

# Explore the Relationship of Foreign Ownership and Corporate Performance in the ASEAN Countries over the US-China Trade War

David Han-Min Wang<sup>1</sup>, Do Thi Hai Yen<sup>2,3,\*</sup>

<sup>1</sup>Department of Accounting, Feng Chia University, Taiwan

<sup>2</sup>University of Transport and Communications, Vietnam

<sup>3</sup>Ph.D Program of Business, College of Business, Feng Chia University, Taiwan

\*Corresponding author: [dthyen@utc2.edu.vn](mailto:dthyen@utc2.edu.vn)

Received March 10, 2020; Revised April 18, 2020; Accepted April 27, 2020

**Abstract** This paper aims to examine whether foreign ownership could improve corporate performance in four ASEAN countries amid the US-China trade war. To enrich our understanding the role of foreign ownership in emerging market enterprises, we adopt the weighted least squares (WLS) and fuzzy-set qualitative comparative analysis (fsQCA) to provide robust and fruitful empirical evidences to both academics and practitioners. Our empirical results show that growth opportunity links the short-and long-term financial performance of listed firms in the ASEAN countries. Moreover, foreign ownership plays an important role on enhancing long-term performance for the firms in the ASEAN countries during the US-China trade war. The findings would fill in the gap on understanding the effect of the location shift of foreign investment during the trade war. The implications of the study would help the practitioners in managing their investment in the ASEAN countries during the US-China trade war.

**Keywords:** *corporate performance, foreign ownership, fuzzy-set qualitative comparative analysis, US-China trade war*

**Cite This Article:** David Han-Min Wang, and Do Thi Hai Yen, "Explore the Relationship of Foreign Ownership and Corporate Performance in the ASEAN Countries over the US-China Trade War." *Journal of Business and Management Sciences*, vol. 8, no. 2 (2020): 48-54. doi: 10.12691/jbms-8-2-2.

## 1. Introduction

Since the US-China trade war broke out in 2018, many foreign firms have begun shifting their production operations out of China and into its southern neighbors. Some studies [1,2,3] indicate that trade diversion and inflow of foreign investment as a result of the trade war will confer greater benefits onto the Association of Southeast Asian Nations (ASEAN) countries. Hence, the role and impact of foreign investment on host countries has attracted much attention in recent literatures.

[4] argues that foreign investment allows the firm to maximize its profits with risk reduction through international diversification. [5] note that firms perceive international opportunities and marshal their resources to exploit them. However, numerous studies [6,7,8,9,10] have shown that foreign ownership may have a positive or negative impact on firm performance.

[11] indicates that ASEAN has become one of the most attractive investment locations in the developing world. Apart from the abundant natural resources, ASEAN is a major manufacturer and exporter of textiles, light consumer goods, electronics, and petroleum products.

These various factors and developments have led to ASEAN becoming a rapidly developing market with a strong potential demand for consumer and capital goods, and technical skills. Foreign investment is one of the main drivers in promoting economic growth in ASEAN countries [12,13]. [3] argues that for Southeast Asian countries, it is foremost importance for them to form a picture of how much they will suffer and benefit during the US-China trade war.

However, there is almost no research explicitly examining the role of foreign ownership and growth opportunity on firm performance of ASEAN countries during the US-China trade war. Therefore, this study use the sample of listed firms in four emerging ASEAN countries over the period 2011-2018.

In order to provide robust empirical evidence, we adopt the weighted least squares (WLS) and fuzzy-set qualitative comparative analysis (fsQCA) to explore the relationship of the variables concerned. Our results show that growth opportunity links the short-and long-term financial performance of listed firms in the ASEAN countries. And, foreign ownership plays an important role in enhancing long-term performance for the firms in the ASEAN countries during the US-China trade war. Our findings would fill the gap in understanding the effect of

the location shift of foreign investment during the trade war. And the implications of the results from the qualitative model provides a useful linkage between researchers and practitioners.

The rest of the paper is organized as follows: Section 2 reviews the related literature on foreign ownership, growth opportunity, and firm performance. Section 3 describes the dataset and the methodology used in the empirical tests. Section 4 discusses the main findings. Section 5 concludes and presents the limitations of this paper.

## 2. Literature Review

Based on internalization theory [14,15], the parent company provides intangible assets such as technology and management to its foreign affiliates [16]. [17] note that the foreign investment could increase firms' financial performance through their affiliates abroad.

[18] show that foreign investment could improve operational efficiency by paying higher salary to workers in host countries. [19,20] assert that concentrated ownership leading in multinational enterprise (MNE) subsidiaries can enhance operational performance than domestic firms. [21] find that foreign capital determines the effectiveness productivity in combination with other factors in India. [22] conclude that firms with more than 50% foreign ownership can earn more profits than other foreign holdings and domestic firms. [6,23] evidence that there is a positive relationship between foreign investment and firm performance.

