

Securities Commission Organization and Stock Exchange Development in Vietnam and Laos

Somvixay Chanthavong

Graduate School of Asian and African Area Studies, Kyoto University, Kyoto, Japan

Corresponding author: joysomvixay@gmail.com

Abstract

This paper investigates stock exchange evolution in Vietnam and Laos through reviewing previous literature, synthesizing the capital market structure, and evaluating the capacity of the regulatory agencies, with an aim to provide a big picture of how the stock markets have developed. This study uses OLS and Tobit regression analysis to explain the associated indicators of stock exchange development in the selected countries. I find that the stock exchange in Vietnam has undergone dramatic development. However, inadequacy of securities law, low free-float of shares, and an undiversified investor base are reported as challenges. The stock exchange in Laos is still in its initial stages of development and is confronted with various challenges, including limited and undiversified products of listed companies, low liquidity, and a small investor base.

Keywords: Stock exchange, capital market, securities commission, Vietnam, Laos.

1. Introduction

The economic system in every country differs depending on local history and perceptions of national direction platforms, especially in socialist countries. These states, which have one party and call themselves socialist nations, can be different and have unique characteristics in terms of political, economic, and social management systems. There is no exception with the two existing socialist country members of the Association of Southeast Asian Nations (ASEAN), namely the Socialist Republic of Vietnam (hereafter Vietnam) and the Lao People's Democratic Republic (hereafter Laos). The economies of these nations have recently been on an upward trajectory. The Gross Domestic Product (GDP) growth rate in 2017 for Vietnam and Laos, as reported by World Bank (2017), were 6.8% and 6.9%, respectively, with advantages in natural resources and low labor cost. These advantages appear to make the nations attractive destinations for foreign investment, especially securities investment via capital markets. From this perspective, the governments of both countries have improved and developed their stock exchanges in recent years, with the expectation of significant contributions from capital markets to national economic growth.

The stock exchange in Vietnam commenced operation in 2000 in Ho Chi Minh city, which is an economic center with diverse industries. Five years later, the government approved the establishment of another stock exchange in the capital city of Hanoi for facilitating various state-owned-enterprises (SOEs) and other firms located in the northern region around the capital. The government then introduced the Unlisted Public Company Market in 2009 for minimizing over-the-counter market issues. Conversely, across the border in Laos, the stock exchange is still in the beginning stages of development. It was established in 2010 after receiving support from the Korea Exchange as a joint venture, and this securities exchange encountered various challenges in the process.

This paper aims to investigate the evolution of stock exchange development in both Vietnam and Laos through reviewing the previous literature, synthesizing the capital market structure, evaluating the capacity of regulatory agencies, and examining the history of market performance in the stock exchange, with an aim to provide a big picture of how the stock markets

have developed. Moreover, this research uses regression analysis to measure the current market situation and evaluate how market indicators impact securities exchange development for the selected countries, with particular attention on equity markets or stock-type securities rather than bond and derivatives markets. The paper concludes by proposing solutions for issues facing both stock markets.

2. Literature Review

This section reviews the literature from previous studies on capital market development and presents initial observations on local capital market systems in order to understand the local contexts.

2.1 Previous Studies

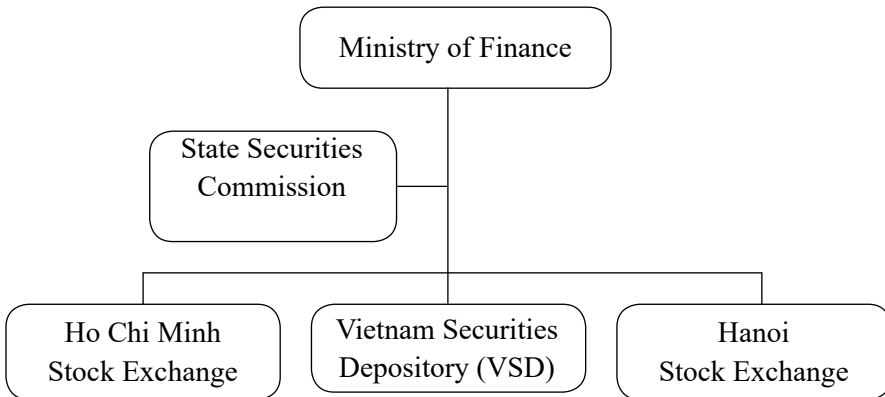
Smooth development of financial markets is one of the core factors that can sustain gross domestic product (GDP) growth, because productivity of local businesses can be interpreted by how well local companies can access financial resources to produce output and expand their businesses. In addition, well-functioning banking services for entrepreneurs lead to new technology innovation and productivity improvements for the society (Schumpeter, 1934), and financial services can also spur savings, investment, and growth of a country's GDP (Asamoah, 2008). Hence, financial system reform is required to respond to the needs of businesses for expansion, and as a tool of public saving through money markets and capital markets. In particular, Arestis, Demetriades and Luintel (2001), Levine and Zervos (1998), Singh (1997), Levine (1997), and Demirguc-Kunt and Levine (1996) examine the relationship between stock market development and economic growth. They emphasize the crucial role of stock markets in increasing economic growth in the long run through mobilizing funds for businesses in the medium and long terms. Thus, it is interesting to further analyze the capital market structures in developing countries, particularly in the socialist countries of Vietnam and Laos, where the political systems and economic growth are consistent.

As Huaong and Nguyen (2016) pointed out, market size, products, and liquidity represent shortcomings and challenges for the Vietnamese stock exchanges. Even though there was a significant increase in the number of

listed companies, the companies still had low average capitalization. Moreover, inactive government securities and a lack of depth in the primary market were also reported to be the main obstacles to Vietnam's capital market development (World Bank, 2006). In terms of Laos, the capital market is considered to be a "newborn" market that faces various obstacles. Liquidity issues, a small number of listed companies, and a limited investor base are recent barriers to stock exchange development in Laos (Chanthavong, 2018). Associated laws and regulations on securities are not simplified and do not yet support the development of capital markets in Laos (Lao Securities Commission Office, 2016). To further elucidate the conditions and local contexts, the following section synthesizes the capital market structures in both Vietnam and Laos.

