
The Dynamic Relationship between Ownership Structure and Corporate Performance: Evidence from the Vietnamese Food Industry

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Abstract:

Purpose: *Our analysis provides empirical evidence on the dynamic relationship between ownership structure and corporate performance in the context of Vietnam.*

Approach/Methodology/Design: *Our findings are drawn from the comprehensive data set of stocks listed on both the Hochiminh Stock Exchange and Hanoi Stock Exchange in the food industry from 2007 to 2018.*

Findings: *The results indicate that both managerial shareholdings and ownership concentration negatively drive corporate performance. We further find that corporate performance is also a positive function of both managerial shareholdings and ownership concentration.*

Practical Implications: *The results support the entrenchment hypothesis that the divergence of ownership and control helps managers accumulate substantial private benefits without actually bearing the costs. Block-holders also accumulate private benefits of control through pyramid business structures and cross-holdings across different firms. Therefore, both block-holders and managers are motivated to indulge in non-value maximizing behavior, deteriorating corporate performance.*

Originality: *The entrenchment hypothesis does only exist at a low level of ownership. At the high level of ownership, the entrenchment hypothesis is positioned by the incentive hypothesis. Accordingly, their self-interest behaviors are more likely to be detected and legally riskier. They are motivated to indulge in value-maximizing behaviors and synchronize the interests of shareholders and managers.*

Keywords: *Vietnamese food listed firms, ownership structure managerial shareholdings, block ownership, corporate performance, dynamic model.*

JEL Classification: *G32, L25, O16.*

Paper Type: *Research study.*

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1. Introduction

The seminal work of Meckling and Jensen (1976) and Jensen (1986) related to the conflict of interest between managers and shareholders is considered as the initial basis for the establishment of the modern theoretical framework that is likely to explain most issues of corporate governance. Thus, agency theory has received considerable attention. The conventional literature on ownership structure indicates that the notable agency theory drives the relationship between ownership structure and corporate performance.

A separate but growing body of the literature has shed light on some important effects of ownership structure on firm performance in well-developed markets such as Japan (Gedajlovic and Shapiro, 2002), France (Margaritis and Psillaki, 2010), and European countries (Thomsen and Pedersen, 2000) where ownership structure is highly dispersed. This relationship has also been considered in emerging markets such as Thailand (Kim *et al.*, 2004), Malaysia (Haniffa and Hudaib, 2006). In Vietnam, Hoang *et al.* (2017), Phung and Mishra (2016), Vu *et al.* (2018), and Tran and Le (2020) are closest in spirit to our study. However, Phung and Mishra (2016) and Vu *et al.* (2018) do not examine the effect of both block ownership and managerial ownership on corporate performance. Whereas, Hoang *et al.* (2017) provide empirical evidence on the linear relationship between managerial ownership and firm performance in the non-linear specification rather than the merely linear specification. Additionally, this analysis only tends to Vietnamese manufacturing listed firms. Tran and Le (2020) consider block ownership for the entire market but not managerial ownership.

Government policies drive the Vietnamese food industry since the food industry is intimately related to food security. Therefore, the effect of these policies on the food industry is stronger than that of other industries. Besides, the food listed firms are characterized by a highly concentrated ownership structure, an under-developed, weak national governance system, information asymmetry, and weak disclosures in policies to protect the right of minority shareholders (Nguyen *et al.*, 2015; Phung and Mishra, 2016; Huynh *et al.*, 2020; Tran and Le, 2020).

Vietnam is a less developed country; the demand for food is higher than that for other items. Therefore, to adapt to the demand for food, the food industry has been prioritized to develop. Consequently, since the "Doi Moi" policy, the Vietnamese food industry has developed rapidly. Vietnam has long been recognized as the second-largest exporter in rice and the top exporter in coffee. Therefore, Vietnamese food firms obtained more profit from export. Vietnamese listed firms' governance structure has dramatically changed to suit some recent reforms in corporate governance practices. Although conducted in different markets, the shortage of empirical supports on the nexus between ownership structure and corporate performance in the Vietnamese food industry motivates

us to revisit whether ownership structure liquidity plays an important role in the mitigation of conflicts between managers and shareholders for Vietnamese food listed firms. Therefore, our contribution is twofold. Our study's biggest novelty lies in the use of the Vietnamese database of listed firms to provide again the empirical support for the significant role played by ownership structure in determining corporate performance in an emerging market. Vietnam was chosen so that theories could be tested and empirical evidence secured to allow for future research possibilities. The existing empirical evidence on the relationship between ownership structure and corporate performance in developing markets is not rich in developed countries. Different socio-economic and political structures in emerging countries could induce heterogeneity in the linkage between ownership structure and corporate performance (Fan *et al.*, 2011). Therefore, this paper provides empirical evidence to better view the relationship between ownership structure and corporate performance in a developing country like Vietnam. The second novel contribution is that we take advantage of the Vietnamese food market's characteristics to investigate the relationship between ownership structure and corporate performance since the differences in the linkage between managerial ownership and firm performance seem to be attributable to discrepancies among industries (Cui and Mak, 2002). Thus, the special dimensions of the food industry can induce differences in the form of linkage between ownership structure and corporate performance, but this would require investigation to confirm hence this and future research.