Even though several studies indicate the necessity of foreign capital to improve the business efficiency, there are still some conflicting findings were given. [24] show that foreign firms in the US have lower profits than domestic firms. [8] finds that foreign corporations do not outperform domestic firms in Bulgaria and Romania. [25] argue that the level of foreign capital is not related to firm productivity. [26] confirm a negative relationship between foreign investment and firm productivity in Italy. [9,27] argue that there is no relationship between foreign ownership and firm performance.

Regarding previous studies on examining the relationship between foreign investment and firm performance, [16] propose that the findings in literature may not apply to emerging markets. Especially under the event of the US-China trade war, foreign firms in China have shifted their operations to the ASEAN countries but little research has explored the impact of foreign ownership on firm performance in these countries. Therefore, this study proposes a testable hypothesis as follows:

*Hypothesis 1:* Foreign ownership has a positive effect on firm performance in the ASEAN countries during the US-China trade war.

Although China remains the goliath of global manufacturing in the world, foreign investors are increasingly turning their gaze southward to the emerging markets in the ASEAN. The shifts of foreign investment away from China towards the ASEAN during the trade war represent the existence of growth opportunities in the firms of ASEAN countries.

[28] argue that when the firm has outstanding debt risks and managers act to maximize equity value instead of firm

value, managers have the incentive to invest growth opportunity. This invention will affect firm performance. [29] find that firms acquired by foreigners have higher total factor productivity growth than those without foreign partnerships. [30] ascertain that firm performance is stronger for high growth opportunity firms. [31] emphasizes that the existence of growth opportunity can lead to profitable investment projects, which will positively affect firm performance. [32] assert that growth opportunity has a moderator effect on firm value. [33] confirm the positive role of growth opportunity in firm performance during the US-China trade war. Based on the arguments of extant literature, we could establish the second testable hypothesis as follows:

*Hypothesis 2:* The growth opportunity has a positive effect on firm performance in the ASEAN countries during the US-China trade war.

## 3. Data and Methodology

This study used data collected from Thomson Reuters Datastream Databank covering the period 2011-2018. The sample includes listed firms in the four ASEAN countries, including Vietnam, Indonesia, Malaysia, Thailand, which are developing and fast-growing countries [34]. After removing all missing values and outliers, we ended up with the total number of 7,806 observations.

Following previous studies, firm performance is measured in different ways. [6,23,35,36] use Return on Assets (ROA), Return on Equity (ROE) and Tobin's Q as the measures of firm financial performance. While Tobin's Q ratio has been extensively used as a proxy for operating performance in the long run [35,37], [38,39] suggest that ROE can be used as a proxy for short-term performance. Likewise, [40,41,42] confirm that ROA are often used to measure short-term performance.

Considering the factors affecting long-term firm performance, three control variables are included in our research models. [43] recognize that firm size (SIZE) may have an impact on firm value which signals future performance. [44] posits that high profits are expected in large firms caused by economies of scale. Besides, [45] report that firm listed age (AGE) has a significant correlation to firm performance. The longer firms are listed on the stock exchange, the more proven experiences in attracting and using capital efficiently. Finally, [28] elicit that leverage (LEV) could help managers avoid engaging investment without high profit.

This study uses two methods to examine the relationship of foreign ownership and firm performance during the US-China trade war. We use the Weighted Least Squares (WLS), instead of Ordinary Least Squares (OLS), to estimate regression models to avoid the problem of heteroscedasticity. Besides, we also adopt the fuzzy-set qualitative comparative analysis (fsQCA) to examine the relationship. While normal quantitative analysis methods (such as ANOVA, SEM) treat variables independently and separately, fsQCA makes conditions combine with each other, or causal recipes, incorporates ingredients conditions to results [46]. [47,48] demonstrate that fsQCA is suitable for range of studies due to same conclusions for both small and large sample.

The descriptive for the model variables are presented in Table 1. To test Hypothesis 1 and 2 conjecture the correlation among foreign ownership, growth opportunity and firm performance, two regression models by using different proxies for short-term performance are constructed as below:

$$\text{Tobin's } Q_{i,t} = \alpha_0 \text{FO}_{i,t} + \alpha_1 \text{ROA}_{i,t} + \alpha_2 \text{MTBV}_{i,t} + \alpha_3 \text{SIZE}_{i,t} + \alpha_4 \text{AGE}_{i,t} + \alpha_5 \text{LEV}_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$\text{Tobin's } Q_{i,t} = \alpha_0 \text{FO}_{i,t} + \alpha_1 \text{ROE}_{i,t} + \alpha_2 \text{MTBV}_{i,t} + \alpha_3 \text{SIZE}_{i,t} + \alpha_4 \text{AGE}_{i,t} + \alpha_5 \text{LEV}_{i,t} + \varepsilon_{i,t}. \quad (2)$$

