

DOES FOREIGN OWNERSHIP DECREASE BANK RISK? EVIDENCE FROM VIETNAM

Nguyen Tran Xuan Linh^{1*}, Le Thi Lan²

¹University of Finance - Marketing, Vietnam

²College Of Foreign Economic Relation, Vietnam

*Corresponding author: Email: ntxlinh@ufm.edu.vn

Received: October 07, 2024

Accepted: January 21, 2025

Published: July 25, 2025

DOI: 10.52932/jfmr.v3i2e.563

Appendix 1. Description of variables in the model

Variable	Describe	Sign expectations	Measurement method	Previous studies	Source
Dependent variable					
Zscore	Natural logarithm of the Z-score value.		$\frac{ROA_t + \frac{E}{A_t}}{\sigma(ROA)_t}$		Calculation from financial statements
Independent variable					
FOREIGN	The ratio of foreign capital to total equity	+/-	$\frac{\text{foreign capital}}{\text{total equity}}$	Angkinand and Wihlborg (2010), Chou and Lin (2011), Vogel and Winkler (2010), Giannetti and Laeven (2012), Allen et al. (2017), Goetz et al. (2013), Albertazzi and Bottero (2014), Tacneng (2015), Jensen and Meckling (2019)	Calculation from financial statements
CAP	The ratio of equity to total assets	+	$\frac{\text{Equity}}{\text{total assets}}$	Berger and Bouwman (2013), Anginer and Demirgüç-Kunt (2014)	Calculation from financial statements
NITA	Natural logarithm of Non-interest income	+	Non-interest income	Odesanmi and Wolfe (2007)	Calculation from financial statements
CRE	Credit growth rate	-	$\frac{\text{Credit}_t - \text{Credit}_{t-1}}{\text{Credit}_{t-1}}$	Foos et al. (2010)	Calculation from financial statements
LIQ	Liquid assets ratio	+	$\frac{\text{Liquid Assets}}{\text{Current Liabilities}}$	Vazquez and Federico (2015)	Calculation from financial statements
DEP	The ratio of deposits to total assets	-	$\frac{\text{Deposits}}{\text{total assets}}$	Koehn and Santomero (1980), Sibindi (2018), Setyawati et al. (2019)	Calculation from financial statements
GDP	Economic growth	+	$\frac{\text{GDP}_t - \text{GDP}_{t-1}}{\text{GDP}_{t-1}}$	Abuzayed et al. (2018), Kjosevski et al. (2019)	General statistics office of Vietnam
INF	Inflation rate	-	$\frac{\text{CPI}_t - \text{CPI}_{t-1}}{\text{CPI}_{t-1}}$	Abuzayed et al. (2018), Kjosevski et al. (2019)	General statistics office of Vietnam

Appendix 2. Simulation of a prior information

Likelihood function	LnZscore $\sim N(\mu_1, \sigma_1)$
Simulation 1.1	$\alpha_i \sim N(0; 1)$ $\sigma_1^2 \sim \text{Invgamma}(0.01; 0.01)$
Simulation 1.2	$\alpha_i \sim N(0; 10)$ $\sigma_1^2 \sim \text{Invgamma}(0.01; 0.01)$
Simulation 1.3	$\alpha_i \sim N(0; 100)$ $\sigma_1^2 \sim \text{Invgamma}(0.01; 0.01)$
Simulation 1.4	$\alpha_i \sim N(0; 1000)$ $\sigma_1^2 \sim \text{Invgamma}(0.01; 0.01)$
Simulation 1.5	$\alpha_i \sim N(0; 10000)$ $\sigma_1^2 \sim \text{Invgamma}(0.01; 0.01)$

Appendix 3. Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Zscore	253	2.9668	0.3991	2.0521	4.2028
FORE	253	0.1050	0.1169	0.0000	0.3000
CAP	253	0.0938	0.0420	0.0191	0.2554
NITA	253	0.0334	0.0750	-0.0059	0.3398
CRE	253	0.2159	0.2155	-0.2372	1.2987
DEP	253	0.6680	0.1134	0.2923	0.8937
LIQ	253	0.1294	0.0790	0.0075	0.3985
GDP	253	0.0620	0.0117	0.0294	0.0720
INF	253	0.0620	0.0117	0.0294	0.0720

Appendix 4. Correlation matrix

	LnZscore	FORE	CAP	NITA	CRE	DEP	LIQ
LnZscore	1						
FORE	-0.0324	1					
CAP	-0.0441	-0.1198	1				
NITA	0.4641	-0.1689	0.0855	1			
CRE	0.0406	0.0022	-0.1786	-0.0057	1		
DEP	-0.194	0.1281	0.0362	0.0301	-0.2499	1	
LIQ	0.0913	-0.1407	-0.0349	-0.0612	0.2353	-0.4555	1
GDP	-0.0726	0.0144	0.0474	-0.0163	0.0225	0.059	-0.1003
INF	-0.0726	0.0144	0.0474	-0.0163	0.0225	0.059	-0.1003