2.2 Regulatory Authority of Capital Markets in Vietnam

Vietnam's capital market was established in the 1990s after the capital market development board was formed under the supervision of State Bank of Vietnam (SBV) by governor's decision No.207/QD-TCCB dated 06-November-1993 (the State Bank of Vietnam, 1993). This board had key roles in researching and preparing the necessary conditions for establishing a securities market in Vietnam. Until 1996, the securities regulatory body was officially set up as a government organization to support the prime minister on securities tasks, called the State Securities Commission of Vietnam (SSC). The core task of this commission was to prepare and accelerate all conditions for the establishment of a securities market in Vietnam. Thereafter, to facilitate close collaboration and faster development of the securities market, the SSC's structure and organization were transformed and placed under the supervision of the Ministry of Finance in 2004. The current structure of the Vietnamese capital market is shown in Figure 1. This regulatory body has recently played a crucial role in drafting relevant legislation, as well as managing and regulating the entire securities field and securities markets throughout Vietnam.

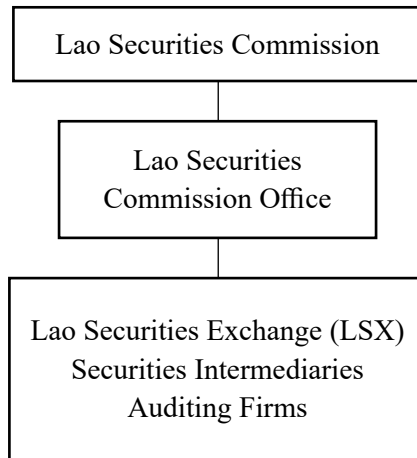
Figure 1. Current structure of the Vietnamese capital market

In 2000, to sustain economic growth and facilitate businesses in mobilizing mid-term and long-term funds, the first securities market of Vietnam was established in Ho Chi Minh City, called the Ho Chi Minh City Securities Trading Center, which then transformed into the Ho Chi Minh Stock Exchange (HOSE) in 2007. Even though this securities trading center was opened in Ho Chi Minh city, which is an economic center where various industries are located, there were numerous state-owned-enterprises found in the northern region, particularly around the capital city of Hanoi. The government, thereafter, decided to open another securities trading center in 2005 in Hanoi city, called the Hanoi Securities Trading Center, for accelerating the equitization of state-owned-enterprises and assisting fund-seeking companies to reach long-term fund mobilization. This trading center was later changed into the Hanoi Stock Exchange (HNX) in 2009, parallel with the inauguration of the Unlisted Public Company Market (UPCoM). In addition, the Vietnam Securities Depository (VSD) was also launched in 2006 for assisting securities registration, as well as depository, clearing, and settlement duties for both the HOSE and the HNX.

2.3 Regulatory Authority of Capital Markets in Laos

Vietnam has developed its stock markets for nearly two decades with diverse achievements. However, if we cross the border into the

neighboring country of Laos, the situation is different. Given Laos' long historical ties and similar political organization to Vietnam, one would expect the Lao stock market to have similar schemes for securities exchange establishment, but the Lao market is still in its beginning phase of development. The securities field was initially studied after the establishment of the securities exchange research team under the Bank of the Lao PDR (BoL) in 2006. The securities exchange establishment plan was included in the 6th Five-Year National Socio-Economic Development Plan (2006-2010) of the Lao government (Mounlarat, 2013). In this plan the government decided to set up a preparatory committee for securities exchange establishment in 2007 with an aim to research, draft relevant legislation, and prepare the conditions for establishing a securities exchange. After 2009, this committee was transformed into the Lao Securities and Exchange Commission and named Lao Securities Commission (LSC) after 2014. This LSC is a government agency that supports the government in making related policies, drafting strategy plans and legislation, and managing all securities tasks. The Lao Securities Commission Office (LSCO) was also created to facilitate the commission as an assisting bureau. Moreover, the committee is also comprised of the deputy prime minister as Chairman, governor of the Bank of the Lao PDR as Vice Chairman, and other deputy ministers from various ministries. The structure of the LSC might be slightly different from the Vietnamese case because the LSC was recently established as an independent authority comprised of various line ministry members with direct supervision from the government as shown in Figure 2.

Figure 2. Structure of Lao capital market

Although the organizational structure of the capital markets in both Vietnam and Laos are slightly different, both commissions were similarly established before building up the stock exchanges in each nation. In particular, after setting up the preparatory committee for securities exchange establishment in 2007, a primary Memorandum of Understanding (MoU) between the Lao government and the Korea Exchange (KRX) was signed by the Bank of the Lao PDR (representing the Lao government) and the Korea Exchange, with the aim to jointly establish the first securities exchange in Laos. Two years later in 2009, both stakeholders agreed to sign a joint venture agreement on establishing the securities exchange, which BoL would contribute 51% and KRX 49%. The securities exchange establishment received close collaboration from various sectors with high levels of responsibilities. The first stock exchange in Laos was finally inaugurated on 10th October 2010 with name “Lao Securities Exchange (LSX)” and the first trading day of the two initial listed state-owned-enterprises was launched three months thereafter, 11th January 2011.

Because of the complexity of these capital markets, it is worth further examining the market performance of the exchanges in Vietnam and Laos, which are emerging markets in Southeast Asia, especially the recently established Lao Securities Exchange for which there is little previous research.

3. Research Methodology

The author visited the Lao Securities Exchange during June and July 2018, and the Hanoi Stock Exchange and Ho Chi Minh Stock Exchange in August 2018 for site interviews with an aim to understand the local context. The author also requested data on market indicators for each exchange, including market capitalization, number of listed companies, and the average value and volume of annual trading shares. Related regulations and government policy information were also collected to synthesize the regulatory authority and stock exchange development platform of the selected countries. In particular, the data covers the Lao Securities Exchange (LSX) from 2011 to July 2018, the Ho Chi Minh Stock Exchange (HOSE) from 2000 to 2017, the Hanoi Stock Exchange (HNX) from 2005 to 2017, and the Unlisted Public Company Market (UPCoM) from 2009 to 2017. This paper uses Ordinary Least Squares (OLS) and Tobit models to determine the current situation and estimate how market performance indicators and legislation improvements are associated with stock exchange development in Vietnam and Laos. The statistical program used in this study is STATA.