2. Literature Review and Hypothesis Development

The link between ownership structure and corporate performance could be explained by agency theory (Jensen and Meckling, 1976). However, the theoretical framework to explain the relationship between managerial ownership and corporate performance is mixed.

The incentive hypothesis posits that managerial ownership may be attributable to the mitigation of conflicts between managers and shareholders since managerial shareholdings, known as an internal control mechanism, help mitigate information asymmetry between managers and shareholders (Crutchley and Hansen, 1989). The form of managerial ownership is expected to offer managers incentives to reduce agency costs because managers are also co-owner, and they will not accumulate substantial private benefits without actually bearing the costs. Thus, managers are not motivated to indulge in non-value maximizing behaviors, deteriorating corporate performance. Therefore, the increase of managerial shareholdings helps managers willingly forgo managerial myopia and implement policies, synchronizing managers' and shareholders' interests rather than their own self-interests.

The entrenchment hypothesis (Morck *et al.*, 1988) suggests that managers holding a large fraction of the shares above a certain threshold deteriorate

corporate performance since shareholders cannot discipline managers. Thus, managers take advantage of available resources to pursue their own self-interests instead of shareholders. In other words, the higher the fraction of managerial shareholdings, the higher the motivation for the management to entrench themselves since the more difficult it is for outsiders to control the management. Therefore, the decrease in corporate performance is attributable to managers' self-interests that eventually do not align with the interests of shareholders.

The mixed theoretical predictions for the relationship between ownership structure and corporate performance are the incentive and entrenchment hypotheses. The incentive hypothesis posits that block ownership is known as an influential monitoring mechanism to mitigate the conflicts of interest between managers and shareholders since block-holders with enough voting control are more motivated to acquire more private information and monitor better managers to facilitate takeover efforts or even oust managers who fail to maximize their wealth through a proxy fight or a takeover (Shivdasani, 1993; Shleifer and Vishny, 1986; 1997). When managers have other goals instead of maximizing shareholders' value, they are replaced by block-holders to restructure their firms following the reduction in corporate performance (Kaplan and Minton, 1994; Kang and Shivdasani, 1995). In short, the theoretical framework indicates a significantly positive influence of block ownership on corporate performance. In the meanwhile, the entrenchment effect hypothesis point outs that block-holders cause a negative entrenchment effect on corporate performance since they accumulate private benefits of control through pyramid business structures and cross-holdings across different firms (Claessens *et al.*, 2000). Therefore, ownership concentration seems to be attributable to the conflicts of interest between controlling shareholders and minority shareholders (Filatotchev *et al.*, 2013).

The non-monotonic association between ownership structure changes and subsequent corporate performance is conditional on the incentive and entrenchment hypothesis. Accordingly, the inverted U-shaped (U-shaped) nonlinear relationship exists if block-holder (managerial) ownership positively (negatively) related to corporate performance appears in the first place at low (high) levels of block-holder (managerial) ownership since the incentive (entrenchment) effect can be dominant to the entrenchment (incentive) hypothesis and block-holder (managerial) ownership negatively (positively) related to corporate performance exists in the second place at high (low) levels of block-holder (managerial) ownership since the entrenchment (incentive) effect might be more important.

A separate but growing body of the literature has highlighted the mixed empirical evidence on the nexus between ownership structure and corporate performance. Earle *et al.* (2005), Grosfeld and Hashi (2007) reveal no significant influence of block ownership on corporate performance in the context of the Hungarian and

Polish market, respectively. Balsmeier and Czarnitzki (2017) document no significant linear relationship between block ownership and corporate performance in several European countries. Haniffa and Hudaib (2006) find no linkage between changes in managerial shareholdings and subsequent market performance in the Malaysian market. In Vietnam, Hoang *et al.* (2017), Tran and Le (2020) find no statistical significance of a linear relationship between block ownership and corporate performance.

Kim *et al.* (2004) tend to newly listed Thai firms to emphasize the importance of managerial shareholdings in emerging markets and indicate the positive effect of managerial shareholdings on corporate performance. In a similar vein, Sheu and Yang (2005) tell a similar story when taking Taiwanese firms in the electronic industry into account. Li *et al.* (2007) reach the same conclusion for Chinese State-owned firms. Moreover, in China, Liu *et al.* (2012) indicate the positive impact of managerial shareholdings on firm performance for the entire market. Hoang *et al.* (2017) tend to Vietnamese manufacturing listed firms to conclude the positive impact of managerial shareholdings on firm performance. Although the empirical evidence on the negative relationship between managerial shareholdings and subsequent corporate performance exists, the negative relationship is not rich compared to the positive relationship. For example, a negative association between managerial ownership and firm performance is well documented in the developed markets such as The USA (Cui and Mak, 2002), Germany (Irina and Nadezhda, 2009). In the developing countries, Mandacı and Gumus (2010) indicate the negative relationship between managerial shareholdings and subsequent corporate performance in the Turkish market. Haniffa and Hudaib (2006) look solely at Malaysian listed firms to reach the same conclusion.