**Table 1. Description of Variables/Causal Conditions**

Condition	Description
Tobin's Q	is measured by year-end value of market capitalization/book value of total assets, represents long-term performance
Foreign ownership (FO)	the percentage of strategic share holdings of 5 percent or more held in a country outside that of the issuer
Return on assets (ROA)	is calculated by the result of net income over total assets, represents short-term performance
Return on equity (ROE)	is measured by the result of net income over total equity represents short-term performance
Market to book value (MTBV)	the market value of equity divided by its book value, represents growth opportunity
Firm size (SIZE)	the logarithm of firm's assets
Firm age (AGE)	the natural logarithm of the number of years between the observation year and the firm's year of listing
Leverage (LEV)	the ratio of the total debts to its total assets

## 4. Empirical Results

Table 2 reports the descriptive statistics of the variables for the sample firms in Vietnam, Indonesia, Malaysia and Thailand during the 2011-2018 period. The table discloses that the means of all variables are positive. Among them, Indonesia has the highest mean of foreign ownership ratio (0.304). The high level of foreign investment in Indonesia can be explained by the inward

flows of foreign investment achieved an impressive increase 460% from 2016 to 22 million US\$ in 2018 [49]. Besides, Vietnam is the only country with all sample firms carrying positive values of return on assets and return on equity ratios (min ROA = 0.007, min ROE = 0.000). The foreign investment of Vietnam has steadily increased over the years due to the advantages of integrated economy, political stability and safe environment for investors.

**Table 2. Descriptive Statistics for Four ASEAN Countries 2011-2018**

Variable	Mean	Std.Dev	Min	Median	Max
<b>Vietnam</b>					
Tobin's Q	0.768	0.330	0.313	0.712	1.608
Foreign ownership (FO)	0.034	0.073	0.000	0.000	0.260
Return on assets (ROA)	0.078	0.051	0.007	0.069	0.197
Return on equity (ROE)	0.137	0.098	0.000	0.123	0.351
Growth opportunity (MTBV)	1.083	0.661	0.360	0.890	2.800
Firm size (SIZE)	4.718	0.596	3.746	4.659	5.927
Firm age (AGE)	0.751	0.207	0.301	0.778	1.041
Leverage (LEV)	0.276	0.186	0.000	0.275	0.589
<b>Indonesia</b>					
Tobin's Q	1.192	0.987	0.270	0.821	4.132
Foreign ownership (FO)	0.304	0.306	0.000	0.240	0.870
Return on assets (ROA)	0.062	0.064	-0.044	0.050	0.215
Return on equity (ROE)	0.098	0.129	-0.176	0.095	0.351
Growth opportunity (MTBV)	2.082	1.995	0.300	1.310	7.880
Firm size (SIZE)	5.589	0.723	4.354	5.538	6.896
Firm age (AGE)	1.150	0.256	0.602	1.255	1.431
Leverage (LEV)	0.225	0.175	0.000	0.201	0.560
<b>Malaysia</b>					
Tobin's Q	0.981	0.651	0.303	0.769	2.830
Foreign ownership (FO)	0.074	0.148	0.000	0.000	0.510
Return on assets (ROA)	0.054	0.058	-0.067	0.051	0.179
Return on equity (ROE)	0.080	0.102	-0.146	0.079	0.288
Growth opportunity (MTBV)	1.345	1.083	0.320	0.980	4.550
Firm size (SIZE)	5.299	0.672	4.238	5.201	6.723
Firm age (AGE)	1.183	0.224	0.699	1.230	1.491
Leverage (LEV)	0.179	0.146	0.000	0.151	0.475
<b>Thailand</b>					
Tobin's Q	1.245	0.782	0.371	0.986	3.406
Foreign ownership (FO)	0.035	0.093	0.000	0.000	0.350
Return on assets (ROA)	0.059	0.057	-0.049	0.054	0.179
Return on equity (ROE)	0.103	0.123	-0.171	0.105	0.341
Growth opportunity (MTBV)	2.093	1.718	0.450	1.480	7.030
Firm size (SIZE)	5.533	0.785	4.363	5.441	7.082
Firm age (AGE)	1.235	0.199	0.778	1.301	1.462
Leverage (LEV)	0.256	0.186	0.000	0.260	0.579

This study calculates Variance Inflation Factor (VIF) to test multicollinearity among the variables used in the four ASEAN countries. The values of VIF for variables are less than 10 which means that there is no multicollinearity present in our research [50].

