



“The impact of family ownership and under-aspiration performance on a firm’s capital structure”

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THE IMPACT OF FAMILY OWNERSHIP AND UNDER-ASPIRATION PERFORMANCE ON A FIRM'S CAPITAL STRUCTURE

Abstract

Research on the capital structure of family firms has flourished in recent years, but the impact of performance aspiration and family ownership together on capital structure remains inadequately investigated. Therefore, the purpose of this study is to explore the impact of family ownership and under-aspiration performance and their interaction on capital structure. Panel data estimations were applied with a unique dataset of 3,857 observations from 387 public firms in Vietnam from 2010 to 2020 (134 family firms and 253 non-family firms). The results reveal that family ownership and under-aspiration performance each has a positive effect on capital structure. However, under-aspiration performance negatively moderates the positive effect of family ownership on capital structure. These findings contribute to a stream of studies on the capital structure of family firms by exploring the role of under-aspiration performance, as well as provide important implications for shareholders, managers and debtors in financial management.

Keywords

capital structure, behavioral agency theory, family firms, non-family firms, aspiration performance

JEL Classification

G32, G34, G41

INTRODUCTION

Over the past 20 years, capital structure and family ownership have been emerged as one of the most popular research issues in finance and management (Hansen & Block, 2021). Currently, research on these issues not only contributes to the finance literature, but also provides many meaningful managerial implications, since family is the dominant corporate type all over the world, and the capital structure is one of the most meaningful issues in corporate finance (Gottardo & Moisello, 2019). From the literature, we know about the capital structure determinants and the effects of agency and financial distress costs on a firm's financing decisions. We also know that family firms make different financing decisions than non-family firms because of different agency costs, bankruptcy costs, and information asymmetry (Molly et al., 2019).

However, we do not know clearly about the effect of family ownership on firms' financing decisions, according to the existing capital structure literature. The pecking order theory explains that family firms prefer to follow pecking orders due to adverse selection and the family's intention of retaining control and succession of the firms, so family firms use more debts than non-family firms (Michiels & Molly, 2017). However, the trade-off theory suggests that family firms have both advantages and disadvantages in issuing debts. So, family firms may have different financial leverage compared to non-family firms due to

the overall benefit surplus, but it is not clear that family firms have more or less debts (Ramalho & Rita, 2018). As a result, recent empirical evidence on the effect of family ownership on a firm's capital structure is inconclusive. Some research show that the relationship is positive (Baek et al., 2016; Gottardo & Moisello, 2019; Ramalho & Rita, 2018), while others find a negative relationship (Ampenberger et al., 2013; Santos et al., 2014). Therefore, the investigation of family ownership's impact on capital structure calls for further research, based on behavioral agency approach to detect the nonfinancial aspects of family firms that moderate this impact (Hansen & Block, 2021).

Within the behavioral agency approach (Wiseman & Gomez-Mejia, 1998), performance aspiration is a key factor influencing family firms' financial decisions. Empirical evidence showed that under-aspiration performance moderated the impact of family ownership on business exit, research and development, and risk-taking behaviors (Chirico et al., 2020; Chrisman & Patel, 2012; Gomez-Mejia et al., 2019). In a meta-analysis of family firm's capital structure, Hansen and Block (2021) suggested that the investigation of the moderating impact of under-aspiration performance on the relationship between family ownership and capital structure would be a contribution to the literature. Therefore, the purpose of this study is to investigate the impact of under-aspiration performance and family ownership together on capital structure.

The main contribution of this study is to provide a deeper understanding of the impact of family ownership on capital structure by investigating the moderating role of under-aspiration performance. In contrast to previous studies, this study adopts not only capital structure theories, but also the behavioral agency approach to explain the impact of family ownership on capital structure. To the best of the authors' knowledge, this is the first attempt to examine the relationship between under-aspiration performance and capital structure. In addition, this study adds to the relatively small amount of research on the capital structure of family firms in the context of emerging countries.

1. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Family ownership is the ownership of a firm by a family or a group of family members. It is a dominant form of firms worldwide, accounting for more than half of the economy's gross domestic product (GDP) and a number of firms in Sweden and Italy (Saiz-Álvarez & Coduras-Martínez, 2020). In Vietnam, family firms accounted for 90% of firms and 80% of the country's employment (Tran & Santarelli, 2014). So, family ownership has been the interesting research objective in many fields, including capital structure (Villalonga et al., 2015).

