---|---|
| OLS | 0.8546*** | −0.0066*** | 0.0415*** |
| 0.1 | 0.7300*** | −0.0041** | 0.0760*** |
| 0.2 | 0.7751*** | −0.0050*** | 0.0635*** |
| 0.3 | 0.7985*** | −0.0055*** | 0.0571*** |
| 0.4 | 0.8152*** | −0.0058*** | 0.0524*** |
| 0.5 | 0.8326*** | −0.0062*** | 0.0476*** |
| 0.6 | 0.8569*** | −0.0067*** | 0.0409*** |
| 0.7 | 0.8881*** | −0.0073*** | 0.0322*** |
| 0.8 | 0.9249*** | −0.0081*** | 0.0220* |
| 0.9 | 0.9916*** | −0.0095*** | 0.0035 |

*Note*: This table documents the coefficients of the key variables in our model (Equation 4), utilising quantile regressions at different quantiles. The dependent variable in all models is the firms' debt to assets ratio (*Debt Ratio*). The independent variable of interest is *Family*, a dummy variable that equals one if the firm has family ownership and zero otherwise. Control variables include *ROA*, *Size*, *Tangibility* and *Growth*. The definitions for all variables are presented in Appendix 1. Robust standard errors are in parentheses. ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

Figure 4. Focusing on the coefficient of the interaction *Family* × *L.Debt Ratio*, this tends to decline when *Debt Ratio* increases and becomes insignificant from the 90th quantile. This suggests that the impact of family ownership on SOA becomes less pronounced when the firms have higher debt ratios. This finding is reasonable since firms with high leverage suffer greatly from high cost of capital, leading to higher cost of capital structure adjustment and slower SOA. Thus, the difference in cost of adjustment between family and non-family firms who have very high leverage would be less prominent.

## 6 | CONCLUSIONS

The decision of whether to maintain high family ownership in a firm, known as family firms, is a popular choice among many firms in the ASEAN region. At face value, one would expect which ownership a firm chooses to matter less than what actions and strategies the firm takes in running the business, or there should be little correlation between the two. In this study, we, however, argue that ASEAN family firms can signal a strong level of agency conflict and information asymmetry to capital providers. As such, we expect family firms to exhibit lower SOA compared to non-family firms.[21]

Employing a sample of hand-collected data of ownership, our study shows that ASEAN family firms adjust their capital in a slower manner than non-family peers do. This slower SOA is particularly pronounced among firms having family directors and intensive ownership concentration. Moreover, the effects of family ownership on SOA become stronger for firms that are underleveraged, firms closer to targeted capital structure and firms with lower levels of debt. These adverse effects of family ownership on SOA are mostly due to higher costs of financing and accessing capital, plausibly caused by high agency conflicts and information asymmetry within family firms. We also show that institutional environments influence the impact of family ownership on SOA. Specifically, SOA of family firms

[21]Southeast Asia is an emerging region that has been playing an increasing role in the global economy. However, the business activities of firms in the region are still constrained by relatively low levels of investor protection and markets characterised by higher levels of information asymmetry.

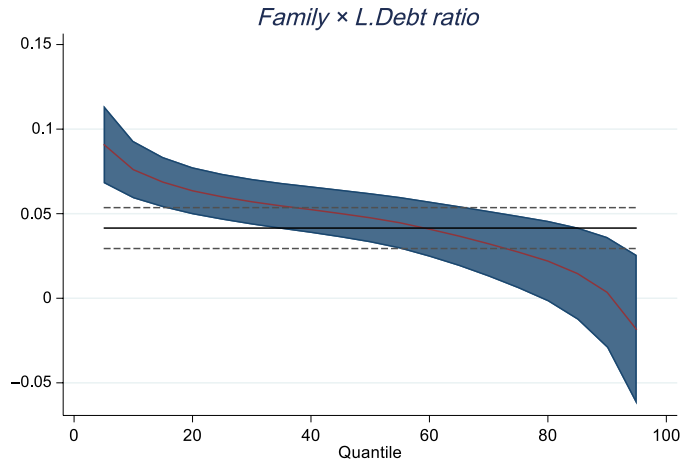


**FIGURE 4** Graph of quantile regression results. This figure shows the graph of the coefficients of the interaction *Family* × *L.Debt Ratio* in our quantile regressions (red line). The blue area is the confidence interval at the 95% level of confidence, whereas the black horizontal line shows the coefficient of our OLS regression model. The definitions for all variables are presented in Appendix 1.