#### 4.1. Weighted Least Square (WLS) results

This paper uses WLS to examine the relationship between foreign ownership (FO) and long-term performance (Tobin's Q) in four ASEAN countries. Since [51] suggest that the required sample size in multiple regression should be equal or more than  $50 + 8 \cdot m$  ( $m$  - the number of independent variables), so sample size of all four ASEAN countries are accepted for WLS method.

Table 3 and Table 4 present the regression results for both ROA and ROE and indicates that foreign investment has no relation with long-run performance under the trade war. The return on assets and the return on equity positively affects the long-term performance in most cases. Table 4 also supports our expectation that growth opportunity has a positive impact on long-term business performance amid the trade war.

The results of WLS regression for two proxy variables of short-term performance (ROA and ROE), in general, propose similar findings that growth opportunity positively affects long-term performance during two time periods and foreign ownership is not significantly related to long-term performance after the trade war.

#### 4.2. Fuzzy set Qualitative Comparative Analysis (fsQCA) results

This paper additionally adopts fsQCA method to re-examine the relationship between foreign ownership and long-term performance amid the trade war. FsQCA allows the combination of independent variables as conditions to produce results that affect the dependent variable. Consequently, this method provides logically possible causal recipes on long-term performance to overcome the limitations of quantitative methods [52].

Table 5 and Table 6 provide causal configurations that lead to long-term performance from parsimonious solutions. This research examine necessity and sufficiency conditions using fsQCA [47].

In fsQCA method, we can evaluate the useful of solutions depends on two parameters (consistency and raw coverage). Consistency threshold is above 0.75 means that condition are sufficient for the outcome [53]. Conditions which consistency threshold exceed of 0.9 indicate necessary conditions and could be considered as strong subsets of the outcome [54]. [55] states that consistency is similar to coefficient of correlation and represents the solution's sufficiency, while coverage is similar the coefficient of determination ( $R^2$ ) [56]. In other words, consistency is the same as the level of agreement between cases in describing the target outcome, coverage shows how importance empirical relevance is and a combination might have a small raw coverage [54,57].

Table 3. Regression Analysis of Foreign Ownership and Long-term Performance (Short-term Performance: ROA)

Variable	Vietnam		Indonesia		Malaysia		Thailand	
	2011-2017	2018	2011-2017	2018	2011-2017	2018	2011-2017	2018
Foreign ownership (FO)	0.292***	0.221	0.098***	-0.011	0.038+	-0.092	-0.471***	-0.207
Return on assets (ROA)	1.304***	1.690***	1.751***	1.897***	0.901***	0.425*	2.142***	3.304***
Growth opportunity (MTBV)	0.399***	0.399***	0.414***	0.370***	0.569***	0.543***	0.292***	0.277***
Firm size (SIZE)	0.020**	-0.109**	-0.022+	-0.070**	-0.107***	-0.009	-0.165***	-0.104***
Firm age (AGE)	0.096***	0.434*	-0.075**	-0.026	0.142***	0.062	-0.083*	1.014***
Leverage (LEV)	0.530***	0.729***	0.457***	0.360***	0.716***	0.456	0.370***	0.053
R-Square	0.828	0.750	0.673	0.711	0.768	0.799	0.412	0.433
Adjusted R Square	0.827	0.739	0.671	0.699	0.767	0.795	0.410	0.420
Prob > F	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***

Dependent variable: Tobin's Q; + p < 0.1; \* p < 0.05; \*\* p < 0.01; \*\*\* p < 0.001.

Table 4. Regression Analysis of Foreign Ownership and Long-term Performance (Short-term Performance: ROE)

Variable	Vietnam		Indonesia		Malaysia		Thailand	
	2011-2017	2018	2011-2017	2018	2011-2017	2018	2011-2017	2018
Foreign ownership (FO)	0.094*	0.018	-0.029	-0.134	0.003	-0.537	-0.537***	-0.154
Return on equity (ROE)	0.004	0.269**	0.207**	0.280	0.190***	0.197*	1.189***	1.854***
Growth opportunity (MTBV)	0.472***	0.405***	0.450***	0.387***	0.548***	0.532***	0.264***	0.276***
Firm size (SIZE)	-0.018**	-0.099**	-0.070***	-0.017	-0.007	0.011	-0.202***	-1.112***
Firm age (AGE)	0.030*	0.530***	-0.068*	-0.139	-0.028+	-0.018	0.309***	-0.156
Leverage (LEV)	0.502	0.456***	0.339***	0.466***	0.576***	0.456***	0.715***	0.472***
R-Square	0.812	0.721	0.660	0.678	0.726	0.801	0.265	0.513
Adjusted R Square	0.811	0.710	0.658	0.666	0.725	0.797	0.263	0.502
Prob > F	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***

Dependent variable: Tobin's Q; + p < 0.1; \* p < 0.05; \*\* p < 0.01; \*\*\* p < 0.001.