Since families bring the different agency cost, bankruptcy cost and adverse information to the firms, there are two different explanations for the positive relationship between family ownership and capital structure. Firstly, family ownership involves agency costs, which influence capital structure according to the trade-off theory. Family ownership brings two

agency problems for firms such as the agency problem between family shareholders and other shareholders, and the agency problem between family shareholders and family outsiders (Villalonga et al., 2015). By issuing debt instead of equity, a family both reduces agency costs and keeps control of the firms. Secondly, pecking order theory implies that family ownership has a positive relationship with capital structure. The reason is that the issue of equity brings a negative signal to the market due to information asymmetry, and family owners prefer debt than equity to maintain family control and influence. Based on trade-off theory and pecking order theory, there is ample empirical evidence of a positive relationship between family ownership and capital structure (Baek et al., 2016; Keasey et al., 2015; King & Santor, 2007; Ramalho & Rita, 2018; Schmid, 2013). Following previous studies, a positive relationship between family ownership and capital structure is expected in this study.

However, there is evidence of the negative relationship between family ownership and capital structure (Ampenberger et al., 2013; Mishra &

McConaughy, 1999; Santos et al., 2014). The explanation of this evidence is that family ownership can increase a firm's financial distress costs, and risk aversion makes family firms prefer issuing equity than using debt, according to trade-off theory. In contrast, other scholars supposed that both trade-off theory and pecking order theory fail to explain family firms' capital structure (Gottardo & Moisello, 2019), and there is a need to consider the sources of differences in behavior between family and non-family firms to explain this heterogeneous evidence. Similarly, Michiels & Molly (2017) suggested that a behavioral agency approach should be adopted to better understand family firms' capital structure. According to the behavioral agency approach, under-aspiration performance is a major source of differences in behavior of firms, which should be considered when investigating family firms' capital structure (Hansen & Block, 2021).

Adopting the behavioral agency approach (Wiseman & Gomez-Mejia, 1998), previous studies showed that under-aspiration performance has the positive relationships to merge and acquisition (Chirico et al., 2020), innovation (Lu & Wong, 2019), research and development (Jirásek, 2018), and risk-taking behaviors (Gomez-Mejia et al., 2019; Poletti-Hughes & Williams, 2019). Under-aspiration refers as a situation in which firm performance is below managers' expectations. It is a source of vulnerability and can push a firm's CEO or BOD to change their behaviors to accept a new challenge or riskier decision (Gomez-Mejia et al., 2018). With the existence of under-aspiration performance, both non-family and family firms have loss aversion behaviors in order to recover from loss or bankruptcy risk (Gomez-Mejia et al., 2019; Lu & Wong, 2019). Since under-aspiration performance increases the firm's risk acceptance level, it can reduce the expected costs of financial distress. Therefore, a positive relationship between under-aspiration performance and capital structure is expected in this study.

In contrast to non-family firms, family firms consider under-aspiration performance more seriously, because family owners have socioemotional wealth attached with the firms, beside financial wealth (Kotlar et al., 2018). Socioemotional wealth is "the utilities family owners derive from the

noneconomic aspects of the business" (Gomez-Mejia et al., 2019). It includes family control, family identification, emotional attachment, binding social ties, and transgenerational succession in a firm (Kotlar et al., 2018). Unlike non-family firm's managers and shareholders, their peers in family firms try to preserve both their financial and socioemotional wealth (Kotlar et al., 2018). In the situation of having under-aspiration performance, family owners have risk taking behaviors and even sacrifice their socioemotional wealth if needed, in order to avoid bankruptcy risk (Gomez-Mejia et al., 2018). This is because vulnerability can lead to the firm's bankruptcy, and consequently all of the family owner's socioemotional wealth will be lost. Previous studies showed that under-aspiration performance has a positive effect on family firms' risky R&D projects (Patel & Chrisman, 2014), acquisitions (Gomez-Mejia et al., 2018), and business exit by merger (Chirico et al., 2020). Furthermore, Fang et al. (2021) found that under-aspiration performance has a positive effect on both internalization and investment of family firms.

