

The Role of Financial Development in the Vietnam Economy

TOAN NGOC BUI

Faculty of Finance and Banking

Industrial University of Ho Chi Minh City (IUH)

12 Nguyen Van Bao Street, Ward 4, Go Vap District, Ho Chi Minh City

VIETNAM

buingoctoan@iuh.edu.vn

Abstract: - This paper analysed the role of financial development in the Vietnam economy from Quarter 3, 2004 to Quarter 4, 2018. By applying the Autoregressive Distributed Lag (ARDL) model in data analysis, the findings show that there existed concurrent effects of financial development in the economy over short-term, as well as long-term, periods. Moreover, this paper succeeds in pointing out the medium role of the real estate market in the transmission mechanism of financial development in the Vietnam economy, which is a new finding in the realm of extant research. Furthermore, the result indicates that financial development played an essential role in fostering economic growth from the angle of the real estate market. In turn, financial development, from the angle of banking, had indirect effects on the economy through the real estate market. These findings are important for world economies, especially for developing countries like Vietnam.

Key-Words: - Financial development, real estate market, economic growth, economy, ARDL, Vietnam.

1 Introduction

The role of financial development in the economy has been mentioned in much empirical research over a long period of time [1], where economic growth is an important statistical index that reflects efficiency of the economy [2]. Financial development (banking systems and stock markets included) is a crucial factor that boosts economic growth [16, 4]. Financial development not only stimulates the economy, but also alleviates poverty [9].

In developing countries like Vietnam, access to capital through real estate mortgage is of primary importance in the economy. Therefore, financial development may create an increase in real estate [20]. Moreover, the real estate market plays an important role in fostering or declining economic growth [22]. The real estate market is a medium in the transmission mechanism of financial development in the Vietnam economy, as expressed by Elbourne in his study of the transmission mechanism of monetary policy in the economy [13]. However, almost no research has analysed the medium role of the real estate market in the transmission mechanism of financial development in the economy. Hence, the purpose of this paper is to create the first empirical evidence of this issue in Vietnam, which is a developing country where the real estate market plays an especially important role in the transmission mechanism of financial development in the economy.

2 Literature Review

The role of financial development in the economy was first mentioned in Schumpeter's research [25]. His work brought this issue forward through the work of Goldsmith, McKinnon and Shaw [15, 21, 26]. In recent years, the role of financial development in the economy has been the main concern of much empirical research [2]. Financial development can be understood as a part of the development of the private sector for the purpose of stimulating economic growth and alleviating poverty. The means of financial development include development of the banking system and stock market [16, 4, 24].

The role of financial development in the economy is expressed through wealth effect [12]. According to the theory of wealth effect, consumption is a function of disposable income and gross assets; household and business wealth determines behaviour in consumption and investment and financial development can enrich wealth's value. Entities that feel wealthier increase their consumption, as well as their investment. Therefore, financial development plays an important role in fostering economic growth.

Economic growth is an essential statistical index that reflects the efficiency of the economy [2]. In financial development, it is measured by these indexes: domestic credit to the private sector in comparison with GDP [5, 2, 18, 8, 19, 11, 20, 24,

14], the stock index [24], stock market effects [5, 8, 24, 11, 17].

Some previous research, such as Adu et al. [2], revealed the effects of control variable interest on the economy. Variable interest is a form of monetary policy that directly affects the economy, and indirectly, the real estate market [13].

Most empirical research shows that financial development has a direct, concurrent influence on the economy. However, this influence is dependent on changes in the real estate market, as financial development may cause increases in real estate prices and even create a ‘bubble’ phenomenon in the real estate market [20]. Thus, the real estate market plays a medium role in the transmission mechanism of financial development in the economy. Nevertheless, hardly any empirical research has focused on this issue.

In this regard, this paper will build a research model to analyse the role of financial development in Vietnam’s economy.