Table 5. Set Membership Findings Using fsQCA with Short-term Performance of ROA

Country	2011-2017			2018		
	Causal recipe	Raw coverage	Consistency	Causal recipe	Raw coverage	Consistency
Vietnam	mtbv_c	0.433	0.940	fo_c*roa_c	0.188	0.875
	fo_c*roa_c*size_c	0.106	0.926	mtbv_c*lev_c	0.524	0.948
	fo_c*roa_c*age_c	0.107	0.930	roa_c*mtbv_c*~size_c	0.404	0.936
	roa_c*age_c*lev_c	0.366	0.911	roa_c*mtbv_c*age_c	0.455	0.953
	fo_c*size_c*age_c*lev_c	0.085	0.906			
Indonesia	mtbv_c*~size_c	0.437	0.969	mtbv_c*~size_c	0.517	0.953
	roa_c*mtbv_c	0.549	0.957	mtbv_c*lev_c	0.452	0.930
	mtbv_c*lev_c	0.390	0.945	fo_c*roa_c*~age_c	0.163	0.846
	fo_c*mtbv_c*age_c	0.264	0.943	roa_c*mtbv_c*age_c	0.482	0.929
	fo_c*roa_c*~size_c*~age_c	0.187	0.904	fo_c*~size_c*~age_c*~lev_c	0.132	0.897
	fo_c*roa_c*~age_c*lev_c	0.178	0.891			
Malaysia	mtbv_c	0.633	0.957	mtbv_c	0.748	0.953
	fo_c*roa_c*~size_c*lev_c	0.100	0.900	fo_c*size_c*~age_c*lev_c	0.089	0.890
				fo_c*~size_c*age_c*~lev_c	0.097	0.928
				fo_c*roa_c*age_c*~lev_c	0.102	0.893
Thailand	mtbv_c*~age_c	0.360	0.909	fo_c*roa_c*~size_c*age_c	0.099	0.906
	mtbv_c*~size_c	0.383	0.900	roa_c*mtbv_c	0.647	0.923
	roa_c*mtbv_c	0.507	0.957	mtbv_c*~age_c*lev_c	0.376	0.910
	mtbv_c*lev_c	0.405	0.909	fo_c*size_c*~age_c	0.062	0.818
	fo_c*roa_c*lev_c	0.079	0.868	mtbv_c*size_c*~age_c	0.319	0.909
	fo_c*roa_c*size_c*~age_c	0.063	0.870	fo_c*~size_c*lev_c	0.059	0.863

Table 6. Set Membership Findings Using fsQCA with Short-term Performance of ROE

Country	2011-2017			2018		
	Causal recipe	Raw coverage	Consistency	Causal recipe	Raw coverage	Consistency
Vietnam				mtbv_c*lev_c	0.524	0.948
				roa_c*mtbv_c*~size_c	0.389	0.918
	mtbv_c	0.609	0.921	mtbv_c*~size_c*age_c	0.313	0.940
	fo_c*size_c*age_c*lev_c	0.086	0.905	fo_c*roa_c*~age_c	0.086	0.863
				roa_c*mtbv_c*age_c	0.452	0.930
				fo_c*~mtbv_c*~age_c*~lev_c	0.080	0.934
				roa_c*size_c*age_c*~lev_c	0.294	0.819
Indonesia	mtbv_c*~size_c	0.437	0.969	mtbv_c*~size_c	0.517	0.953
	fo_c*mtbv_c	0.315	0.929	mtbv_c*lev_c	0.452	0.930
	mtbv_c*age_c	0.474	0.930	fo_c*mtbv_c*~age_c	0.167	0.920
	mtbv_c*lev_c	0.390	0.945	~fo_c*mtbv_c*age_c	0.438	0.902
	fo_c*roa_c*~size_c*~age_c	0.185	0.891	fo_c*~size_c*~age_c*~lev_c	0.132	0.897
	fo_c*roa_c*~age_c*lev_c	0.174	0.884	fo_c*roa_c*~age_c*lev_c	0.126	0.884
Malaysia	mtbv_c	0.634	0.957	mtbv_c	0.750	0.953
	fo_c*roa_c*~size_c*lev_c	0.100	0.900	fo_c*size_c*~age_c*lev_c	0.089	0.890
				fo_c*~size_c*age_c*~lev_c	0.097	0.928
Thailand				mtbv_c*~age_c*lev_c	0.376	0.910
				roa_c*mtbv_c*lev_c	0.419	0.936
				~fo_c*mtbv_c*~size_c*age_c*~lev_c	0.263	0.911
	mtbv_c	0.605	0.887	roa_c*mtbv_c*~age_c	0.376	0.930
	fo_c*roa_c*size_c*~age_c	0.064	0.863	roa_c*mtbv_c*~size_c	0.383	0.953
	fo_c*roa_c*size_c*~age_c	0.056	0.928	fo_c*~age_c*lev_c	0.059	0.878
				fo_c*~size_c*lev_c	0.059	0.863
				fo_c*roa_c*~age_c*lev_c	0.094	0.916
				fo_c*roa_c*~size_c	0.083	0.879