4. Findings and Discussions

4.1 Stock Exchange Development in Vietnam

4.1.1 Ho Chi Minh Stock Exchange (HOSE)

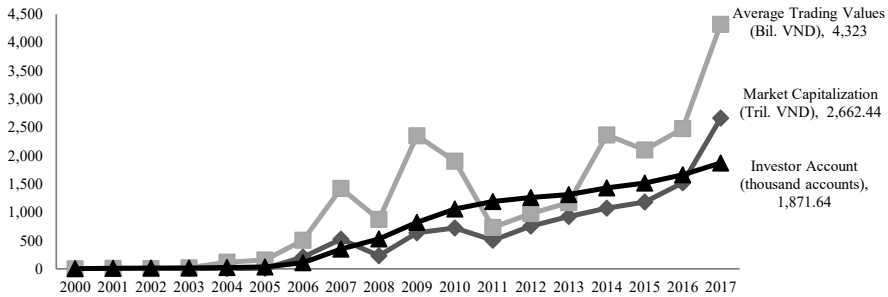
The Ho Chi Minh Stock Exchange (HOSE) was officially inaugurated in July 2000 as the Ho Chi Minh City Securities Trading Center (HoSTC) with an aim to stabilize economic growth and increase channels for mid-term and long-term fund mobilization for SOEs and fund-seeking companies. The HoSTC then transformed into the Ho Chi Minh Stock Exchange (HOSE) in August 2007. This securities trading center initially commenced with two listed companies in the equity market, Refrigeration Electrical Engineering Joint Stock Corporation (REE) and the Saigon Cable and Telecommunication Material Joint Stock Company (SACOM), with approximate capital of 270 billion VND. The stock market in Vietnam had no significant improvements during beginning period, but there were great changes in the Vietnamese stock market in 2006 and 2007. According to an interview with a senior officer

with HOSE,¹ this crucial flourishing period is the result of three major factors. First, the government decided to extend the foreign ownership limitation from 30% to 49% in 2005. Second, the government reduced the corporate income tax by as much as 50% for listed companies for the first two consecutive years after being listed. Third, the country became an official member of the World Trade Organization (WTO) in the late of 2006, which was a critical step to overcome trade barriers and develop trust with foreign investors. These three main factors significantly impacted stock market development and incentivized companies to list.

It is worth noting that HOSE, after almost two decades, has dramatically developed and obtained many achievements in terms of quality and quantity. In particular, the number of listed companies rose from five in 2000 to 344 in 2017, and market capitalization increased from 72 million USD to 114,984 million USD, or 51% of the Gross Domestic Product (GDP) in 2017 (Ho Chi Minh Stock Exchange, 2017). Moreover, the average trading volume also increased to 192 million shares per session, or an average trading value to 186 million USD in 2017. There has been similarly large changes in the number of investor accounts since 2006. There were only 2,997 investor accounts during the establishment year, but this number increased to 1,871,639 accounts in 2017, 98% of which are local individual investors. Market indicators over time are shown in Figures 3 and 4.

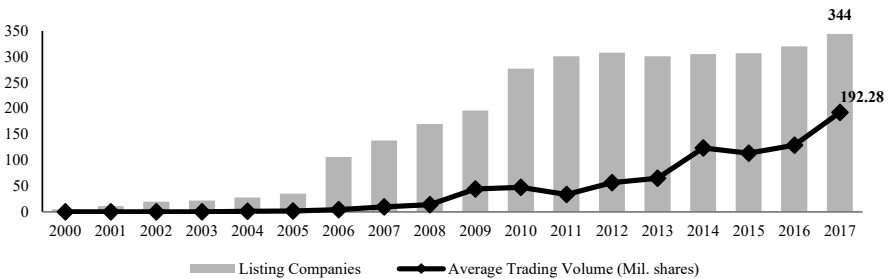
¹ Ho Chi Minh Stock Exchange Development. (Personal interview, 24 August 2018) Do Mien Trung Duc, senior officer in Corporate Communication Department, HOSE.

Figure 3. HOSE’s market capitalization, average trading values, and investor accounts



Source: Author calculated from annual report of Ho Chi Minh Stock Exchange

Figure 4. HOSE’s average trading volume and number of listed companies



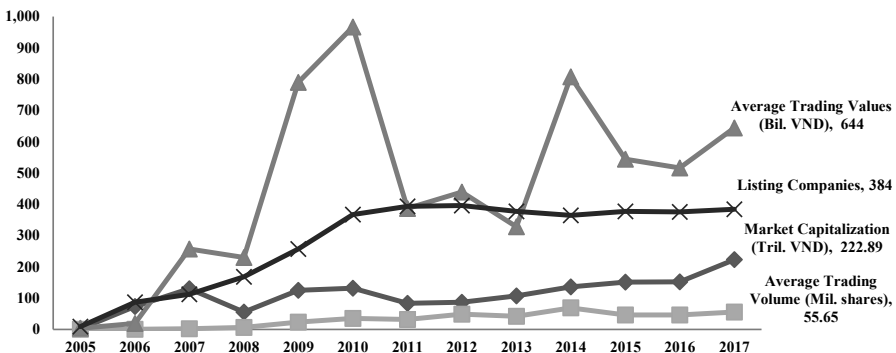
Source: Author’s calculations from the annual report of the Ho Chi Minh Stock Exchange

However, in an interview with Mr. Do Mien Trung Duc, a senior officer in the Corporate Communication Department, HOSE, he stated that the HOSE still requires more effort to overcome assorted challenges ahead. For instance, HOSE is currently receiving only equity and exchange-traded funds (ETF) on the market with limited types of products. The exchange also has a large number of listed companies with low average capitalization, while other listed firms might have significant capitalization, but they have low free float, especially in the banking and insurance areas. Those identified factors should be considered by HOSE to strengthen its market and catch up with other advanced markets in the region.