3 Methodology

3.1 Data and Regression Techniques

The data were collected in the period from Quarter 3, 2004 to Quarter 4, 2018. Data on financial development were collected from the International Monetary Fund (IMF) and State Securities Commission of Vietnam (SSC). The data on the real estate market’s growth, refinance interest rate, and economic growth were collected from General Statistics Office of Vietnam (GSO).

This paper analysed the role of financial development in the Vietnam economy by employing Autoregressive Distributed Lag (ARDL) model suggested by Pesaran et al. [23]. The ARDL model was also used in the empirical research of Adu et al. and Khoutem et al. [2, 19].

3.2 Variables

This paper used the economic growth index (EG) to represent the economy. Financial development was measured by development in the banking system and real estate market. Financial development from the banking angle was measured by the domestic credit to private sector (DC) index. Financial development from the angle of the real estate market was measured by the Vietnam stock index (SI) and the stock market’s effects (SE). The index of net value traded of foreign investors (FI) was included because this is an important index for

measuring the level of international integration of stock markets [6].

In addition, the index of real estate market growth (RE) was also utilised, to clarify the medium role of the real estate market in the transmission mechanism of financial development in the economy, based on the research results of Elbourne and Lim [13, 20].

Lastly, control variable refinance interest rate (IR) was brought in on the basis of Adu et al.’s research [2].

3.3 Econometric Model

Figure 1 illustrates the role of financial development in the Vietnam economy.

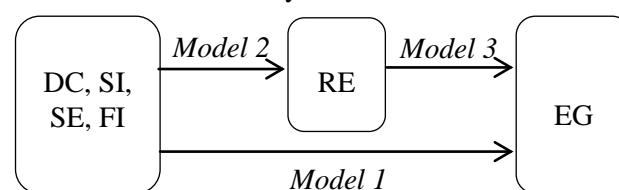


Fig.1: Proposed Research Model

$$\text{Model 1: EG} = f(\text{DC, SI, SE, FI, IR}) \quad (1)$$

$$\text{Model 2: RE} = f(\text{DC, SI, SE, FI, IR}) \quad (2)$$

$$\text{Model 3: EG} = f(\text{RE}) \quad (3)$$

Table 1. Suggested research model

Variable name	Code	Source	How to measure
Economic growth	EG	GSO	Quarterly growth compared to the same period last year.
Domestic Credit to Private Sector	DC	IMF	The domestic credit to the private sector to the gross domestic product.
Vietnam Stock Index	SI	SSC	Logarithm of Vietnam stock index: log(VN-Index).
Stock Market’s Effects	SE	SSC	The value of traded stocks to the market capitalization value.
Net value traded of Foreign Investors	FI	SSC	Net value traded of foreign investors to the value of traded stocks.
Real Estate Market	RE	GSO	Real estate market growth mainly focuses on business activities in the real estate market. Quarterly growth compared to the same period last year.
Refinance interest rate	IR	GSO	Quarterly average of refinance interest rate.

4 Results and Discussion

4.1 Unit Root Test

Results of unit root tests suggested by Dickey and Fuller [10] are shown in Table 2.

Table 2. Results of unit root tests

Variable	I(0)	I(1)
Economic growth (EG)	0.0449**	0.0000***
Domestic Credit to Private Sector (DC)	0.4706	0.0024***
Vietnam Stock Index (SI)	0.3334	0.0000***
Stock Market's Effects (SE)	0.0433**	0.0000***
Net value traded of Foreign Investors (FI)	0.0002***	0.0000***
Real Estate Market (RE)	0.1167	0.0000***
Refinance interest rate (IR)	0.2397	0.0000***

Note: ** and *** indicate significance at the 5% and 1% level, respectively.

Table 2 shows that the series of data did not stationary in the same scale, which is commensurate with the ARDL model. The ARDL model is appropriate for empirical research with data series not stationary in the same scale [23].

4.2 Results of Coefficient Estimation

The analysis of the role of financial development in the Vietnam economy applying the ARDL model is shown in Table 3, Table 4, and Table 5.

