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The Structure of the Thai Capital Market

Aekkachai Nittayagasetwat, Ph.D. ¹
Pradit Withisuphakorn ¹

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¹ Department of Finance, Graduate School of Business Administration, National Institute of Development Administration (NIDA), Bangkok, Thailand

1. Introduction

The Stock Exchange of Thailand (SET) has been in a bearish condition from 1995 to 1997. The SET index and the daily average turnover value have been plummeted to the lowest level in five years. Economic slump is the main factor of the decline of the stock market. The liquidity problem has affected most business sectors, especially the real estate and thrift industries. Also, the structures of the Thai capital market are not sufficiently stable to cope with the present decay.

The market stability has been a matter of concern because the liquidity has practically disappeared during the bearish market. The liquidity problem in the SET may derive from the short-term speculating nature of individual investors who dominate the stock market, while institutional investors who potentially are long-term investors may not be sufficiently motivated to participate in the stock market.

Liquidity is not the only factor. To improve stability, price volatility, efficiency, and capital costs cannot be overlooked. Price volatility, for example, is also a great concern for the fragile market. The financial liberalization in 1990 has brought significant capital flows, as well as the volatility. With the events of the Mexico-Peso crisis, the Kobe earthquake and the Baring bankruptcy, the outside factors seem to irrationally dominate the price movements in the SET. The foreign investment funds which flow in for speculating in the local money and stock markets are probably responsible for the securities' price volatility. Although they are minority (only 26% of the total trading in 1995), foreign investors appear to exclusively navigate the direction of the Thai market. The upcoming problems of the outsider indicator are the liquidity fluctuation and the security price volatility which seriously violate the stability.

Informational efficiency is another important factor to achieve stability. We call a market an efficient market if the price of securities immediately reflects information. In the market with asymmetric information, investors must spend substantial money for seeking and verifying information, and transaction costs in that market will be enlarged. Certainly, the market with high transaction costs will discourage investment or, in other words, will be illiquid.

Finally, a reduction in capital costs is always a target for enhancing liquidity. Low capital costs also ease the traffic driving the security prices to equilibrium or fair prices, in which the concept of portfolio efficiency can be supported. The abnormal return should be immediately arbitrated. The accumulated abnormal return, if arbitrageurs cannot easily manage, may cause a large movement of prices or price volatility. The review of some regulations, e.g. the limitation of price movement and liberalization of trading fees, may be able to reduce the transaction costs.

With the goals to be the regional financial centre of Asia and the best potential emerging market, Thailand has adopted the policies of financial liberalization and the development and utilization of financial innovation. The stability of the Thai capital market regarding the improvement of the market microstructure, the motivation to institutional investors (e.g., fairness of regulatory control and tax burden, etc.), the variety and quality of listed companies' securities, and the role of intermediaries - especially the brokerage firms, is a great concern since it indicates the financing cost and the burden of financing of the business sector. All these facts raise the need for a serious study of the stability of the Thai capital market.

2. The SSC Model for Stability

Market participants usually understand that a stabilized market is a market with small volatility, especially price volatility. In other words, people relate the stability to volatility only. However, in order to achieve “small volatility”, the market should have sufficient liquidity, high efficiency, and low transaction costs. These four factors, namely liquidity, volatility, efficiency, and transaction costs, are interdependent. For example, a market with high liquidity usually has high volatility. The volatility involves high risk and investors seek information with the amount of transaction costs. Finally, the higher the liquidity, the higher the efficiency.

Amihud, Ho and Schwartz (1985:1-16) indicate that liquidity is the ultimate goal of market design because high liquidity lowers bid-ask spread which will ensure the equity buyers and sellers of low transaction costs, the accuracy of price adjustments to new information, price continuity, continuity of trading, depth, and the ease and speed of execution. These will benefit all market participants in numerous ways. First, listed companies can issue new equity at a relatively low cost of capital. Second, investors can get the relatively high return on their investment. Therefore, investors will be encouraged to invest more and listed companies will also be motivated to issue more appealing equity securities. Finally, the stock market will be attractive for long-term fund inflows, especially international capital flows.