4.1.2 Hanoi Stock Exchange (HNX)

After commencing the first securities trading center at Ho Chi Minh City in 2000, the government recognized the significance of utilizing the stock exchange for providing long-term funding sources for the private sector and fostering transparency and corporate governance of SOEs. They later approved a second securities trading center in Hanoi, where various SOEs are located. The Hanoi Securities Trading Center (HaSTC) was formally operated in March 2005 with nine listed companies by the year's end. Four years later, this securities trading center was changed into the Hanoi Stock Exchange (HNX). After nearly 15 years of HNX development, this exchange has made significant contributions to national economic growth as the designated source of listed stocks from its initial stage. The HNX introduced government bonds in 2009, accepted exchange-traded funds (ETF) and Treasury bills in 2014, and announced a derivatives market in 2017 for public and private companies. The growth is illustrated by the number of listed companies rising from nine to 384 from opening year to 2017. Over the same period, market capitalization increased to 222.89 trillion VND, and the average daily trading volume increased to 55.65 million shares per session with 644 billion VND in average trading value in 2017. Apart from that, the number of securities accounts also increased from 1.5 million in 2015 to 1.9 million accounts in 2017, 98% of which are domestic retail investors. The evolution of market performance is shown in Figure 5.

Figure 5. HNX's market capitalization, average trading volume, average trading values and number of listed companies



Source: Author's calculations from the annual report of the Hanoi Stock Exchange.

Fundamentally speaking, the Hanoi Stock Exchange (HNX) could extend its market performance with stable growth of market capitalization, listed companies, trading volume and values, and local investors. In addition, HNX should also attract investors of other types because the majority of participants are still individual investors who often engage in short-term investments that can cause volatility within the market. Long-term investors, like investment funds, pension funds, and insurance companies, should be attracted to the market to diversify the investment structure. Additionally, the officer at the Strategy and New Products Department in HNX, Ms. Nguyen Phuong Loan,² also expressed that financial literacy of public investors is also an obstacle to stabilize the market, especially investors' perceptions on shareholders' rights in the corporate governance relating to the listed companies. Those concerns should be considered by HNX for further market development.

4.1.3 Unlisted Public Company Market (UPCoM)

The Unlisted Public Company Market (UPCoM) was launched along with the official inauguration of HNX in June 2009 under the supervision of the Hanoi Stock Exchange. UPCoM has become the market for unlisted public companies with an aim to narrow over-the-counter (OTC) issues and place all of them into a formal exchange mechanism. Although this sub-market has operated for nine years, it has become a key arena for fundraising for companies that are not ready to list either with the HNX or HOSE. The UPCoM has less stringent listing criteria than the main markets, which is the main reason why the number of listed companies has grown larger than the HNX and the HOSE, as shown in Figure 6.


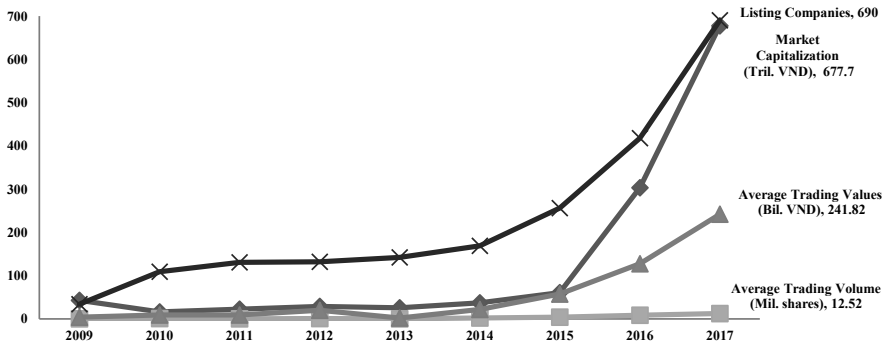
² Hanoi Stock Exchange Development. (Personal interview, 22 August 2018) 

Figure 6. UPCoM’s market capitalization, average trading volume, average trading values and number of listed companies



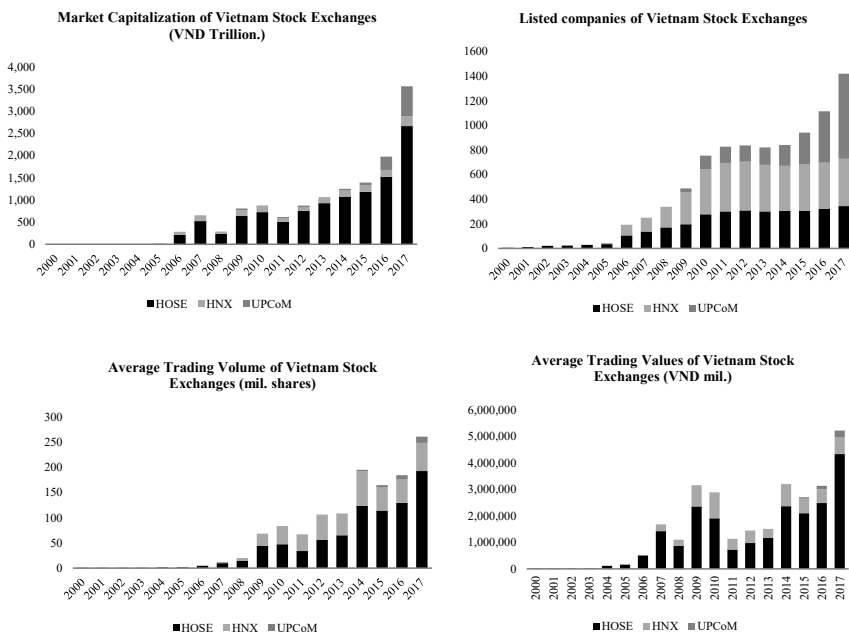
Source: Author’s calculations from the annual report of the Hanoi Stock Exchange.

Following from the above figure, we can see that the number of listed companies in the UPCoM has dramatically increased from 34 to 690 listed companies between 2009 and 2017, or twenty times from the beginning period. Market capitalization also had a large jump from 42.6 trillion VND to 677.7 trillion VND within nine years of operation. Market liquidity tends to be consistent with high values from 2014. The average trading volume was 12.52 million shares per session with an average trading value of 241.82 billion VND in 2017.