There may be a similar moderating impact of under-aspiration performance on the relationship between family ownership and capital structure. If there is no vulnerability, family firms prefer using debts than issuing equity to maintain the family's control and influence, and consequently preserve family owners' socioemotional wealth (Gottardo & Moisello, 2016). But when having under-aspiration performance, the most important goal of family firms is to avoid bankruptcy, the situation of losing all of financial and socioemotional wealth of family owners (Gomez-Mejia et al., 2018). As previous studies showed that capital structure has a positive relationship with the likelihood of bankruptcy (Gonzalez et al., 2012; Mishra & McConaughy, 1999), family firms should lower their capital structure to avoid bankruptcy. Furthermore, with the existence of under-aspiration performance, the family owners accept riskier decisions that reduce family's control (Chirico et al., 2020; Fang et al., 2021). Similarly, in making financing decisions, family firms tend to accept the risk of losing family control as reducing debt level to avoid bankruptcy. Therefore, in this study, a negative moderating effect is expected for under-aspiration performance on the impact of family ownership on capital structure.

To investigate the impact of under-aspiration performance and family ownership together on capital structure, the following three hypotheses were developed:

- H1: Family ownership has a positive relationship with capital structure.
- H2: Under-aspiration performance has a positive relationship with capital structure.
- H3: Under-aspiration performance has a negative moderating effect on the impact of family ownership on capital structure.

2. METHOD

Data were collected from public firms in the Vietnamese stock market from 2010 to 2020. The raw data (annual financial report, market value, list of shareholders, CEO, BODs, founders, etc.) were provided by FinGroup Company, the authorized data supplier in Vietnam’s stock market. The information of family members was collected by the public information from listed firms due to their duty regulated by Vietnamese Securities Law No. 54/2019/QH14.

Data of family ownership was collected by three steps. Firstly, names and family members of large shareholders, who own more than 5% of any public firms, were collected. This data is publicized in each firm’s report to the stock market, according to the Vietnamese Regulation No. 96/2020/TT-BTC. Secondly, each family’s total share was summed, and only the families with more than 20% of voting rights were transferred to next step. Lastly, the remaining firms with families whose member is a founder and a CEO or a chairman of firms were identified as family firms. This process is strictly following the previous capital structure research (Anderson & Reeb, 2003; Gottardo & Moisesello, 2016).

Within the research objectives, firms in financial fields (banks, insurance and securities) were excluded from the data. The firms with missing value or negative total assets were also excluded. After all, final data included 134 family firms and 253 non-family firms in 14 industries catego-

rized by 2-digit industry code under the Industry Classification Benchmark (ICB). The data set was an unbalanced panel with 3,857 observations from 387 firms from 2010 to 2020. With 11 variables in the research model, this data is sufficient for testing the three hypotheses (Baltagi, 2005). Because the dataset was collected on a single country with 14 different industries over 10 years, the unobserved factors varying across industry and time were estimated by time and industry fixed effects, with the industry allocations presented in Table 1.

Table 1. Firms categorized by 2-digit ICB code industries

No	Industry (2-digit ICB code)	All	Non-family firms	Family firms
1	Car	107	55	52
2	Chemical	210	131	79
3	Communications	58	55	3
4	Constructions	906	738	168
5	Consuming	206	121	85
6	Foods	442	250	192
7	IT	109	88	21
8	Industrial	532	438	94
9	Medical	145	99	46
10	Public services	246	231	15
11	Real-estate	465	317	148
12	Resources	289	138	151
13	Retail	50	44	6
14	Tourism	92	55	37
Total firm-year observations		3,857	2,760	1,097