Shetty, McGrath and Hammerbacher (1995:525-526) suggested that a high-quality market should be efficient so that prices adjust quickly to information. The information should be current, easily accessible, and credible. Security prices should have continuity and should not fluctuate substantially from uninformed tradings. In addition, the high-quality market should be sufficiently liquid that the price movement is done by the conformed buyers and sellers. Finally, transaction costs should be low enough for encouraging trader participation.

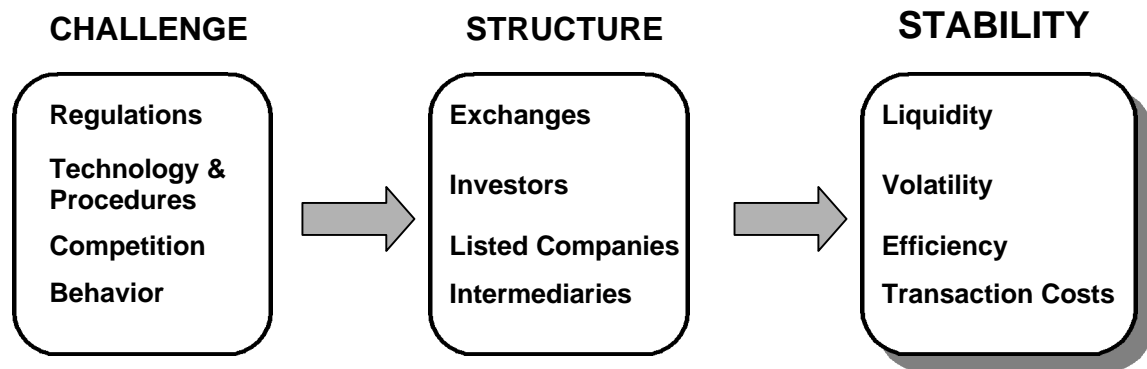
The academic literature implies the improvement of market quality on the microstructure of securities markets. For example, to stabilize the market, researchers focus on the issues of the bid-ask spread structure, market makers, trading systems, and application of computerized technology. In addition, this study expands the scope of thinking to the improvement of investor structure, listed companies (or product structure), and intermediaries in which brokerage firms are the focal point of discussion. The guideline to improve the market stability are developed from Schwartz's challenges.

Schwartz (1995), in concluding a conference¹ about the developments in the securities markets, addresses that the challenges facing the securities industry in the year 2000 which include the increasing and global changes in technology, competition, and regulations. In addition to these challenges, the authors would like to include the “behaviour challenge,” following the attempt to persuade the institutionalization of investors in the Thai capital market.

In order to make this study more systematic, the authors develop the Stability-Structure-Challenge (SSC) model of analysis for the stability of the Thai capital market (Figure 1) as the framework for the study.

¹ The conference was held in October 1993 at New York University's Leonard N. Stern School of Business.

Figure 1: The Stability-Structure-Challenge (SSC) Model



Source: Nittayagasetwat, Withisuphakorn and Phoocharoon (1996) (with Permission)

The SSC model consists of three major sectors, namely stability, structure, and challenge. An ultimate goal of market stability can be decomposed into four components, namely: liquidity, volatility, efficiency, and transaction costs. In other words, our goals of market stability boils down to how to induce market liquidity, to control the market volatility, to increase the market efficiency, and to minimize the transaction costs in the market.

In order to achieve the ultimate goal of market stability, structures must be taken into consideration. The structure components consists of exchanges (or market microstructure), investors, listed companies (or products) and intermediaries (especially, brokerage firms). Finally, the authors challenge the view on regulations, technology and procedure, competition and behaviour for developing the stability of the Thai capital market. All these three sectors are discussed in detail later.