These indicators illustrate the successful development of the UPCoM under the guidance of the HNX. Nonetheless, the high number of listed companies in the UPCoM highlights the pros and cons of Vietnam’s securities exchanges because it emphasizes the comparatively unfriendly environment in the HNX and the HOSE. In other words, listing companies can take advantage of flexible conditions in the UPCoM when they cannot fulfill the listing criteria for the main boards. Thus, the UPCoM should regularly review company eligibility that would allow them to upgrade to the main boards, either in the HNX or the HOSE, in order to avoid an overflow of listed shares and volatility within the market. This burden should be acknowledged by HNX for improving the management of each stock exchange.

To conclude, Figure 7 illustrates the successful improvement of Vietnam’s stock exchanges as measured by core market performance indicators. Market capitalization of the all Vietnamese stock exchanges reached 115% of GDP, 92% of which was from the equity market, particularly from the HOSE, UPCoM, and HNX. The number of listed companies also increased to 1,418 companies, of which 24% are in the HOSE, 27% in the HNX, and 49% in the UPCoM. Market liquidity was consistent with progressive growth in 2017 (Hanoi Stock Exchange, 2017). This dramatic growth demonstrates the impressive development of the Vietnamese stock exchanges through legislation improvement and adjustability of government policies.

Figure 7. The market performance of all stock exchanges in Vietnam



Source: Author’s calculations from the annual reports of the HOSE, HNX and UPCoM.

4.2 Stock Exchange Development in Laos

4.2.1 Lao Securities Exchange (LSX)

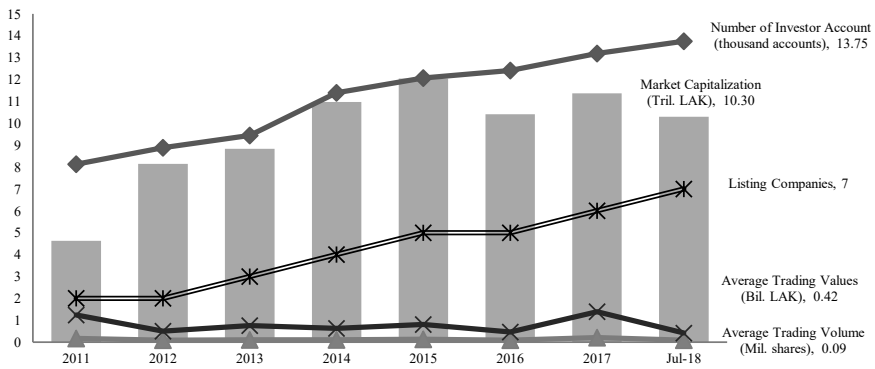
The establishment of the Lao stock exchange was initially planned in the 6th Five-Year National Socio-Economic Development Plan (2006-2010)

of the Lao government with full responsibility given to the Bank of the Lao PDR (BoL). The government subsequently formed a preparatory committee for stock exchange establishment, which made site visits to various countries with an aim to create a feasibility study on having a strategic partner for installing a stock market. In 2007 the government approved and appointed the BoL to represent the Lao government to sign a primary Memorandum of Understanding (MoU) with Korea Exchange (KRX) to create a securities exchange in Laos. Two years later in 2009, both stakeholders agreed to sign a joint venture agreement to launch the stock exchange, in which BoL and KRX would hold 51% and 49%, respectively. From this collaboration, the first stock exchange in Laos was officially established on 10th October 2010 and called the Lao Securities Exchange (LSX). Trading commenced on 11th January 2011 with two listed state-owned-enterprises (SOEs). LSX was expected to be an alternative source of long-term fundraising for public and private companies for expanding business and upgrading and modernizing industry. However, it has been difficult to obtain this goal and the LSX has hardly made contributions to national economic growth in its early stage.

Despite its early challenges, the LSX has consistently made improvements. For instance: the LSX introduced a home trading system for online trading in 2013; upgraded the trading mechanism from call auction to bilateral usage of call auction and continuous auction while increasing the daily trading limit from $\pm 5\%$ to $\pm 10\%$; and amended regulations in 2014 on information disclosure to encourage listed companies to submit financial reports following the International Financial Reporting Standard (IFRS). Moreover, they diminished the trading commission, proposed a custodian bank, and boosted the minimum trading unit from 1 share to 100 shares per unit in 2015 and 2016. These significant changes aimed to attract more investors and increase market liquidity are major achievements of the LSX. In addition, the core measures of its market performance demonstrate LSX development in its breakthrough years. Remarkably, LSX's market capitalization increased to 11.37 trillion LAK, about two times the capitalization from the first year, and equivalent to 13% of GDP and one-third of bank credit provided (Lao Securities Exchange 2017). The number of investors tended to rise annually and stands at 13,752 accounts, 78% of which are local investors and institutions as of July 2018. The number of listed companies has slowly increased to

seven listed companies. The average trading volume was 205,791 shares per day with an average trading value of 1.39 billion LAK in 2017. Figure 8 plots relevant market indicators for the LSK from the initial trading year to July 2018.

Figure 8. Market capitalization, average trading volume, average trading values, number of listed companies and investor account



Source: Author's calculations from the annual reports of the Lao Securities Exchange.

From a practical standing point, the Lao Securities Exchange (LSX) has improved the market gradually; however, they still encounter various obstacles and need some time to catch up with other more advanced markets in the region. A limited number of listed companies and little diversification of products are urgent issues that need to be addressed due to having only stock in the market (July, 2018). As there are only two SOEs among seven listed companies in LSX, this shows slow progress of the government's endeavor to transform SOEs into public companies even though they have recently pledged to strengthen SOEs' transparency and corporate governance. Low liquidity is also a concern in this small market. Despite having a large proportion of local investors, they are generally inactive in daily trading. Most traders are foreign investors, which causes problems of low liquidity and volatility within the market. Therefore, the related sectors should put more effort into overcoming these described challenges for smoother development of the securities exchange in Laos.