To test the hypotheses formulated above, research models were developed and suggested in this study as follows:

$$\begin{aligned}
 BLEV_{i,t} = & \beta_0 + \beta_1 UAP_{i,t} + \beta_2 FAM_{i,t} + \\
 & + \beta_3 UAP_FAM_{i,t} + \beta_4 PROF_{i,t} + \\
 & + \beta_5 TAN_{i,t} + \beta_6 LIQ_{i,t} + \beta_7 NDTs_{i,t} + \\
 & + \beta_8 SIZE_{i,t} + \beta_9 MTB_{i,t} + \beta_{10} IND_{i,t} + u_{i,t}.
 \end{aligned}
 \tag{1}$$

$$\begin{aligned}
 SBLEV_{i,t} = & \beta_0 + \beta_1 UAP_{i,t} + \beta_2 FAM_{i,t} + \\
 & + \beta_3 UAP_FAM_{i,t} + \beta_4 PROF_{i,t} + \\
 & + \beta_5 TAN_{i,t} + \beta_6 LIQ_{i,t} + \beta_7 NDTs_{i,t} + \\
 & + \beta_8 SIZE_{i,t} + \beta_9 MTB_{i,t} + \beta_{10} IND_{i,t} + u_{i,t}.
 \end{aligned}
 \tag{2}$$

The dependent variable (Capital structure) measured by the total book leverage ratio (BLEV) and

the short-term book leverage ratio (SBLEV) alternatively, as many previous studies (Anderson & Reeb, 2003; Vo, 2017; Molly et al., 2019). Book leverage ratios were used as a capital structure proxy instead of market leverage, as the other research in Vietnam (Vo, 2017), due to the high volatility of financial markets. These ratios were calculated based on data collected from public firms' annual financial reports.

The first explanatory variable (Under-aspiration performance – UAP) is a dummy variable, which equals 1 if the firm's performance is lower than expected, both historically and socially (Iyer & Miller, 2008; Jirásek, 2018). Following the previous research (Bromiley & Harris, 2014; Gomez-Mejia et al., 2018), performance was measured by ROA, and under-aspiration performance was identified when the firm's ROA at t-1 was lower than both its ROA at t-2 and the industry's median ROA at t-1. The second explanatory variable, family ownership (FAM) was measured by three conditions as in previous research (Ampenberger et al., 2013; Gottardo & Moisello, 2016). This dummy variable equals 1 for family ownership, and 0 otherwise. Family ownership is identified if the family's member is a founder of a firm, and the family is the largest shareholder with more than 20% of voting rights, and the firm is managed by a CEO or chairman who is a family member. The last explanatory variable is an inter-

action between performance below aspiration and family ownership (PBA_FAM), which equals 1 if both performance is below aspirations and family ownership is 1, and 0 otherwise (Poletti-Hughes & Williams, 2019).

Control variables were measured according to the capital structure literature and previous studies (Ampenberger et al., 2013; King & Santor, 2007; Ramalho & Rita, 2018; Schmid, 2013). Variable definition and their measurements are listed and explained in Table 2.

3. RESULTS

Table 3 presents descriptive statistics for all variables, the total sample of all firms, separate samples of family firms and non-family firms. Compared to non-family firms, family firms have a higher book leverage mean, but with a smaller standardized deviation. The means of other variables are also slightly different for the two samples.

The correlation matrix between variables is presented in Table 4. All the variables are not highly correlated, and multicollinearity is unlikely in the regressions. All means of variance inflation factor (VIF) ratios are lower than 5, which indicates that there is no multicollinearity.

Table 2. Variable definition and measurement

Variables	Measurement	Abbreviation	Sources
Dependent variable			
Capital structure	Book value of total debt scaled by total assets	BLEV	(Anderson & Reeb, 2003; Vo, 2017; Molly et al., 2019)
	Book value of short-term debt scaled by total assets	SBLEV	
Explanatory variables			
Under-aspiration performance	Equals 1 for UAP, and 0 otherwise. UAP is identified if the firm's ROA at t-1 was lower than both its ROA at t-2 and the industry's median ROA at t-1	UAP	Iyer & Miller, 2008; Jirásek, 2018
Family ownership	Equals 1 for family ownership, and 0 otherwise. Family ownership is identified if (1) the family's member is founder of the firm, (2) the family is the largest shareholder with more than 20% of voting rights, and (3) the firm is managed by a family member	FAM	Ampenberger et al., 2013; Gottardo & Moisello, 2016
Interaction explanatory variable	Equals 1 if both UAP and Family ownership is 1, and 0 otherwise	UAP_FAM	Poletti-Hughes & Williams, 2019
Control variables			
Profitability	Return after tax scaled by total assets	PROF	King & Santor, 2007; Ramalho & Rita, 2018; Schmid, 2013
Tangibility	Tangible assets scaled by total assets	TAN	
Liquidity	Current assets scaled by total assets	LIQ	
Non-debt tax shield	Depreciation scaled by total assets	NDTS	
Size	Logarithm of total assets	SIZE	
Market to Book	Firm's market value scaled by book value	MTB	