2.1 The Stability of a Capital Market

As mentioned above, stability mirrors quality of a capital market investors are confident of investing their savings into, listed companies can easily access sources of fund for business expansion, and then employment and production growth will benefit the economy as a whole. To achieve stability, the study proposes the idea of enhancing liquidity and efficiency, controlling volatility, and reducing the capital costs of listed firms.

2.1.1 Liquidity

Liquidity is defined as a measure of how easily an asset may be converted into cash without loss of value (Kolb and Rodriguez, 1993: 323). Liquidity is represented by turnover or buying and selling together constituting a round-trip transaction. The liquidity risk reduces transactions and increases transaction costs. Transaction costs, at the same time, discourage investment and transactions, and deteriorate market liquidity. Without the investors' frequent participation, the market will be illiquid and cannot be stable.

To gain a sufficient understanding about the market microstructure and the performance of the market, the Amihud and Mendelson (1982) model explains as follows:

The current stock price is a function of previous stock price and of the deviation of previous stock price from its true value. The current stock price should be adjusted to its true value according to the magnitude of the price and value deviation and the adjustment rate. In the ideal market where all investors are rational and having full information, the actual value of the stock price is close to the fair price. But in the overspeculated market, the difference between the current price and its true value is very high which will then increase the volatility of the market. It is important to note that we can reduce the volatility or variance of market return by enforcing price limit (e.g., the 10% upper or lower limit imposing in the SET today) but this measure will make the side effect on the stale price or lower liquidity in the market.

2.1.2 Volatility

The volatility of security prices is defined as the movement of actual prices from fair or equilibrium prices (Cohen, Maier, Schwartz, and Whitcomb, 1986: 5). Price fluctuations create the price volatility risk in which rational and risk-averse investors will combine the risk to their required rate of return for discounting their securities value. In other words, the volatility risk enlarges the capital costs. Although the price change reflecting the news or information about changes in fundamental value can be accepted by long-term investors, the noise or uninformed trading creates substantial price fluctuations and the volatility risk.

In a short period of time, the wider the stock's price movement from expectation, the higher the volatility of the market. The average price level of stocks dominated by speculators will be more volatile than that in the market dominated by long-term investors because speculators have a potential to take higher profit from a more volatile market. Therefore, volatility may partially induce transactions and then liquidity. However, the useful volatility must come from the informed traders who trade on fundamentals. The noised traders who, in fact, try to manipulate price movement induce the volatility risk. The volatility risk induces transaction costs, scares off long-term investors who actually are sources of funds, and then reduces liquidity in a long term.

2.1.3 Efficiency

An informational efficient market is one in which information is rapidly disseminated and reflected in prices (Bodie, Kane, and Marcus, 1989: 343). There are three rationales for inefficiency. First, prices do not immediately reflect changes of information due to restrictions, e.g. ceilings and floors, and insider trading. Second, prices "are changed" without any changes of information, e.g. rumor trading and price manipulation. Third, investors are not rational enough to discover the fair or equilibrium prices. Without efficiency, rational and long-term investors are discouraged to participate in the market because of the increased price risk. Even though they participate in the market, they need additional monitoring costs and costs of analysis. Both reasons increase transaction costs and price volatility, and deteriorate liquidity and stability.

When the market is efficient, resource allocation will be efficient, because capital is channeled into the best uses, and securities prices can serve as a guide for the evaluation of corporate policies and decisions.

High liquidity helps efficiency. When the cost of trading is low, investors readily trade on their private information. Then new information is quickly incorporated into securities prices, and the market is more efficient. Some measures, such as transaction taxes and high brokerage commission fees, reduce liquidity and efficiency. Improved trading systems increase liquidity and efficiency, and thus benefits the national economy.