4.3 Comparison of Listing Criteria Between the Stock Exchanges in Vietnam and Laos

Table 1 provides a summary of major listing criteria for HOSE, HNX, UPCoM, and LSX. We observe that the two stock exchanges and one sub-market in Vietnam contain different listing criteria with respect to the potential listed company's capital size, operation history, and core indexes of profitability. While the Ho Chi Minh Stock Exchange maintains stricter criteria and targets larger companies in terms of capital size, the Hanoi Stock Exchange emphasizes large and medium enterprises with smaller capital size and lower listing criteria. Likewise, the Unlisted Public Company Market—set up to reduce OTC market issues and nurture firms for future listing on the main markets—fills the gaps left by the stringent criteria of the other exchanges. The development of the stock exchanges in addition to good management and decision-making by the Vietnamese government have successfully led the stock exchanges to become alternative sources of funds.

In contrast to Vietnam where the exchanges have adapted to local conditions, the Lao Securities Exchange has listing criteria aimed at attracting large companies. However, small and medium enterprises (SME) comprise a large proportion of firms in Laos, and there is only a small proportion of large companies (Enterprise Registration and Management Department, 2019). The LSX's listing criteria might not be able to accommodate the real objectives of the stock market. Therefore, the LSX should consider either narrowing the listing criteria with a clear target, or designing alternative markets for unqualified companies—similar to the Vietnamese case—so that the market environment can be friendlier and correspond to the actual characteristics and economic scale of Lao enterprises.

Table 1. Summary of Major Listing Criteria in HOSE, HNX, UPCoM, and LSX

Requirements	Vietnam			Laos
	HOSE	HNX	UPCoM	LSX
Capital size	≥120 Bill. VND	≥30 Bill. VND	≥10 Bill. VND	≥8 Bill. LAK
Years in operation	≥2 years as a JSC*	≥1 year as a JSC		≥3 years operation
Profitability	Minimum 5% ROE in the previous year			Sale ≥24 Bill. LAK
	Profitable in two consecutive years prior listing	Profitable in the previous year		Profitable in two consecutive years prior listing
	No overdue debt for more than 1 year			No accumulated loss as of the year of listing registration
	No accumulated loss as of the year of listing registration			Audited financial report of previous fiscal year
	Complies with the provision of law on accounting and financial statements			≥10% of registered capital should be free floated
	All financial obligations to the state must have been discharged			
	Registered for depository at Vietnam Securities Depository Center			Registered in settlement & depository dept. LSX

Notes: *JSC = Joint Stock Company; VND = Vietnam Dong, LAK = Lao Kip as local currency; ROE = Return on Equity; HOSE = Ho Chi Minh Stock Exchange; HNX = Hanoi Stock Exchange; UPCoM = Unlisted Public Company Market; LSX = Lao Securities Exchange

Source: Ho Chi Minh Stock Exchange, Hanoi Stock Exchange, and Lao Securities Exchange.

4.4 Empirical Analysis

4.4.1 Data Sources

I estimate how stock exchange development and legislation improvement in Vietnam and Laos associate with market performance indicators. Market capitalization is employed as a response variables instead of the market composite index because this indicator is more consistent. The number of listed companies, average trading value, and the standard deviation of market capitalization are appointed to be the independent variables representing the core market performance indicators and a proxy for market volatility. Moreover, we also introduce dummy variables for securities law, disclosure and listing regulations, age (vintage) of each stock exchange, a time trend from the first year of stock exchange establishment in Vietnam and Laos (2000), and some macroeconomic indicators (including the foreign direct investment, bank credit to GDP, and inflation rate) into the regression as independent variables.

The main outcome variable and market performance indicators (market capitalization, number of listed companies, and average trading value) were gathered from HOSE (2000-2017), HNX (2005-2017), UPCoM (2009-2017), and LSX (2011-Jul 2018) during site visits to each stock exchange from June to August 2018. The variables are calculated as the average of annual market performance. There are 40 observations from the Vietnamese case and 8 observations from the Lao case, or 48 observations in total. Furthermore, foreign direct investment, bank credit to GDP, and inflation rate were collected from the World Bank and central banks of the selected countries.

4.4.2 Data Explanation and Model

The variable explanation, summary statistics, and law and regulation dummy variable explanations are presented in Tables 2, 3, and 4.

Table 2. Variable definitions

Variable	Abbreviation	Variable type	Variable unit
<i>Characteristics of stock exchange</i>			
Market capitalization	MarketCap	Dependent variable	Trillion VND or LAK
Number of listed companies	Listing	Independent variable	Company
Average trading value	Value	Independent variable	Million VND or LAK
Vintage of age	Vintage (Age)	Independent variable	1 to 17
Trend of year change after first establishment of stock exchange (2000)	YearTrend	Independent variable	1 to 48
Standard deviation of market capitalization	Std. of Market Capitalization	Independent variable	Number
Securities law	Law	Independent variable	0 and 1
Disclosure and listing regulations	Regulation	Independent variable	0 and 1
<i>Main macroeconomic indicators</i>			
Foreign direct investment	FDI	Independent variable	Million VND or LAK
Bank credit to GDP	BankCredit	Independent variable	Percentage
Inflation rate	Inflation rate	Independent variable	Percentage

Table 3. Summary Statistics

Country	Variable	Mean	Std.	Min	Max	Obs.
<i>Vietnam</i>	MarketCap	341.394	532.012	1.700	2662.440	40
	Listing	223.575	155.369	5.000	690.000	40
	Value	698,570	937,403	2,043	4,323,148	40
<i>Laos</i>	MarketCap	9.588	2.377	4.630	12.050	8
	Listing	4.250	1.832	2.000	7.000	8
	Value	775.250	361.074	421.000	1386.000	8
<i>Vietnam + Laos</i>	MarketCap	286.093	500.477	1.700	2662.440	48
	Listing	187.021	163.874	2.000	690.000	48
	Value	582,271	893,432	421	4,323,148	48
	FDI	6.660E+09	4.380E+09	3.010E+08	1.410E+10	48
	Bank credit to GDP	92.210	36.250	29.520	141.850	48
	Inflation rate	6.774	5.507	0.100	23.120	48

Source: Author's calculations.