Cho and Kim (2007) and Kapopoulos and Lazaretou (2007) suggest that the more concentrated ownership structure, the higher the corporate performance in Korean and Greek, respectively. Nguyen *et al.* (2015) reveal a significantly positive relationship between ownership concentration and corporate performance among Vietnamese and Singaporean firms. The negative relationship between ownership concentration changes and subsequent corporate performance is well documented in Chile (Lefort and Urzúa, 2008) and France (Ducassy and Montandrou, 2015).

Empirically, the non-monotonic relationship between ownership structure and corporate performance has been received considerable attention. An inverted U-shaped relationship between managerial ownership and corporate performance is well documented for German SMEs with a maximum point of 40% (Mueller and Spitz-Oener, 2006). Liu *et al.* (2012) indicate a hump-shaped curve for the relationship between managerial ownership and firm performance, with the turning point at about 19.86% for Chinese listed firms. Chen and Yu (2012) find that the maximum level that the managerial ownership-performance relationship

turns from positive to negative is 39.09% among Taiwanese firms. Khan *et al.* (2014) reveal that at 22.4% of managerial ownership level, the relationship consistent with incentive alignment exists in the Australian market. Cui and Mak (2002) look at managerial shareholdings and reveal the nonlinear relationship between managerial ownership and firm performance with a U-shaped curve for high R&D firms in the USA. In Vietnam, Hoang *et al.* (2017) reveal the square of managerial shareholdings to be significantly and negatively associated with the market corporate performance measure in the cubic specification.

Non-monotonic relationships between block ownership and corporate performance are also found, for example, an inverted U-shaped pattern in Central and Eastern Europe with the turning point at approximately 47% (Balsmeier and Czarnitzki, 2017). Cho and Kim (2007) reveal a bell-shaped relationship between a large shareholder ownership rate and profitability with the inflection point at 50.1%. Liu *et al.* (2012) document that the maximum level that the block ownership-performance relationship turns from negative to positive is 57%. In Vietnam, both Hoang *et al.* (2017) and Tran and Le (2020) find that corporate performance is not a quadratic function of block ownership. In the light of the existing theoretical and empirical evidence, the following testable hypotheses are proposed:

Hypothesis 1 (H1a): Managerial ownership is positively related to corporate performance.

Hypothesis 1 (H1b): Managerial ownership is negatively related to corporate performance.

Hypothesis 2 (H2a): Block ownership is positively related to corporate performance.

Hypothesis 2 (H2b): Block ownership is negatively related to corporate performance.

Hypothesis 3 (H3a): Managerial ownership and corporate performance have a non-linear relationship with a U-shaped curve.

Hypothesis 3 (H3b): Managerial ownership and corporate performance have a non-linear relationship with an inverted U-shaped curve.

Hypothesis 4 (H4a): Block ownership and corporate performance have a non-linear relationship with a U-shaped curve.

Hypothesis 4 (H4b): Block ownership and corporate performance have a non-linear relationship with an inverted U-shaped curve.

3. Methodology and Data

3.1 Empirical Model

The traditional specification for the economic relation between ownership structure and corporate performance is static without lagged corporate performance. Basically, the nature of the corporate governance–performance

relationship is dynamic (Wintoki *et al.*, 2012). Therefore, this relationship's static model could not fully reflect the effect of ownership structure on corporate performance, even inducing misleading inferences. The dynamic relationship between ownership structure and corporate performance indicates that the current relationship is driven by the corporate performance's lagged values. In other words, the current corporate performance is determined by both ownership structure and past corporate performance.

To eliminate the channel through which endogeneity biases estimate causal effects due to the potential presence of reverse causality from the dependent variable's impact on explanatory variables, all independent variables are the lagged variables. In other words, we only focus heavily on the influence of explanatory variables on corporate performance but not vice versa (Bellemare *et al.*, 2017).

Hence, we closely follow the theoretical framework and existing empirical evidence in the literature on the relationship between ownership structure and corporate performance such as Liu *et al.* (2015); Nguyen *et al.* (2015) as well as the Vietnamese food market characteristics to hypothesize as follows:

$$CP_{i,t} = \beta_0 + \beta_1 CP_{i,t-1} + \sum_{j=1}^2 \beta_j OS_{i,t-1} + \sum_{k=1}^4 \beta_k CV_{i,t-1} + \mu_i + \Theta_{t-1} + u_{i,t-1} \quad (1)$$

The existing empirical studies have documented the non-linear relationship between ownership structure and corporate performance (Cho and Kim, 2007; Chen and Yu, 2012). Our analysis also introduces the squared ownership structure variables to examine the non-monotonic relationship between ownership structure and corporate performance. The model is as follows:

$$CP_{i,t} = \beta_0 + \beta_1 CP_{i,t-1} + \sum_{j=1}^2 \beta_j OS_{i,t-1} + \sum_{j=1}^2 \beta_j OS_{i,t-1}^2 + \sum_{k=1}^4 \beta_k CV_{i,t} + \mu_i + \Theta_{t-1} + u_{i,t-1} \quad (2)$$

Where *i* index firms and *t* indicates the time period. CP is the corporate performance. OS is the ownership structure. μ_i denotes time-invariant unobservable firm-fixed effects; Θ_{t-1} represents time-fixed effects that are time-variant and common to all companies, $u_{i,t-1}$ is the time-varying disturbance term.