Table 3. ARDL long-run and short-run results (Model 1)

Variable	Model 1 (dependent variable: EG)	
	Coef.	Prob.
Long-run results		
DC	-0.0073	0.447
SI	0.0562	0.000***
SE	2.3727	0.000***
FI	0.0601	0.017**
IR	0.0279	0.588
Short-run results		
Δ EG	0.5176	0.000***
Δ DC	0.1114	0.000***
Δ DC(-1)	-0.1049	0.001***
Δ SI	-0.0143	0.421
Δ SE	1.0302	0.075*
Δ SE(-1)	-1.2579	0.042**
Δ FI	0.0688	0.020**
Δ IR	0.1181	0.213

Δ IR(-1)	0.3095	0.001***
ECM(-1)	-1.1458	0.000***
Constant	-0.1142	0.001***
Bound test	I(0)	0.0000***
	I(1)	0.0000***
R-squared	72.90%	
Significance level	Prob > F = 0.0000***	
White's test	Prob > chi2 = 0.4371	
Breusch-Godfrey LM test	Prob > chi2 = 0.5647	
Ramsey Reset test	Prob > chi2 = 0.2332	

Note: *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively.

Table 4. ARDL long-run and short-run results (Model 2)

Variable	Model 2 (dependent variable: RE)	
	Coef.	Prob.
Long-run results		
DC	0.0518	0.040**
SI	0.0189	0.463
SE	0.0041	0.967
FI	-0.7255	0.438
IR	-0.5205	0.008***
Short-run results		
Δ DC	0.0198	0.080*
Δ SI	0.0072	0.502
Δ SE	-0.2766	0.393
Δ FI	-0.0931	0.001***
Δ IR	-0.1986	0.000***
ECM(-1)	-0.3815	0.000***
Constant	0.0029	0.927
Bound test	I(0)	0.0000***
	I(1)	0.001***
R-squared	58.11%	
Significance level	Prob > F = 0.0000***	
White's test	Prob > chi2 = 0.1493	
Breusch-Godfrey LM test	Prob > chi2 = 0.1542	
Ramsey Reset test	Prob > chi2 = 0.1123	

Note: *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively.

Table 5. ARDL long-run and short-run results (Model 3)

Variable	Model 3 (dependent variable: EG)	
	Coef.	Prob.
Long-run results		
RE	0.5285	0.016**
Short-run results		
Δ RE	0.2060	0.040**
ECM(-1)	-0.3898	0.000***
Constant	0.0195	0.002***
Bound test	I(0)	0.011**
	I(1)	0.021**
R-squared	21.51%	
Significance level	Prob > F = 0.0016***	
White's test	Prob > chi2 = 0.7267	
Breusch-Godfrey LM test	Prob > chi2 = 0.2406	
Ramsey Reset test	Prob > chi2 = 0.1317	

Note: ** and *** indicate significance at the 5% and 1% level, respectively.

The paper defined the delay of variables in the ARDL model through the index of Bayesian Information Criterion (BIC). Bound test found a co-integration relationship among data series in the three research models. The findings indicate that all three models were suitable.

4.3 Stability Tests

The results of the stability tests suggested by Brown et al. [7] appear below:

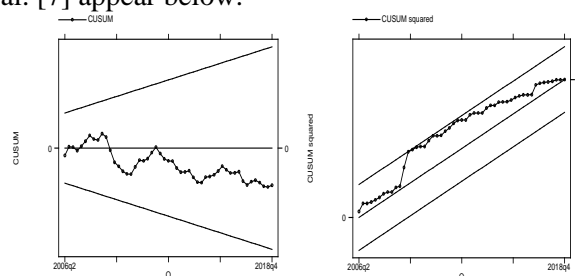


Fig.2: Stability tests (Model 1)