Table 3. Descriptive statistics analysis

Variable	Observations	Mean	Std. dev.	Min	Max
All firms					
<i>BLEV</i>	3.857	0.5055045	0.2072447	0.0075	0.951
<i>SBLEV</i>	3.857	0.3881675	0.1998097	0.0075	0.9235
<i>UAP</i>	3.857	0.3271973	0.4692508	0	1
<i>NDTS</i>	3.857	0.0280318	0.0341428	0	0.9108
<i>MTB</i>	3.857	1.381668	1.502911	0.0289	22.7243
<i>LIQ</i>	3.857	2.137672	3.271341	0.08	110.98
<i>PROF</i>	3.857	0.1238166	0.1380848	-0.8088	0.9821
<i>SIZE</i>	3.857	13.78564	1.356982	9.5148	19.8659
<i>TANG</i>	3.857	0.2117782	0.2073898	0	0.9617
Family firms					
<i>BLEV</i>	1.097	0.5360169	0.1855558	0.0075	0.9394
<i>SBLEV</i>	1.097	0.4240475	0.1804757	0.0075	0.8573
<i>UAP</i>	1.097	0.355515	0.4788874	0	1
<i>NDTS</i>	1.097	0.0212611	0.0237184	0	0.1861
<i>MTB</i>	1.097	1.37657	1.735254	0.0289	22.7243
<i>LIQ</i>	1.097	2.07278	5.011994	0.08	110.98
<i>PROF</i>	1.097	0.1174657	0.1409817	-0.7947	0.9821
<i>SIZE</i>	1.097	13.99012	1.690772	10.1684	19.8659
<i>TANG</i>	1.097	0.1734157	0.1622837	0	0.8586
Non-family firms					
<i>BLEV</i>	2.760	0.4933769	0.2140863	0.011	0.951
<i>SBLEV</i>	2.760	0.3739065	0.2052896	0.0083	0.9235
<i>UAP</i>	2.760	0.315942	0.4649742	0	1
<i>NDTS</i>	2.760	0.030723	0.0371523	0	0.9108
<i>MTB</i>	2.760	1.383694	1.40024	0.0392	18.7458
<i>LIQ</i>	2.760	2.163464	2.230597	0.12	23.25
<i>PROF</i>	2.760	0.1263408	0.1368604	-0.8088	0.9548
<i>SIZE</i>	2.760	13.70437	1.189417	9.5148	17.6957
<i>TANG</i>	2.760	0.2270259	0.2209803	0	0.9617

Table 4. Correlation matrix

	<i>BLEV</i>	<i>UAP</i>	<i>FAM</i>	<i>UAP_FAM</i>	<i>NDTS</i>	<i>MTB</i>	<i>LIQ</i>	<i>PROF</i>	<i>SIZE</i>	<i>TANG</i>	<i>VIF</i>
<i>BLEV</i>	1										
<i>UAP</i>	0.227	1									1.56
<i>FAM</i>	0.092	0.038	1								1.57
<i>UAP_FAM</i>	0.104	0.480	0.532	1							2.00
<i>NDTS</i>	-0.052	-0.088	-0.125	-0.094	1						1.41
<i>MTB</i>	-0.092	-0.145	-0.002	-0.064	0.026	1					1.15
<i>LIQ</i>	-0.393	-0.068	-0.012	0.005	-0.054	0.037	1				1.06
<i>PROF</i>	-0.128	-0.327	-0.029	-0.181	0.112	0.274	0.024	1			1.20
<i>SIZE</i>	0.305	0.022	0.095	0.019	-0.038	0.223	-0.163	0.009	1		1.10
<i>TANG</i>	-0.018	-0.020	-0.116	-0.056	0.521	0.027	-0.125	0.019	-0.01	1	1.40
	<i>BLEV</i>	<i>UAP</i>	<i>FAM</i>	<i>UAP_FAM</i>	<i>NDTS</i>	<i>MTB</i>	<i>LIQ</i>	<i>PROF</i>	<i>SIZE</i>	<i>TANG</i>	<i>VIF</i>
<i>SBLEV</i>	1										
<i>UAP</i>	0.183	1									1.56
<i>FAM</i>	0.113	0.038	1								1.57
<i>UAP_FAM</i>	0.101	0.480	0.532	1							2.00
<i>NDTS</i>	-0.117	-0.088	-0.125	-0.094	1						1.41
<i>MTB</i>	-0.118	-0.14	-0.002	-0.064	0.026	1					1.15
<i>LIQ</i>	-0.374	-0.068	-0.012	0.005	-0.054	0.037	1				1.06
<i>PROF</i>	-0.063	-0.327	-0.029	-0.181	0.112	0.274	0.024	1			1.20
<i>SIZE</i>	0.082	0.022	0.095	0.019	-0.038	0.223	-0.163	0.009	1		1.10
<i>TANG</i>	-0.264	-0.020	-0.116	-0.056	0.521	0.027	-0.125	0.019	-0.01	1	1.40