In Equation (1) and (2), the inclusion of year-fixed effects is to control macroeconomic conditions as they may affect the corporate performance, and we also add firm-fixed effects to allow for the possibility that the corporate performance varies across firms.

3.2 Variables Construction

3.2.1 Corporate performance measure

It is unclear which corporate performance measure is the best (Khanna, 2000). Both ROA and ROE are known as accounting-based measures of firm performance and reflect a backward-looking perspective and what the management has accomplished (Demsetz and Villalonga, 2001; Hu and Izumida 2008). Accordingly, ROE is considered the most important ratio for the shareholders because it reflects what shareholders gain per share. In the meanwhile, ROA offers investors profitability information generated from total assets. However, ROA is driven by business cycles and does not tend to differences in systematic risk (Benston, 1985).

Additionally, both ROE and ROA also give investors a fundamental background to make financial decisions by comparing ROEs and ROAs among firms in the same industry. Tobin's Q is a market-based measure from a forward-looking perspective (Demsetz and Villalonga, 2001; Hu and Izumida, 2008) and thus reflects the expected future earnings. However, Tobin's Q is based on problematic assumptions on the illiquidity and untimely disclosure problems; inducing Tobin's Q is not the best measure of corporate performance in most emerging markets. Additionally, the association between ownership structure changes and subsequent corporate performance is driven by discrepancies in corporate performance measures based on accounting and market (Haniffa and Hudaib, 2006).

The existing empirical evidence has used the various measures of corporate performance, including return on equity (ROE) (Demsetz and Lehn, 1985; Demsetz and Villalonga, 2001; Vu *et al.*, 2018); return on assets (ROA) (Li *et al.*, 2007; Hu and Izumida, 2008; Vu *et al.*, 2018) and Tobin's Q (Thomsen and Pedersen, 2000; Gedajlovic and Shapiro, 2002; Kapopoulos and Lazaretou, 2007; Nguyen *et al.*, 2015).

Our analysis only tends to backward-looking profitability. Additionally, to avoid the heterogeneity in the linkage between ownership structure and corporate performance in Haniffa and Hudaib (2006). Therefore, we follow Andres and Vallelado (2008); Vu *et al.* (2018) and adopt ROA and ROE as the dependent variables to assess Vietnamese food listed firms' corporate performance. The definition of the dependent variables is shown in Table 1.

3.2.2 Ownership structure measures

The existing empirical evidence on the nexus ownership structure and corporate performance in developing markets typically tend to state ownership, foreign ownership, managerial ownership, block ownership. Although this industry has gained considerable attention from foreign investors (Phung and Mishra, 2016),

foreign ownership is strictly controlled by policymakers since the food industry is intimately related to food security.

Table 1. Variable definitions

Variable	Acronym	Description
A. Corporate performance		
Return on Assets	ROA	The ratio of earnings after tax to total assets
Return on Equity	ROE	The ratio of earnings after tax to total equity
B. Ownership structure		
Managerial ownership	MO	The number of managerial stocks to the number of stock outstanding
Block ownership	BO	The number of stocks held by block-holders to the number of stock outstanding
Squared managerial ownership	SMO	The square of managerial ownership
Squared block ownership	SBO	The square of block ownership
C. Control variables		
Size	SIZE	Total assets
Liquidity	LIQ	The current assets to current liabilities
Capital Structure	LEV	The liabilities to total assets
Firm age	AGE	The current year minus established year

Source: Own study.

Foreigners have not played an extremely significant role in the proliferation of profitability under Vietnamese policies. Also, the privatization process in Vietnam is successfully conducted to attract more non-state investors by selling their shares to enhance corporate performance. Therefore, the role played by state ownership in improving corporate performance is reduced. To the extent, the privatization process is taken place.

Comprehensively, state ownership disappear. Thus, we do not tend to state ownership to investigate the linkage of ownership structure and corporate performance. In short, we expect the role of managerial shareholdings and block ownership in enhancing corporate performance is more pronounced (Cho and Kim, 2007; Haniffa and Hudaib, 2006; Mandacı and Gumus, 2010). Therefore, we tend to managerial shareholdings and block ownership to examine the relationship between ownership structure changes and subsequent corporate performance. The definition of the ownership variables is shown in Table 1.