Table 4. Dummy Variables for Legislation Measures

Variable	Period	Status	Value
Securities law	Before law issuance	Weak	0
	After law issuance	Adequate	1
Disclosure and listing regulations	Before legislation issuance	Weak	0
	After legislation issuance	Adequate	1

Since the dummy variables are mainly used as explanatory variables in this estimation, it is essential to consider their individual effects in the estimation, and the Ordinary Least Squares (OLS) specification might not be sufficient. To solve this problem, a Tobit model is adopted as an additional specification in this study.

The following function is our estimated regression model:

$$\begin{aligned} \ln MarketCap = & \beta_0 + \beta_1 \ln Listing + \beta_2 \ln Value + \beta_3 \ln Vintage(Age) \\ & + \beta_4 \ln YearTrend + \beta_5 \ln Std. MarketCap + \beta_6 Law \\ & + \beta_7 Regulation + \beta_8 HOSE + \beta_9 HNX + \beta_{10} UPCoM \\ & + \beta_{11} LSX + \beta_{12} \ln FDI + \beta_{13} \ln BankCredit \\ & + \beta_{14} \ln Inflation + \varepsilon \end{aligned} \quad (1)$$

We employ the natural logarithm in both the dependent and independent variables to control for the different characteristics of HOSE, HNX, UPCoM, and LSX. The dependent variable, MarketCap, is the market capitalization and represents stock exchange development. As for the independent variables: ‘Listing’ is the number of listed companies; ‘Value’ is the average trading value representing the liquidity of the stock exchange; ‘Vintage (age)’ is the age of stock exchange; ‘YearTrend’ is the time trend since the first year the stock exchanges were established (2000) to observe the annual change of the economic situation; ‘Std. MarketCap’ is the standard deviation of market capitalization representing the volatility of market; ‘Law’ and ‘Regulation’ are the dummy variables capturing securities law and disclosure and listing regulations, respectively; ‘HOSE’, ‘HNX’, ‘UPCoM’, and ‘LSX’ are the dummy variables of each stock exchange; ‘FDI’ is a proxy of foreign direct investment; ‘BankCredit’ is the bank credit to GDP ratio representing the development of the banking sector; and ‘Inflation’ is the inflation rate. This regression model is applied through ordinary least squares (OLS) and a Tobit model by using the econometric software STATA.

The OLS and Tobit regressions are run for both the Vietnamese case and the combination of both the Vietnamese and Lao cases. We could not separately estimate the Lao case due to a small number of the observations. Therefore, a combination of data from the Vietnamese and Lao cases is an appropriate solution. Details of the regression specifications are clarified as follow:

(1) For Vietnam: Market capitalization is regressed on stock exchange characteristics and macroeconomic indicators. This estimation combine data from HOSE, HNX and UPCoM for a total of 40.

(2) Combined Vietnam and Laos (Vietnam + Laos): Available data from Vietnam and Laos are combined together for a total of 48 observations. Market capitalization is regressed on the entire set of independent variables discussed above.

4.4.3 Estimation Results

Table 5 shows the estimation results for market capitalization as a function of listed companies, average trading value, age of the stock exchange, year trend, standard deviation of market capitalization, securities law, disclosure and listing regulations, and standard macroeconomic indicators.

Table 5. Estimation results of OLS and Tobit models

	Vietnam (1)		Vietnam + Laos (2)	
	OLS	Tobit Model	OLS	Tobit Model
	Market Cap.	Market Cap.	Market Cap.	Market Cap.
<i>Characteristics of Stock Exchange</i>				
No. of Listing Firms	1.638*** (5.62)	1.638*** (6.60)	1.409*** (4.79)	1.409*** (5.53)
Avg. Trading Values	0.268** (2.18)	0.268** (2.56)	0.167 (1.44)	0.167 (1.66)
Vintage (Age)	-1.971*** (-5.78)	-1.971*** (-6.78)	-1.427*** (-4.77)	-1.427*** (-5.51)
Trend of year change	1.266** (2.53)	1.266*** (2.98)	1.255** (2.52)	1.255*** (2.91)
Std. of Market Capitalization	1.475*** (6.92)	1.475*** (8.13)	-0.209 (-0.68)	-1.502*** (-3.61)
Securities Law	-4.386*** (-4.70)	-4.386*** (-5.51)	–	0.961 (1.62)

Disclosure and Listing Regulation	2.625*** (4.38)	2.625*** (5.14)	-0.415 (-0.80)	-1.375* (-1.96)
HOSE			–	7.341*** (7.12)
HNX			-4.041*** (-6.17)	–
UPCoM			-4.906*** (-4.99)	–
LSX			–	–

Main Macroeconomic Indicators

Foreign Direct Investment	1.792*** (2.85)	1.792*** (3.34)	0.998** (2.06)	0.998** (2.38)
Bank Credit to GDP	-0.833 (-0.81)	-0.833 (-0.95)	-0.379 (-0.36)	-0.379 (-0.42)
Inflation Rate	-0.191* (-1.89)	-0.191** (-2.22)	-0.198* (-1.96)	-0.198** (-2.27)
Constant	-47.37*** (-3.77)	-47.37*** (-4.43)	-20.92** (-2.47)	-19.80*** (-2.72)
Sigma Constant		0.404*** (8.94)		0.440*** (9.80)
Observations	40	40	48	48
R-square	0.95		0.95	

Notes: *p<0.1, **p<0.05, ***p<0.01. T-statistics in parentheses. The indicators are omitted from the first two specifications due to problems of multicollinearity. LSX is the excluded category in the third and fourth specifications.

Source: Author’s calculations.