Table 5 indicates that higher foreign ownership with better short-term performance (ROA) or greater growth opportunity can lead to better long-term performance both before and after the trade war in all four ASEAN countries. Increasing foreign ownership in small firms also can enhance long-term performance in Indonesia, Malaysia, Thailand after the trade war. Table 6 displays foreign ownership has important role to long-run performance in four countries in 2018. In addition, Table 6 also shows that foreign investment in young firms could improve future performance in all countries under the US-China trade war. Short-term performance (ROE) and growth opportunity contribute to the changes of long-term performance during the period 2011-2018. These findings are similar for both ROA and ROE which support our hypotheses.

Comparing both methods this study adopts, different results relate to long-term performance are provided. The absence of foreign ownership is not a barrier for better long-term performance in WLS results but foreign ownership plays a key role in fsQCA findings. Especially, growth opportunity and short-term performance are also important factors that contribute to long-term firm performance both before and after the trade war.

## 5. Conclusions and limitations

In summary, this study proposes the argument that foreign ownership provides an additional explanation for long-term firm performance in four ASEAN countries



amid the US-China trade war. We adopt WLS and fsQCA models to analyze the relationship among these factors. While WLS results show foreign ownership affects long-term firm performance only before the US-China trade war, fsQCA supports that it plays a key role in enhancing firm value in four ASEAN countries both before and after the trade war. Short-term performance of both ROA and ROE potentially impacts future firm performance. Growth ability is also a remarkable factor for investors to consider and ensure the profitability in their long-run investments.

As our findings, fsQCA offers a deeper understanding of what drives the long-term performance for the firms in the ASEAN region during the trade war. By overcoming the limitations of traditional regression methods, fsQCA shows that foreign ownership is an important factor which affects firm value in the ASEAN countries. Moreover, fsQCA allows us to analyze the effect of combination factors related to long-term firm performance. Practitioners can consider different combinations of factors in fostering firm value.

This research has some limitations. The sample listed firms includes only four developing countries in the ASEAN (Vietnam, Indonesia, Malaysia and Thailand). Therefore, our findings may not be valid for all ASEAN and other developed countries. The future research could expand the samples to other ASEAN countries. Besides that, only one year after the US-China trade war is available for analysis. Likewise, potential studies could examine datasets with longer periods after the trade war to test these concerns.