3.2.3 Control variables

The absence of control variables is more likely to influence the relationship between ownership structure and corporate performance materially. Therefore, to estimate the net link between ownership structure and corporate performance, we follow the convention in the ownership structure and corporate performance literature (Liu *et al.*, 2015; Liu *et al.*, 2012; Nguyen *et al.*, 2015) and model

control variables that appear regularly in the literature, including size, liquidity, financial leverage, firm age. The definition of the control variables is shown in Table 1. To solve non-normal residuals, we take the natural logarithm of all variables but not ownership structure due to the convenience of analyzing turning points.

3.3 Estimation Method

The relationship between ownership structure and firm performance in the static condition was mainly estimated by the Ordinary Least Square estimator (OLS) (Demsetz and Lehn, 1985; Palia and Lichtenberg, 1999). However, the traditional econometric techniques, such as the OLS or Fixed Effect (FE) estimators, are not appropriate to estimate the effect of ownership structure on firm performance in the dynamic condition since these methods are insufficient to address the potential endogeneity between the lagged dependent variable and the error term, resulting in biases of the estimator for data with large numbers of cross-sections and short time-series and misleading inferences. The SGMM technique combines moment conditions of two simultaneous equations, including both difference and level equations, to overcome important dynamic effects and accounts for endogeneity in the explanatory variables.

Generally, the earlier discussions on econometric techniques for the nexus between ownership structure and firm performance in the dynamic model suggest that the SGMM estimator is the most appropriate method to regress this relationship. Empirically, to deal with inconsistencies and misleading inferences in the dynamic model for the nexus between ownership structure and firm performance, Hu and Izumida (2008), Nguyen *et al.* (2015), and Tran and Le (2020) use the Blundell and Bond (1998) system generalized method of moments (SGMM), estimator. Therefore, we use the SGMM technique in our analysis.

3.4 Data

Our database is collected from accounting data related to firm characteristics and provided by Vietstock. Our initial sample includes 55 firms with 660 firm-year observations for food listed firms on both the Hochiminh Stock Exchange and Hanoi Stock Exchange between 2007 and 2018. We only retain firms with no missing data. Besides, due to the presence of de-listed and new listed stocks and the appearance of the lagged variables in the regression specification, for a firm to be included in our analysis using panel data models, we also require the firms to have data for all variables for at least two consecutive years to avoid bias in our regression results. These screening procedures result in a final panel data sample of 43 firms, with 532 firm-year observations. All continuous variables are winsorized at the 1st and 99th percentiles to eliminate the influence of extreme observations.

4. Results and Discussions

4.1 Descriptive Statistics and Correlations

Table 2 provides summary statistics for the entire sample. In our sample, an average firm has the natural logarithm of return on total assets and return on equity of -3.035 and -2.307, respectively. The medians of return on total assets and return on equity are -2.760 and -2.098, respectively. These results indicate that the standard deviation of return on total assets (1.222) is higher than that of return on equity (1.121). The mean (median) values of the managerial ownership and block ownership are 10.5% (3%) and 52.2% (51.1%), respectively. This implies that the block ownership of Vietnamese listed food firms is relatively high. The standard deviation of managerial shareholdings (0.3) is higher than that of block ownership ratios (0.216). For liquidity measure, our sample firms have an average and median of liquidity of -2.870 and -2.996. Next, the leverage has its mean (median) at -0.850 (-0.723), with a standard deviation of 0.537. The median (27.455) and mean (27.615) of size are quite similar, respectively. Finally, the natural logarithm of age has a mean value of 2.903 and a median value of 2.917.

Table 2. Descriptive statistics

Variables	N	Mean	Median	Std. Dev.	P10	P25	P75	P90
ROA	489	-3.035	-2.760	1.222	-4.768	-3.510	-2.233	-1.735
ROE	489	-2.307	-2.098	1.121	-3.592	-2.694	-1.548	-1.215
MO	387	0.105	0.030	0.150	0.001	0.007	0.154	0.341
BO	423	0.522	0.511	0.216	0.253	0.362	0.673	0.836
LIQ	515	-2.996	-2.870	1.352	-4.810	-3.711	-1.906	-1.462
LEV	515	-0.850	-0.723	0.537	-1.563	-1.129	-0.446	-0.285
SIZE	515	27.615	27.454	1.552	25.696	26.385	28.559	29.831
AGE	532	2.903	2.917	0.763	1.946	2.485	3.434	3.761

Source: Own study.

Table 3 illustrates the correlation matrix of both the dependent and independent variables. An important hypothesis is no multicollinearity among the explanatory variables. All of the correlation coefficients in Table A3 are less than 0.93. Following Klein's rule of thumb (Klein, 1962), it can be concluded that the independent variables in our equations are not multi-collinear⁶.

⁶The inferences of VIF and Pearson correlation are based on the rule of thumb. Therefore, only one is sufficient to test multicollinearity. Hence, to conserve space, these VIF indexes are unreported.