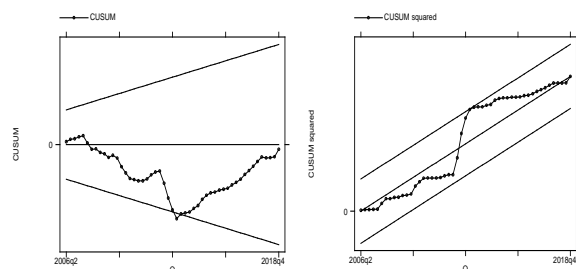


Fig.3: Stability tests (Model 2)

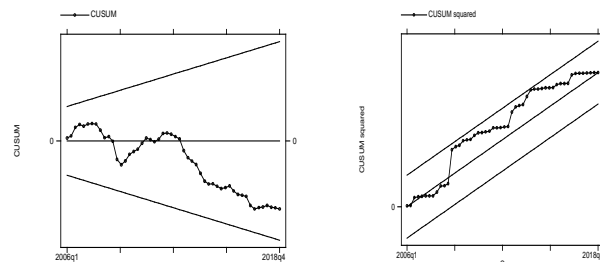


Fig.4: Stability tests (Model 3)

Stability tests showed that the CUSUM square is in the standard range, with a significance level of 5% (Figure 2, Figure 3, and Figure 4). It means that the research model has stability and appropriateness.

4.4 Discussion

Financial development affected economic growth in both the short and long term, mainly with a concurrent trend (Model 1). Financial development from the angle of the stock market (SI, SE, FI) affected economic growth (EG) in both the short and long term. Financial development from the angle of banking (DC) affected economic growth (EG) in the short term.

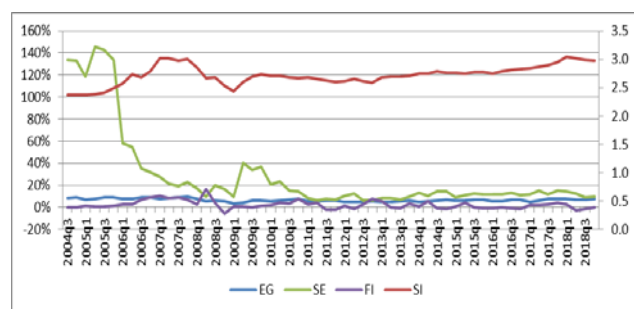


Fig.5: Financial development (SI, SE, FI) and economic growth (EG)

This indicates that economic growth was mainly affected by financial development from the angle of stock market. This result is commensurate with the reality in Vietnam. Although the Vietnam stock market is still young (officially launched on 28 July, 2000), it has gained many achievements. As a stock market develops, its investors will increase the value of their assets with a tendency to increase their consumption and investment. This stimulates economic growth. The findings matched the wealth effects and previous judgments of Bittencourt, Deltuvaite and Sineviciene, Dilek et al., Fufa and Kim, Pradhan et al. [5, 8, 11, 17, 24]. The paper succeeded in finding the positive effects of the net value traded of foreign investors on short-term and long-term economic growth, which is a new finding compared with previous research. This means that in the stock market, foreign investors play an

important role in fostering economic growth. It is clear and appropriate because Vietnam integrated into the world economy.

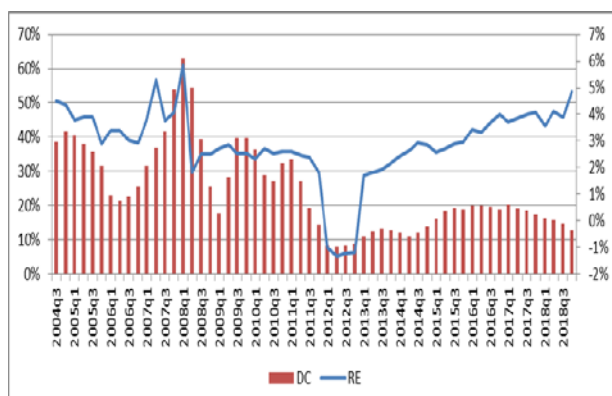


Fig.6: Domestic credit to private sector (DC) and real estate market (RE)

Financial development from the angle of banking (DC) had a concurrent effect on both the short-term and long-term real estate market (RE) (Model 2).