is slower in countries characterised by greater information asymmetry and difficulties in accessing capital.[22]

This study provides insightful practical implications. Given family firms are the driving force of economies in the ASEAN region, it is essential to ease access to capital markets and increase business disclosure to allow family firms to achieve better SOA and value maximisation.[23] In addition, ASEAN family firms should consider choosing a more suitable ownership structure concerning board of director composition to mitigate the frictions of information asymmetry and agency costs.

Our study still leaves much room for future studies to explore further business decisions of family firms, particularly their capital structure decisions and SOA. For instance, because research findings from extant literature are particularly mixed regarding the effect of family ownership on SOA, a study on the global scale is better suited to derive a universal conclusion. Most importantly, such study would allow for a cross-region comparison and how family ownership may signal different attributes of firms due to differences in institutional factors and cultures.

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## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

[22]Our study possesses three-fold contributions. First, we extend the literature on SOA of capital structure by examining this topic in the context of ASEAN, which is an emerging market but still lacks research attention. More importantly, our study brings two large streams of literature closer: research on capital structure and research on family businesses. Our study highlights that SOA is mostly determined by adjustment costs that are shaped by agency conflicts and information asymmetry in the ASEAN countries, and particularly in family firms.

[23]These policies can mitigate the costs of financing and ease capital accessing for family firms, which not only makes them more attractive to investors but also promotes the efficiency of their capital structure decisions.

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# APPENDIX

## VARIABLE DEFINITIONS.

| Variable | Definition |
|---|---|
| **Dependent variables** | |
| *Debt Ratio* | Total debt divided by total assets |
| *ST Debt Ratio* | Short-term debts divided by total assets |
| *LT Debt Ratio* | Long-term debts divided by total assets |
| *Adjusted Debt Ratio* | This is measured by the difference between the firm's debt ratio and the industry average debt ratio of each year, divided by the industry average |
| **Variables of interest** | |
| *Family* | This is a dummy variable, which has a value of 1 if a firm has family ownership and 0, otherwise |
| *Family Director* | This is measured by the number of members of the controlling families sitting on the board of directors divided by the total number of directors on the board |
| *Concentration* | This is measured by the total percentage of shareholdings by shareholders who have at least 5% of the firm's outstanding shares |
| **Control variables** | |
| *Size* | Natural logarithm of the firm's total assets |
| *Tangibility* | The ratio of net fixed assets divided by total assets |
| *Growth* | Annual revenue growth rates |
| *ROA* | The ratio of operating profits divided by the average total assets |
| **Instrumental variables** | |
| *Fvalue* | The average family value measure for each country in the World Values Survey, ranging from 1 to 4, where 1 denotes '*Very important*' and 4 denotes '*Not at all important*' |
| *SdFvalue* | The standard deviation of the family value measure across all respondents of each country in the World Values Survey |
| **Classification variables** | |
| *Access to Equity* | The financing through local equity market index of each country from the World Economic Forum Global Competitiveness Index, ranging from 1 to 7, with higher value indicating that firms have better access to local equity markets |
| *Ease to Loan* | The ease of access to loans index from the World Economic Forum Global Competitiveness Index for each country, ranging from 1 to 7, with higher values indicating that firms have easier access to loans |
| *Disclosure Index* | Disclosure Index measures the business extent of disclosure of ownership and financial information for each country from the World Development Indicators, ranging from 0 to 10, with higher values indicating more disclosure |