Table 3. *Pairwise correlations*

Variables	ROE	ROA	MO	BO	LIQ	LEV	SIZE	AGE
ROE	1.000							
ROA	0.932*	1.000						
MO	-0.201*	-0.155*	1.000					
BO	0.190*	0.186*	0.063	1.000				
LIQ	0.341*	0.237*	-0.278*	0.171*	1.000			
LEV	-0.279*	0.034	0.182*	0.094*	-0.280*	1.000		
SIZE	0.049	0.044	0.171*	0.254*	0.057	0.082*	1.000	
AGE	0.166*	0.087*	-0.214*	0.276*	0.257*	-0.133*	0.159*	1.000

Note: * shows significance at the 0.1 level

Source: Own study.

4.2 Results and Discussions

4.2.1 Reliability tests

Table 4 reports the linear and non-linear models' reliability tests in Panels A and B, respectively. The reliability tests in Panel A and B show that our models are satisfactory to investigate the relationship between ownership structure and corporate performance.

The Hansen and AR (2) second-order serial correlation tests indicate the overall model fit. Specifically, the Hansen test results of over-identifying restrictions document a high P-value, which is over 0.05, indicating the instruments' validity in the SGMM estimator. The P-values of AR (1) and AR (2) are less and over 0.05, respectively, implying that the hypothesis of no second-order autocorrelation of the disturbance term is not rejected at the 5% significance level.

This indicates the absence of second-order correlation in differences and that of first-order correlation in levels. The Wald test result is significant at the 1% level, implying that the significance of the right-hand side variables or our model is correctly specified. Overall, the reliability tests indicate that the GMM estimator is appropriate to analyze our results.

4.2.2 Linear regression results

Table 5 reports the nexus's main regression results between ownership structure and corporate performance using the two-step SGMM technique for Equation (1). Our independent variables of interest are managerial holdings and block ownership. We show the regression results for managerial shareholdings' impact on firm performance in Model (1) and (2). We report the regression results for ROA and ROE as the dependent variables in Model (1) and (2), respectively.

Table 4. Reliability tests

Panel A: Linear specification				
Variables	MO		BO	
	Model			
	(1)	(2)	(3)	(4)
Number of firms	40	40	39	39
Hansen test	0.983	0.982	0.944	0.886
AR1	0.000	0.000	0.000	0.000
AR2	0.297	0.336	0.876	0.796
Wald test	0.000	0.000	0.000	0.000
Panel B: Non-linear specification				
Variables	MO		BO	
	Model			
	(1)	(2)	(3)	(4)
Number of firms	40	40	39	39
Hansen test	0.887	0.980	0.992	0.979
AR1	0.000	0.040	0.000	0.000
AR2	0.397	0.440	0.672	0.651
Wald test	0.000	0.000	0.000	0.000

Source: Own study.

Table 5. Linear regression results

Variables	MO		BO	
	Model			
	(1)	(2)	(3)	(4)
ROA	0.585*** (0.020)		0.452*** (0.035)	
ROE		0.583*** (0.020)		0.407*** (0.025)
MO	-0.673*** (0.156)	-1.069*** (0.190)		
BO			-0.458** (0.191)	-0.569*** (0.176)
LIQ	0.052*** (0.013)	0.018* (0.010)	0.091*** (0.015)	0.058*** (0.015)
LEV	-0.250*** (0.040)	-0.110** (0.046)	-0.306*** (0.038)	-0.164*** (0.049)
SIZE	0.001 (0.021)	-0.012 (0.021)	-0.004 (0.026)	0.009 (0.023)
AGE	0.107*** (0.028)	0.027 (0.025)	0.159*** (0.059)	0.154*** (0.024)
Constant	-1.610** (0.662)	-0.610 (0.640)	-1.821** (0.818)	-1.791*** (0.663)
Fixed effects	FY	FY	FY	FY
Observations	337	337	379	379

Note: ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. Standard errors are reported in parentheses.

Source: Own study.

We find that the coefficients on managerial ownership in Model (1) are negative and highly significant at a 1% level. Similarly, the coefficient on managerial

ownership remains significantly negative in Model (2). Taken together, we conclude that managerial ownership has a negative influence on corporate performance at the 1% significance level. Overall, our new findings are consistent with theoretical prediction and existing empirical evidence around the world on the effect of managerial shareholdings on corporate performance. Specifically, the results are in contrast to H1a but lend strong support to hypothesis H1b. Accordingly, the negative relationship between managerial ownership changes and subsequent corporate performance is in line with the argument related to the entrenchment hypothesis that firms do not benefit from managerial ownership (Palia and Lichtenberg, 1999). Our empirical evidence is consistent with Cui and Mak (2002), Haniffa and Hudaib (2006), Irina and Nadezhda (2009), Liang *et al.* (2011), and Mandacı and Gumus (2010) but is not in line with Kim *et al.* (2004), Sheu and Yang (2005), Kapopoulos and Lazaretou (2007), and Li *et al.* (2007). Our empirical evidence is in contrast with Hoang *et al.* (2017).