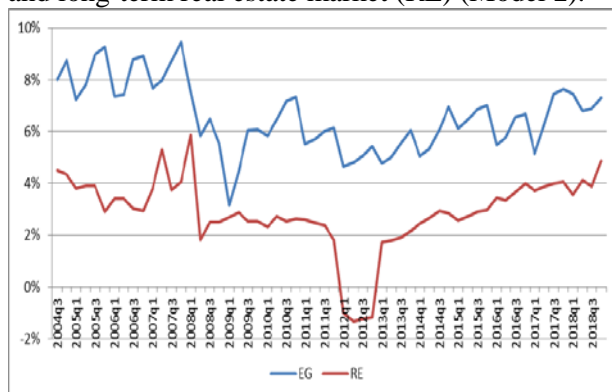


Fig.7: Real estate market (RE) and economic growth (EG)

Meanwhile, the real estate market (RE) had a concurrent effect on both short-term and long-term economic growth (EG) (Model 3).

Thus, it can be concluded that finance directly affected economic growth through the real estate market. These findings are new in comparison with previous findings. This is commensurate with Vietnam's reality, because the banking system plays a key role in supplying credit to the Vietnam finance market [3]. Therefore, capital invested in the Vietnam real estate market is raised mainly from the banking system. Banking credit plays a role in fostering the growth of the real estate market which stimulates economic growth.

Hence, financial development affected Vietnam's economy mainly with a concurrent trend; a direct effect on the economy, and an effect on the economy through real estate market.

5 Conclusion

The findings indicate that financial development affected Vietnam's economy in both the short and long term, mainly with positive effects, and the real estate market played an important role in the transmission mechanism of financial development in economic growth. These findings are new in comparison with previous research. The findings also prove that financial development from the angle of the stock market was essential to foster (directly) economic growth. At the same time, financial development from the angle of banking had direct effects on the economy through the real estate market. This is commensurate with the reality of Vietnam, a developing country. Therefore, these findings are significant for world economies, especially developing countries like Vietnam.

These findings are fundamental for Vietnam policymakers to develop appropriate policies in order to boost economic growth. Specifically, Vietnam's government should establish effective policies of financial development in which capital from the banking system's credit and the stock market are key factors. In addition, Vietnam's government needs to establish suitable policies to firmly develop the real estate market's link with economic growth.

This paper succeeded in finding effects of financial development on Vietnam's economy. However, its drawback is its inability to analyse the effects of financial development on the economy of other countries in order to differentiate between the Vietnam economy and those of other countries. This could be an exciting topic for future research.

References:

- [1] Adeniyi, O., Oyinlola, A., Omisakin, O., & Egwaikhide, F. O., Financial development and economic growth in Nigeria: Evidence from threshold modelling, *Economic Analysis and Policy*, Vol.47, 2015, pp. 11-21.
- [2] Adu, G., Marbuah, G., & Mensah, J. T., Financial development and economic growth in Ghana: Does the measure of financial development matter?, *Review of Development Finance*, Vol.3, No. 4, 2013, pp. 192-203.
- [3] Batten, J., & Vo, X. V., Bank risk shifting and diversification in an emerging market, *Risk Management*, Vol.18, No.4, 2016, pp. 217-235.
- [4] Bencivenga, V. R., & Smith, B. D., Financial intermediation and endogenous growth, *Review of Economic Studies*, Vol.58, No.2, 1991, pp. 195-209.