Panel data regressions with Pooled OLS, Industry fixed effects and Robust industry fixed effects estimator results are presented in Table 5. Regressing the determinants of capital structure can omit variables that were correlated with the variables in the model, and fixed effects model can control this omitted variable bias better than a random effects model. However, with firm fixed effects, the time-invariant effect, such as family ownership effect, will be ignored, so industry fixed effect regression was applied as in previous research (Alnori & Alqahtani, 2019). In addition, the Wald test for heteroskedasticity and Wooldridge test for autocorrelation (Baltagi, 2005) show that there are heteroskedasticity and autocorrelation in the fixed effects regression, so the results of the fixed effects robust standard errors are also presented in the third column of Table 5. All three hypotheses are largely supported by the results of three different assessments, which are mostly similar.

To ensure robustness in the presence of heteroskedasticity and autocorrelation after the Wald test and Wooldridge test, Feasible GLS (Baltagi, 2005) is applied for both dependent variables, BLEV and SBLEV. Furthermore, a panel causality test (Dumitrescu & Hurlin, 2012) is used to test the endogeneity issues arising from potential reverse causality. Two-way causality relations between a firm's leverage and capital structure determinants were detected in previous research (Alnori & Alqahtani, 2019; Vo, 2017). Dumitrescu and Hurlin test shows that there are reverse causality between total book leverage, short-term book leverage and profitability, liquidity, market-to-book ratio of the firms. So, System GMM estimate is used to test the robustness of Fixed effects and Feasible GLS regression results in the presence of endogeneity (Baltagi, 2005). Both GLS and GMM regressions show that the three hypotheses are largely confirmed.

Table 5. POLS and Fixed effects regression

Variables	Total book leverage			Short-term book leverage		
	POLS	Industry Fixed effects	Fixed effects Robust	POLS	Industry Fixed effects	Fixed effects Robust
<i>UAP</i>	0.0831*** (-10.94)	0.0820*** (-11.22)	0.0820*** (-10.08)	0.0698*** (-9.53)	0.0643*** (-9.32)	0.0643*** (-7.89)
<i>FAM</i>	0.0343*** (-4.33)	0.0382*** (-4.91)	0.0382*** (-4.56)	0.0389*** (-5.09)	0.0329*** (-4.48)	0.0329*** (-3.98)
<i>UAP_FAM</i>	-0.0306** (-2.30)	-0.0222* (-1.73)	-0.0222* (-1.67)	-0.0248* (-1.93)	-0.0249** (-2.05)	-0.0249* (-1.87)
<i>NDTS</i>	-0.0735 (-0.74)	-0.11 (-1.13)	-0.11 (-0.72)	0.330*** (-3.45)	0.182** (-1.99)	0.182** (-2.55)
<i>MTB</i>	-0.0121*** (-5.61)	-0.00523** (-2.44)	-0.00523** (-2.38)	-0.0126*** (-6.06)	-0.0067*** (-3.34)	-0.00676*** (-3.41)
<i>LIQ</i>	-0.0212*** (-23.60)	-0.0195*** (-21.89)	-0.0195*** (-3.31)	-0.0241*** (-27.81)	-0.0215*** (-25.54)	-0.0215*** (-3.30)
<i>PROF</i>	-0.0730*** (-3.14)	-0.0572** (-2.54)	-0.0572** (-2.11)	0.0381* (-1.7)	0.0175 (-0.82)	0.0175 (-0.71)
<i>SIZE</i>	0.0417*** (-18.67)	0.0364*** (-16.21)	0.0364*** (-14.87)	0.00306 (-1.42)	0.00328 (-1.55)	0.00328 (-1.32)
<i>TANG</i>	-0.0379** (-2.33)	-0.0308* (-1.81)	-0.0308 (-1.44)	-0.318*** (-20.28)	-0.330*** (-20.49)	-0.330*** (-18.43)
<i>_cons</i>	-0.00393 (-0.12)	0.0777** (-2.2)	0.0777* (-1.84)	0.421*** (-13.71)	0.465*** (-13.96)	0.465*** (-10.37)
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	No	Yes	Yes	No	Yes	Yes
N	3857	3857	3857	3857	3857	3857
R-sq	0.278	0.34	0.34	0.276	0.366	0.366