Clearly, both managerial ownership and corporate performance in the manufacturing industry are markedly different from those in the food industry, inducing discrepancies in the linkage between managerial ownership and firm performance among industries. Additionally, Hoang *et al.* (2017) only use corporate performance measures based on the forward-looking perspective. In the meanwhile, our analysis only tends to backward-looking performance. Therefore, the heterogeneity in the linkage between managerial ownership and corporate performance might be attributable to measures, as indicated in Haniffa and Hudaib (2006).

In terms of block ownership, we show the regression results for the impact of block ownership on firm performance in Model (3) and (4). We find that the coefficient on block ownership is negative and highly significant at 1% for ROA as the dependent variable in Model (3). Furthermore, the coefficient on block ownership in Model (4) remains unchanged in ROE's case served as the dependent variable. Therefore, our empirical analysis indicates that corporate performance is a negative function of block ownership. Overall, the new findings are consistent with both the theoretical prediction and the existing empirical evidence around the world on the ownership structure's effect on corporate performance. Specifically, the results support hypothesis H2b that block ownership is negatively associated with firm performance. Furthermore, the negative relationship between changes in block ownership and subsequent corporate performance is in line with our prediction that block-holders cause a negative entrenchment effect on corporate performance since they accumulate private benefits of control through pyramid business structures and cross-holdings across different firms (Claessens *et al.*, 2000). Our empirical evidence is consistent with Lefort and Urzúa (2008), Ducassy and Montandrou (2015) but in contrast to Cho and Kim (2007), Kapopoulos and Lazaretou (2007).

In Vietnam, Hoang *et al.* (2017), and Tran and Le (2020) find no statistical significance of a relationship between block ownership and corporate performance for Vietnamese manufacturing listed firms and Vietnamese listed firms, respectively. Therefore, the combination of Hoang *et al.* (2017), Tran and Le (2020), and our analysis indicates that the absence of a linear relationship between block ownership and corporate performance could be overwhelmingly dominated by other industries rather than the food industry. In other words, the differences in the linkage between block ownership and firm performance seem to be attributable to discrepancies among industries. As discussed above, the heterogeneity in the linkage between block ownership and corporate performance might be attributable to measures.

When we use both ROA and ROE as the dependent variables, we always find managerial shareholdings and ownership concentration to be significantly and negatively associated with corporate performance for Vietnamese food listed firms despite the difference in the institutional environment, macroeconomic conditions.

4.2.3 Non-linear regression results

In Table 6, we provide the non-linear regression results for the effect of managerial ownership on firm performance using the two-step SGMM technique for Equation (2) in Model (1) and (2), while Models (3) and (4) report the non-linear relationship between block ownership and corporate performance. Our independent variables of interest are the square of managerial ownership and block ownership.

Our findings from Model (1) and (2) show that the coefficients on the square of managerial ownership are positive and significant at a 1% level for both ROA and ROE served as the dependent variables, respectively, indicating the existence of a nonlinear relationship between managerial ownership and firm performance. Accordingly, this correlation is described as the U-shaped pattern, which is in line with H3a. This nonlinear relationship is consistent with the prediction related to both the incentive hypothesis and the entrenchment hypothesis that a nexus between managerial ownership and corporate performance appears negative and positive in the first place and second place, respectively. Our new findings related to the nonlinear relationship between managerial ownership and corporate performance are almost a mirror image of Mueller and Spitz-Oener (2006) and Chen and Yu (2012). However, our findings are in line with Cui and Mak (2002) and Khan *et al.* (2014), who reveal the nonlinear relationship between managerial ownership and firm performance with a U-shaped curve for high R & D firms in the USA and Australia. Our empirical evidence conflicts with Hoang *et al.* (2017).

Table 6. *Non-linear regression results*

Variables	MO		BO	
	Model			
	(1)	(2)	(3)	(4)
ROA	0.561*** (0.029)		0.614*** (0.026)	
ROE		0.533*** (0.021)		0.542*** (0.032)
MO	-3.480*** (0.556)	-2.624*** (0.389)		
SMO	3.355*** (0.478)	2.113*** (0.317)		
BO			-7.294*** (0.816)	-5.567*** (0.531)
SBO			6.859*** (0.599)	6.011*** (0.500)
LIQ	0.055*** (0.014)	0.043*** (0.009)	0.019 (0.020)	0.025 (0.016)
LEV	-0.310*** (0.036)	-0.123* (0.069)	-0.217*** (0.055)	-0.104* (0.057)
SIZE	-0.022 (0.022)	-0.022 (0.019)	-0.019 (0.029)	-0.071 (0.058)
AGE	0.112** (0.046)	0.034 (0.048)	0.029 (0.040)	-0.042 (0.055)
Constant	-0.960 (0.743)	-0.381 (0.655)	0.701 (0.846)	1.980 (1.608)
Fixed effects	FY	FY	FY	FY
Observations	337	337	379	379

Note: ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. Standard errors are reported in parentheses.

Source: Own study.