## References

- [1] Abiad, A., Baris, K., Bernabe, J. A., Bertulfo, D. J., Camingue, S., Feliciano, P. N., Mariasingham, M. J. and MercerBlackman, V. (2018). The Impact of Trade Conflict on Developing Asia. *Asian Development Bank Economics Working Paper Series*, (566).
- [2] Cali, M. 2018. The Impact of the US-China Trade War on East Asia, October 16. Retrieved from <https://voxeu.org/article/impact-us-china-trade-war-east-asia>.
- [3] Moeller, J.O. (2018). U.S-China Trade War: Opportunities and Risks for Southeast Asia. *ISEAS Yusof Ishak Institute*, 2018 (64), 1-7.
- [4] Rugman, A. (1976). Risk Reduction by International Diversification. *Journal of International Business Studies*, 7, 75-80.
- [5] Ibrahim, A.B. and Ellis, W. (2002). *Entrepreneurship and Small Business Management: Text, Readings and Cases*, 4th ed., Kendall - Hunt Publishing Company, Dubuque, IA.
- [6] Aydin, N., Sayim, M. and Yalaman, A. (2007). Foreign ownership and firm performance: Evidence from Turkey. *International Research Journal of Finance and Economics*, 11(11), 103-111.
- [7] Gurbuz, A. O. and Aybars, A. (2010). The impact of foreign ownership on firm performance, evidence from an emerging market: Turkey. *American Journal of Economics and Business Administration*, 2(4), 350-359.
- [8] Konings, J. (2001). The Effects of Foreign Direct Investment on Domestic Firm. *Economics of Transition*, 9(3), 619-633.
- [9] Mihai, I. O. (2012). Foreign owned companies and financial performance. A case study on companies listed on Bucharest Stock Exchange. *Economics and Applied Informatics*, 1(2012), 13-19.
- [10] Phong, N.A., Phu, T.N. and Yen, N.H. (2018). Effect of foreign ownership on firm performance in Vietnam. Proceedings of the Eighteenth Asia-Pacific Conference on Global Business, Economics, Finance and Social Sciences (API8Thailand Conference) ISBN: 978-1-943579-70-9 Bangkok - Thailand, February 16-17, 2018.
- [11] Bhatt, P.R., 2008. Determinants of Foreign Direct Investment in ASEAN. *Foreign Trade Review*, 43(3), 21-51.
- [12] Erdal, L. and Gocer, I. (2014). The effects of foreign direct investment on R&D and innovations: panel data analysis for developing Asian countries. *Procedia - Social and Behavioral Sciences*, 195(1), 749-758.
- [13] Mamun, M.A. and Sohag, K. (2015). Revisiting the dynamic effect of foreign direct investment on economic growth in LDCs. *International Journal of Economic Policy in Emerging Economies*, 8(2), 97-118.
- [14] Caves, R. (2007). *Multinational Enterprises and Economic Analysis*, Third ed. Cambridge University Press, Cambridge.
- [15] Carney, M., Estrin, S., Liang, Z., Shapiro, D. (2018). Institutional systems, foreign ownership and firm performance: The case of understudied countries. *Journal of World Business*, 54(4), 244-257.
- [16] Dunning, J. (1981). *International Production and the Multinational Enterprise*. Allen and Unwin, London.
- [17] Burkner, M., Franco, C., Minerva, G.A. (2013). Foreign ownership, firm performance, and the geography of civic capital. *Regional Science and Urban Economics*, 43(2013), 964-984.
- [18] Globerman, Ries, J.C. and Vertinsky, I. (1994). The economic performance of foreign affiliates in Canada. *The Canadian Journal of Economics*, 27(1), 143-156.
- [19] Boardman, A.E., Shapiro, D.M. and Vining, A.R. (1997). The role of agency costs in explaining the superior performance of foreign MNE subsidiaries. *International Business Review*, 6(3), 295-317.
- [20] Gugler, K. (1998). Corporate ownership structure in Austria. *Empirica*, 25(1998), 285-307.
- [21] Blomstrom, M. and Sjöholm, F. (1999). Technology transfer and spillovers: Does local participation with multinationals matter? *European Economic Review*, 43(4-6), 915-923.
- [22] Chhibber, P.K. and Majumdar, S.K. (1999). Foreign ownership and profitability: Property rights, control and the performance of firms in Indian industry. *The Journal of Law and Economics*, 42(1), 209-238.
- [23] Douma, S., George, R., and Kabir, R. (2006). Foreign and Domestic Ownership, Business Groups and Firm Performance: Evidence from a Large Emerging Market. *Strategic Management Journal*, 27(7), 637-657.
- [24] Kim, W.S. and Lyn, E. O (1990). FDI Theories and the Performance of Foreign Multinationals Operating in the US. *Journal of International Business Studies*, 21(1), 41-53.
- [25] Yudaeva, K., Kozlov, K., Melentjeva, N. and Ponomareva, N. (2003). Does foreign ownership matter? The Russian experience. *Economics of Transition*, 11(3), 383-409.
- [26] Benfratello, L. and Sembenelli, A. (2006). Foreign ownership and productivity: is the direction of causality so obvious? *International Journal Industrial Organization*, 24(4), 733-751.
- [27] Aitken, B. J., and Harrison, A. E. (1999). Do domestic firms benefit from direct foreign investment? Evidence from Venezuela. *American Economic Review*, 89(3), 605-618.
- [28] Jensen, M.C. and Meckling, W.H. (1976). Theory of the firm: Managerial behavior, agency costs, and capital structure. *Journal of Financial Economics*, 3(4), 305-360.
- [29] Djankov, S. and Hoekman, B. (2000). Foreign investment and productivity growth in Czech enterprises. *The World Bank Economic Review*, 14(1) 49-64.
- [30] Hutchinson, M. and Zain, M. (2009). Internal audit quality, audit committee independence, growth opportunities and firm performance. *Modern Pathology*, 7(2), 50-65.
- [31] Hatem, B.S. (2014). Determinants of firm performance: A comparison of European Countries. *International Journal of Economic and Finance*; 6 (10), 244-249.
- [32] Abdullah, N.A.I.N., Ali M.M., and Haron, N.H., (2017a). Ownership Structure, firm value, and growth opportunities: Malaysian Evidence. *Journal of Computational and Theoretical Nanoscience*, 23(8), 7378-7382.
- [33] Wang, D. H-M. and Yen, D.T.H (2020). The roles of foreign ownership and growth opportunity amid the trade war: Evidence from an emerging country. *International Research Journal of Applied Finance*, 11(1), 1-9.
- [34] Cook, M. (2008). *Banking reform in Southeast Asia, the region's decisive decade* (1st ed.). New York, NY: Rutledge.
- [35] Kunanoppadol, J. and Pariwatnanont, C. (2012). Original ownership structure, capital structure, and corporate performance of construction material industrial segment in the stock exchange of Thailand. *Journal of Science and Technology*, 31(5), 673-680.