Note: The table presents regression results for two alternative dependent variables: Total book leverage (BLEV) and short-term book leverage (SBLEV). t-statistics are in parentheses. *, **, and *** present the two-tailed significance at the 10%, 5% and 1% levels, respectively.

Table 6. Feasible GLS and System GMM regression

Variables	Total book leverage		Short-term book leverage	
	FGLS	GMM	FGLS	GMM
UAP	0.0764*** (10.84)	0.0182*** (4.21)	0.0565*** (8.48)	0.0260*** (4.66)
FAM	0.0358*** (4.76)	0.0140** (2.50)	0.0295*** (4.16)	0.0138** (2.24)
UAP_FAM	-0.0211* (-1.71)	-0.0510*** (-4.67)	-0.0201* (-1.71)	-0.0513*** (-4.09)
NDS	-0.0786 (-0.82)	-0.523*** (-3.44)	0.165* (1.82)	-0.132 (-0.79)
MTB	-0.00719*** (-3.42)	0.00353*** (3.64)	-0.00604*** (-3.09)	-0.00101 (-0.82)
LIQ	-0.0286*** (-26.79)	-0.0178*** (-9.66)	-0.0319*** (-31.66)	-0.0241*** (-8.96)
PROF	-0.0710*** (-3.22)	-0.127*** (-15.27)	0.0351* (1.69)	-0.0253*** (-2.84)
SIZE	0.0359*** (16.34)	0.00565* (1.95)	0.00184 (0.89)	0.00397 (1.32)
TANG	-0.0403** (-2.47)	-0.0374*** (-2.73)	-0.337*** (-21.56)	-0.115*** (-6.82)
L.BLEV/L.SBLEV	-	0.795*** (58.50)	-	0.752*** (42.20)
_cons	0.106*** (3.17)	0.0587 (1.41)	0.500*** (15.33)	0.0938* (1.94)
Time dummies	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes
N	3857	3441	3857	3441
AR(1)	-	0.000	-	0.000
AR(2)	-	0.208	-	0.210
Hansen	-	0.357	-	0.206

Note: The table presents regression results for two alternative dependent variables: Total book leverage (BLEV) and short-term book leverage (SBLEV). t-statistics are in parentheses; *, **, and *** present the two-tailed significance at the 10%, 5% and 1% levels, respectively.

There is no over identifying restrictions in the system GMM regression with Hansen test equaling 0.357 and 0.206, respectively. Validity of the system GMM estimator through first-order and second-order autocorrelation tests shows that there is first-order autocorrelation, but there is no second-order autocorrelation (Baltagi, 2005).

4. DISCUSSION

All of the three hypotheses are supported by the regression estimates and robustness test. The findings show that (1) under-aspiration performance is positively related to capital structure, (2) family ownership is positively related to capital structure, and (3) in the presence of under-aspiration performance, family ownership is negatively related to capital structure. These findings contribute to the

capital structure literature, as discussed below.