A possible explanation for the heterogeneity is that the differences in both managerial ownership and corporate performance among industries and measures inducing discrepancies on the existence of the non-monotonic relationship of managerial ownership and firm performance among industries. We also find that the nonlinear relationship between managerial ownership and corporate performance is with the turning point at approximately 51.86% and 62.09% for the dependent variables of ROA and ROE, respectively. This threshold is higher than the findings found in under-developed markets.

The results, reported in Models (3) and (4), show that the coefficients on the square of block ownership are positive and significant at 1% level for both ROA and ROE as the dependent variables, indicating the existence of the nonlinear relationship between block ownership and corporate performance. Therefore, our evidence lends strong support to the central hypothesis (H4a) that block ownership and firm performance have a nonlinear relationship with a U-shaped pattern. Our new findings are almost a mirror image of those in Balsmeier and Czarnitzki (2017) but are in line with Cho and Kim (2007). We also show that

the maximum points of the hump-shaped relationship between block ownership and corporate performance are 53.17% and 46.31% for ROA and ROE's dependent variables, respectively. This threshold is higher than the findings found in under-developed markets. Furthermore, the coefficients on both managerial shareholdings and block ownership are qualitatively similar to the baseline findings. In Vietnam, the non-existence of a quadratic relation between ownership concentration and corporate performance is well documented (Liu *et al.*, 2012; Hoang *et al.*, 2017). Meanwhile, our findings indicate the non-monotonic relationship between ownership concentration and corporate performance for Vietnamese food listed firms. This implies that the empirical evidence on the quadratic relation between ownership concentration and firm profitability in Vietnam is mixed, conditional on industries and measures.

When we use both ROA and ROE as the dependent variables, we always find that the U-shaped relationship between ownership structure and corporate performance exists for Vietnamese food listed firms despite the difference in the institutional environment, macroeconomic conditions.

The Vietnamese financial market is known as the young market. Hence, the market variation is large, mainly conditional on international financial markets and macroeconomic conditions. Consequently, the agency problem and asymmetric information become more pronounced in Vietnam compared to the developed countries in general (Nguyen and Ramachandran, 2006; Huynh *et al.*, 2020) and in the food industry in particular. Additionally, similar to most emerging markets, corporate governance is characterized by high capital concentration, limited information, and weak disclosures in policies to protect minority shareholders (Phung and Mishra, 2016). Furthermore, most Vietnamese food listed firms are derived from state firms where the managers have played a vital role in making decisions. Although the privatization process can separate ownership and control, the self-interest behaviors stemming from "the state culture" are intimately related to inertia. State ownership accounts for a high level (Phung and Mishra, 2016) that the state representatives in firms are typically block-holders and managers.

Therefore, both block-holders and managers take advantage of available resources to accumulate private benefits rather than value-maximization if they hold shares with a certain threshold. The opaque information environment in Vietnam allows them to seize private benefits without being detected. To the extent that the conflicts of interest between controlling shareholders and minority shareholders are severe and the transparency related to the mitigation of information asymmetry is higher, their self-interest behaviors are more likely to be detected and legally riskier since minority shareholders have incentives to collect information for the protection of shareholder rights. Both block-holders and managers are not motivated to indulge in non-value maximizing behaviors and tend to synchronize shareholders' and managers' interests. Hence, both

managerial shareholdings and block ownership can lower agency costs and strengthen asset utilization efficiency. Furthermore, block ownership is higher than managerial ownership. Therefore, the role played by block ownership is more important compared to managerial ownership in making decisions on corporate performance. Consequently, in an opaque information environment like Vietnam, block-holders accumulate private control benefits through pyramid business structures and cross-holdings across different firms.

However, the higher fraction of the shareholders' being held mitigates the conflicts of interest between managers and shareholders through shareholders' more strong rights to the extent of the high concentrated ownership level. Therefore, block-holders with enough voting control are encouraged to acquire more private information and monitor better managers' discipline and punish for managers' non-value maximizing behaviors through a proxy fight or a takeover.

5. Conclusion

Our analysis examines the dynamic relationship between ownership structure and corporate performance in the context of an emerging market. Our sample includes 43 firms in the food industry listed on both the Hochiminh Stock Exchange and Hanoi Stock Exchange during 2007-2018 with 532 firm-year observations. We use the SGMM technique to indicate that managerial shareholdings and ownership concentration negatively drive corporate performance. We further find that corporate performance is also a positive function of both managerial shareholdings and ownership concentration.

The results support the entrenchment hypothesis that the divergence of ownership and control helps managers accumulate substantial private benefits without actually bearing the costs. Block-holders also accumulate private benefits of control through pyramid business structures and cross-holdings across different firms. Therefore, both block-holders and managers are motivated to indulge in non-value maximizing behavior, deteriorating corporate performance. However, the entrenchment hypothesis does only exist at a low level of ownership. At the high level of ownership, the entrenchment hypothesis is positioned by the incentive hypothesis. Accordingly, their self-interest behaviors are more likely to be detected and legally riskier. They are motivated to indulge in value-maximizing behaviors and synchronize the interests of shareholders and managers. Thus, both managerial shareholdings and block ownership can lower agency costs and strengthen asset utilization efficiency.

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