- [5] Bittencourt, M., Financial development and economic growth in Latin America: Is Schumpeter right?, *Journal of Policy Modeling*, Vol.34, No.3, 2012, pp. 341-355.
- [6] Bolanos, E. R. L., Burneo, K., Galindo, H., & Berggrun, L., Emerging Markets Integration in Latin America (MILA) Stock market indicators: Chile, Colombia, and Peru, *Journal of Economics, Finance and Administrative Science*, Vol.20, No.39, 2015, pp. 74-83.
- [7] Brown, R. L., Durbin, J., & Evans J. M., Techniques for testing the constancy of regression relationships over time, *Journal of the Royal Statistical Society*, Vol.37, No.2, 1975, pp. 149-192.
- [8] Deltuvaite, V., & Sineviciene, L., Investigation of relationship between financial and economic development in the EU countries, *Procedia Economics and Finance*, Vol.14, 2014, pp. 173-180.
- [9] Demircuc-kunt, A., & Levine, R., *Finance and inequality: Theory and evidence*, Policy research working paper series, no. 4967, Washington DC: The World Bank, 2009.
- [10] Dickey, D., & Fuller, W., Distribution of the estimators for autoregressive time series with unit root, *Journal of the American Statistical Association*, Vol.74, 1979, pp. 427-432.
- [11] Dilek, D., Serdar, I. M., & Hakan, Y., Financial development and economic growth: Some theory and more evidence, *Journal of Policy Modeling*, Vol.39, No.2, 2017, pp. 290-306.
- [12] Dumrul, Y., Estimating the impact of the financial development on energy consumption: A co-integration analysis, *International Journal of Energy Economics and Policy*, Vol.8, No.5, 2018, pp. 294-299.
- [13] Elbourne, A., The UK housing market and the monetary policy transmission mechanism: An SVAR approach, *Journal of Housing Economics*, Vol.17, No.1, 2008, pp. 65-87.
- [14] Eren, B. M., Taspinar, N., & Gokmenoglu, K. K., The impact of financial development and economic growth on renewable energy consumption: Empirical analysis of India, *Science of The Total Environment*, Vol.663, No.1, 2019, pp. 189-197.
- [15] Goldsmith, R. W., *Financial Structure and Development*, Yale University Press, New Haven, 1969.
- [16] Greenwood, J., & Jovanovic, B., Financial development, growth, and the distribution of income, *Journal of Political Economy*, Vol.98, No.5, 1990, pp. 1076-1107.
- [17] Fufa, T., & Kim, J., Stock markets, banks, and economic growth: Evidence from more homogeneous panels, *Research in International Business and Finance*, Vol.44, 2018, pp. 504-517.
- [18] Hsueh, S., Hu, Y., & Tu, C., Economic growth and financial development in Asian countries: A bootstrap panel Granger causality analysis, *Economic Modelling*, Vol.32, 2013, pp. 294-301.
- [19] Khoutem, B. J., Thouraya, B., & Kamel, H., Financial development and economic growth: New evidence from Tunisia, *Journal of Policy Modeling*, Vol.36, No.5, 2014, pp. 883-898.
- [20] Lim, T., Growth, financial development, and housing booms, *Economic Modelling*, Vol.69, 2018, pp. 91-102.
- [21] McKinnon, R., *Money and Capital in Economic Development*, Washington DC: Brookings Institution, 1973.
- [22] Miller, N., Peng, L., & Sklarz, M., *House prices and economic growth*. *Journal of Real Estate Finance and Economics*, Vol.42, No.4, 2011, pp. 522-541.
- [23] Pesaran, M., H., Shin, Y., & Smith, R., Bounds testing approaches to the analysis of level relationship, *Journal of Applied Econometrics*, Vol.16, No.3, 2001, pp. 289-326.
- [24] Pradhan, R., Arvin, M., Hall, J., & Bahmani, S., Causal nexus between economic growth, banking sector development, stock market development, and other macroeconomic variables: The case of ASEAN countries, *Review of Financial Economics*, Vol.23, No.4, 2014, pp. 155-173.
- [25] Schumpeter, J. A., *The Theory of Economic Development*, Harvard University Press, Cambridge, 1911.
- [26] Shaw, E. S. 1973, *Financial Deepening in Economic Development*, Oxford University Press, London, 1911.