Firstly, previous studies of the effect of family ownership on capital structure have inconclusive results, not only because of the heterogeneity of family ownership, but also because of the heterogeneity of the cost and benefit of debt (Hansen & Block, 2021). This study shows that family ownership is positively related to capital structure if a firm's performance is not under-aspiration. This relationship between family ownership and capital structure is consistent with previous research (Keasey et al., 2015; King & Santor, 2007; Oktavina & Manalu, 2018; Ramalho & Rita, 2018). Family firms' capital structure is not necessarily lower than non-family firms due to the effect of the family's risk aversion behavior, as shown in previous studies (Ampenberger et al., 2013; Baek et al., 2016; Anderson & Reeb, 2003). The finding also

contributes to the capital structure literature with empirical evidence in an emerging country like Vietnam, where Hansen and Block (2021) noticed that there was only one study of the capital structure of family firms in Vietnam out of 612 similar studies worldwide.

Secondly, behavioral agency theory suggests that under-aspiration performance has a positive relationship with firms' risk-taking behaviors (Gomez-Mejia et al., 2018). Finding a positive relationship between under-aspiration performance and capital structure in this study is similar to the evidence for loss aversion in the capital structure literature, as mentioned in previous studies (Gonzalez et al., 2012; Mishra & McConaughy, 1999).

Lastly, the third supported hypothesis shows that the interaction variable of under-aspiration performance and family ownership has a negative relationship with capital structure. This means that under-aspiration performance lowers family firms' capital structure as opposed to non-family firms. In this relationship, the role of under-aspiration performance as a motivation for avoiding bankruptcy and accepting the risk of losing control is consistent with the behavioral agency literature (Chirico et al., 2020; Gomez-Mejia et al.,

2018). This finding explains the inconsistent empirical evidence of family ownership's effect on capital structure in previous studies.

These findings also provide practical implications for shareholders, managers and debtors in finance management. When performance is under aspiration, non-family firms' managers should increase capital structure by searching for a reasonable source of debt funding, but their peers in family firms should lower the level of debt by issuing equity or using the firm's internal fund to comply with the bankruptcy risk aversion of family owners. And by considering the impacts of the control variables in the model, shareholders and managers should leverage a positive relationship between size and capital structure, and mitigate negative effects of market-to-book, liquidity, profitability and tangibility on capital structure. With this research findings, debtors and investors should adjust their lending or investing strategies according to the firm's capital structure determinants, especially when the firms have under-aspiration performance. The practical implications are more valuable for family firms, as the overuse of debt in the presence of under-aspiration performance can threaten the socioemotional and financial wealth of a family.

CONCLUSION

This study examines how under-aspiration performance, family ownership and their interaction affect capital structure by combining capital structure theories and a behavioral agency approach. Using the data collected from publicly traded Vietnamese firms, the estimation results show that both under-aspiration performance and family ownership have a positive impact on capital structure, but their interaction has a negative relationship with capital structure. The findings demonstrate that under-aspiration performance plays a moderating role between family ownership and capital structure. By explaining the inconclusive evidence of the impact of family ownership on capital structure in previous studies, this study provides a fresh look at the capital structure literature.

Following the findings, some significant practical implications have been discussed. The understanding about the impact of family ownership and under-aspiration performance on capital structure leads to appropriate strategic financing decisions of the firms. And because of family's socioemotional wealth, the managers should lower the firms' capital structure when its performance is under aspiration. Lastly, our findings leave some open issues for more investigation. Future research can explore the heterogeneity of family firms for better understanding of family firm's capital structure. The family involvement, social ties and generation succession are varied across family firms, and each of these factors can affect capital structure of the firms. Furthermore, future research with data collected from unlisted firms or other countries can provide more evidences for capital structure literature.

AUTHOR CONTRIBUTIONS

Conceptualization: Kieu Minh Nguyen, Tu Minh Vu.

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Formal analysis: Tu Minh Vu.

Investigation: Tu Minh Vu.

Methodology: Tu Minh Vu.

Project administration: Kieu Minh Nguyen.

Resources: Kieu Minh Nguyen.

Software: Tu Minh Vu.

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Validation: Tu Minh Vu.

Visualization: Tu Minh Vu.

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