Vietnam case: The OLS and Tobit models produce the same result. The number of listed companies and the average trading value have strong positive correlations with market capitalization and the coefficients are

significant, which is consistent with expectations. The results mean that an increase in the number of listed companies and high liquidity in the stock exchange lead to larger market capitalization, which is a proxy for Vietnam's stock exchange development. Moreover, the year trend and the standard deviation of market capitalization, which represent the annual change of the economic situation and market volatility, are also positive and significant with respect to market capitalization. It suggests that the annual change and market situation have lately supported the development of the capital market. However, the securities law seems to have a negative and significant relationship to market capitalization, while disclosure and listing regulations have a positive relationship with market capitalization. This indicates that the securities law in Vietnam has not yet simplified and adjusted to trends in capital market growth. Nevertheless, the regulations on investor protection is adequate and supports market growth. From the macroeconomic side, the trend in foreign direct investment flows into the country seem to support the country's stock exchange growth with a strong positive signal, but bank credit to GDP and the inflation rate have a negative relationship with market capitalization. It is possible that Vietnamese firms receive more credit from the banking sector, leading to less access to the equity market. At the same time, strong movement of the inflation rate also affects equity investor behavior.

Combination between Vietnam and Laos: The data from Vietnamese and Lao cases are combined into a single regression and mainly produce the same results as the Vietnamese case alone. Even so, there are a few points that need to be highlighted. First, the significance level of average trading value is changed, but it is still positive after adding the data from Laos, suggesting that lower liquidity inside the Lao Securities Exchange influences the lower significance level of our estimation, and it emphasizes that low liquidity is an issue in the LSX. Second, the securities law variable seems to be recovered in this stage, but the disclosure and listing regulation variable is reversed. The addition of the Lao data results in the recovery of the expected regression result of a positive correlation between Lao securities law on the development of Lao stock exchange. However, the results suggest that the disclosure and listing regulations are still inadequate. Lastly, the dummy variables for the stock exchanges indicate that the HOSE had relatively

quick development compared to the others, shown by a significant positive correlation with market capitalization.

Roughly speaking, the estimation results suggest that an increased number of listed companies, market liquidity and volatility, disclosure and listing regulation improvement, and FDI flows have a positive relationship with market capitalization, which is a good measure for stock exchange development in Vietnam, but the securities law still remains inadequate. In different circumstances, low liquidity and low market performance appear in the Laos case, but the securities law appears to be adequate with a positive correlation to stock exchange development in this country.

5. Discussion

From a practical standpoint, this research finds that the Vietnamese stock exchanges have experienced dramatic development with quality and quantity. There are a large number of listed companies, adequate market liquidity, and investor protection. On the other hand, the stock exchanges in this country are still far behind other stock exchanges in the region, particularly within ASEAN. Though the number of listed companies has increased dramatically and is probably larger than the stock exchange of Thailand, Indonesia stock exchange, and the Philippine stock exchange, market capitalization and trading value of the Vietnamese stock exchanges seem to be lower and of smaller scale than those stock exchanges. There are some other issues to be further studied, especially the low free float of listed shares in banking, insurance areas, and SOEs, the undiversified structure of the investor base, financial literacy of public investors, and insufficient simplification of securities law. Thus, this paper proposes that government and associated authorities should collaborate closely in speculating the larger free float of some specific firms, encouraging contributions from social funds in the market, and more clarification of securities laws.

In the case of Laos, there is an urgent need for stronger support from the government in fostering SOE equityization and enhancing their transparency and corporate governance, and responding to the development of the national stock exchange. Even though the Lao securities exchange has achieved some improvements in recent years and has shown better performance

than the Cambodia securities exchange and the Yangon stock exchange, this tiny market still has a long journey to catch up with other exchanges in the region in terms of market performance. For instance, limited and undiversified products of listed companies, low liquidity, and a small investor base are the major obstacles that LSX confronts. From these challenges, it is suggested that creating public company law, making friendly policies for SOE equitization, introducing more incentives for potential listed companies, considering alternative markets for unqualified firms, and providing appropriate incentives on currency exchange rates for foreign investors would, at the very least, diminish recent barriers by attracting more listed companies and investors into the equity market. Besides, active government securities through the stock exchange can assist with upgrading market performance and also financing the country's socio-economic development plan goals while keep its budget deficit low, while simultaneously offering a safe and liquid investment environment for mid-term and long-term maturities.

6. Concluding Remarks

This paper studies the evolution of capital market development in Vietnam and Laos by observing their institutional structure, market performance, as well as their related legislation and policies. The findings of this study conclude that there has been rapid capital market growth in Vietnam even though the stock market was officially established only two decades ago. In contrast, liquidity issues, a small number of listed firms, undiversified securities, and slow progress in transforming SOEs into public companies are current challenges facing capital market development in Laos. Some of the development experiences from the Vietnamese case could be applicable to the local context in Laos, particularly the establishment of alternative market structures, which could have positive impacts on equity market development in that country.

Furthermore, the regression results reveal that market liquidity, increasing the number of listed companies, good investor protection, and stability of the macroeconomic environment have been critical factors driving stock exchange development since they were strongly and robustly correlated with the growth of market capitalization in both Vietnam and Laos. Therefore,

the governments of these selected countries should consider these factors for sustaining their local stock exchange development.

This research emphasizes only the regulatory authority side and commitment from the government in the equity market regardless the bond and derivatives markets. The view of listed companies and investors are also not considered. Future analysis of stock exchange development in Vietnam and Laos should take these perspectives into account for deeper understanding of the different dimensions of capital market development.

Acknowledgements

This research was received support from the On-Site Education and International Collaboration Support Office, Graduate School of Asian and African Area Studies, Kyoto University at Japan for partial fund on fieldwork to Laos and Vietnam during June to August 2018. I would like to extend my sincere gratitude to Professor Fumiharu MIENO, economics professor of Center for Southeast Asian Studies, Kyoto University, who provided an insight recommendation to this research. I also express my deep appreciation to officers in Lao Securities Exchange, Ho Chi Minh Stock Exchange, and Hanoi Stock Exchange for offering me the valuable information and taking time in interview session during my on-site visit. Last but not least, this study can be more simplified as having a fruitful comments and suggestions from participants in my oral presentation at the Socio-Economic Seminar at Kyoto university, and the Third International Conference on Multidisciplinary Contemporary Research, that was held on 23-24 February 2019 at Awana Hotel, Genting Highlands, Malaysia.

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