- [36] Wet, J. D. and Toit, E. (2007). Return on equity: A popular, but flawed measure of corporate financial performance. *South African Journal of Business and Management*, 38(1), 59-69.
- [37] Callahan, W.T., Millar, J.A. and Schulman, C. (2003). An analysis of the effect of management participation in director selection on the long-term performance of the firm. *Journal of Corporate Finance*, 9(2), 169-181.
- [38] Copeland, T.E., Koller, T. and Murrin, J. (1996). *Valuation: measuring and managing the value of companies*. 2<sup>nd</sup> Edition, New York: Wiley and Sons.
- [39] Gavetti, G., Greve, H. R., Levinthal, D. A. and Ocasio, W. (2012). The behavioral theory of the firm: Assessment and prospects. *Academy of Management Annals*, 4, 1-40.
- [40] Ben-Oz, C. and Greve, H.R. (2015). Short-and Long-term Performance Feedback and Absorptive Capacity. *Journal of Management*, 41(7), 1827-1853.
- [41] Fiegenbaum, A. and Thomas, H. (1988). Attitudes towards risk and the risk-return paradox: Prospect theory explanations. *Academy of Management Journal*, 31(1), 85-106.
- [42] Greve, H. R. (2008). A behavioral theory of firm growth: Sequential attention to size and performance goals. *Academy of Management Journal*, 51(3), 476-494.
- [43] Alonso, P. D. A., Iturriaga, F. J. L. and Sanz, J. A. R. (2005). Financial decisions and growth opportunities: A Spanish firms panel data analysis. *Applied Financial Economics*, 15(6), 391-407.
- [44] Leng, A.C.A. (2004). The impact of corporate governance practices on firms' financial performance: Evidence from Malaysian Companies. *ASEAN Economic Bulletin*, 21(3), 308-318.
- [45] Imam, M.O. and Malik, M. (2007). Firm performance and corporate governance through ownership structure: Evidence from Bangladesh Stock Market. *International Review of Business Research Papers*, 3(4), 88-110.
- [46] Woodside, A.G., and Zhang, M. (2013). Cultural diversity and marketing transactions: Are market integration, large community size, and world religions necessary for fairness in ephemeral exchanges? *Psychology and Marketing*, 30(3), 263-276.
- [47] Fiss, P.C. (2011). Building better causal theories: A fuzzy set approach to typologies in organization research. *Academy of Management Journal*, 54(2), 393-420.
- [48] Woodside, A.G. (2012). Proposing a new logic for data analysis in marketing and consumer behavior: Case study research of large-N survey data for estimating algorithms that accurately profile X (extremely high-use) consumers. *Journal of Global Scholars of Marketing Science: Bridging Asia and the World*, 22 (4), 277-289.
- [49] ASEANStatsDataPortal (2020). Retrieved from <https://data.aseanstats.org/fdi-by-hosts-and-sources>.
- [50] Hair, J. F. Jr., Anderson, R. E., Tatham, R. L. and Black, W. C. (1995). *Multivariate Data Analysis* (3rd edition). New York: Macmillan.
- [51] Tabachnick, B. G., & Fidell, L. S. (1996). *Using multivariate statistics* (3rd ed.). New York: HarperCollins.
- [52] Simón-Moya, V. and Revuelto-Taboada, L. (2016). Revising the predictive capability of business plan quality for new firm survival using qualitative comparative analysis. *Journal of Business Research*, 69(2016), 1351-1356.
- [53] Mas-Verdú, F., Ribeiro-Soriano, D., & Roig-Tierno, N. (2015). Firm survival: The role of incubators and business characteristics. *Journal of Business Research*, 68(4), 793-796.
- [54] Ragin, C. C (2008a). Redesigning social inquiry: Fuzzy sets and beyond, Wiley Online Library.
- [55] Woodside, A. G. (2013). Moving beyond multiple regression analysis to algorithms: Calling for adoption of a paradigm shift from symmetric to asymmetric thinking in data analysis and crafting theory. *Journal of Business Research*, 66(4), 463-472.
- [56] Uruena, A. and Hidalgo, A. (2015). Successful loyalty in e-complaints: FsQCA and structural equation modeling analysis. *Journal of Business Research*, 69(4), 1384-1389.
- [57] Ragin, C. C. (2008b) USER'S GUIDE TO fuzzy-set/ qualitative comparative analysis. Irvine: Department of Sociology, University of California.