2.1.4 Transaction Costs

Transaction costs are parts of capital costs which are the costs of funds used to finance the acquisition of securities (Brigham and Gapenski, 1994: 335). Transaction costs or the costs of trade are included in the capital costs and can be substantial. Transaction costs can evidently encourage or discourage stability. The low-cost market with inexpensive transactions can always motivate more investors than the high-cost market. Direct transaction costs can be viewed as, for example, commission fees, interest expenses on margin accounts, and taxes. Indirect transaction costs are caused by, for example, a wide bid-ask spread, information acquisition, and agency problems. An agency cost is defined as a cost of conflict of interest among groups of participants, e.g. investors, listed companies, intermediaries, and regulators. Specialists or market makers who trade on not only commission fees but also gain from bid-ask spread, show a good example of a conflict of interest between dealers and investors. The cost of trading securities can be apparent, e.g. the brokerage commission, or can be less visible, e.g. the bid-ask spread. To motivate investment and transactions, lowering transaction costs is a vivid alternative and then stability can be achieved. Greater liquidity, smaller volatility, and higher efficiency all make lower transaction costs. High transaction costs on the other hand reduce liquidity. The volatility induces high risk and investors consider risk in transaction costs as well. Trading in an inefficient market also requires substantial costs of acquiring more information. Changes in securities prices can be resulted from new information about securities values and noise, due to the trading process, occasional arrival of buy or sell orders, temporary illiquidity, prices errors.

Information-related price changes are permanent, whereas noise-related price changes are transitory. Noise blurs the signals (the information) that investors receive from changes in securities prices, hurts resource allocation, and causes unnecessary and costly trading.

2.2 The Structure of a Capital Market

In order to achieve stability which consists of liquidity, volatility, efficiency, and transaction costs, the SSC model suggests action plans drawn on the exchange, investor, listed-company, and intermediary structures. Investors trade securities or products in the secondary markets through brokers which are intermediaries. Every sector or participant must follow the rules of regulators which are also included in the intermediary structure. In the primary market, a company can raise the capital by issuing securities or initial public offerings (IPOs) to investors.

2.2.1 The Exchange Structure

The exchange structure or the market microstructure is defined as the structural system which generates securities transactions on an infrastructure of fairly and equilibrium pricing. Therefore, the study on market microstructure is a consideration in the design of trading systems and in the pricing mechanism. Examples are considerations in computerizing the trading systems, market makers, the bid-ask spreads, trading hours, call markets versus continuous auctions, short sellings, and stock lendings. These measures are mainly designed to increase liquidity, to stabilize price movement, to improve efficiency, and to decrease capital costs.

In order to enhance the stability of the Thai capital market, the present study proposes the examination of the study of Amihud and Mendelson (1985) which is the most logical way to increase liquidity, reduce price volatility, improve the fairly pricing or efficiency, and minimize transaction costs. There are three principles in Amihud and Mendelson's study. First, the market system should be integrated on three subsystems, namely portfolio management, order execution and settlement. Thus, investors can design their own portfolio strategies taking into account economic or market hedging instruments, and that the portfolio can promptly be adjusted to new information in order to maintain the investors' risk-return targets.

Market disconnection, as opposed to market integration, increases the riskiness, decreases liquidity, and deteriorates the process of price discovery of the market. Market integration includes the physical linkage between domestic and international markets. In addition, it is crucial to create interfaces which allow the integration of the functional components of the market as well as of the geographical linkage.

The second attention of Amihud and Mendelson's study is paid on competition or liberalization of alternative locations and exchange mechanisms. Liberalization of alternative markets, market mechanisms, and brokerage firms to compete in stock bid-ask settings, facilitates liquidity, efficiency and price discovery processes. Consequently, the financial market will be sufficiently competitive and stock prices should reflect their true values with the lowest possible transaction costs.

Finally, the system with flexibility and accessibility provides the real-time information to all investors at the lowest possible costs since rational investors need the real-time financial and economic information in order to make their best investment decisions. The slower or the less information they get, the wider the bid-ask spreads they may set to protect their investment against the risk which may occur.

2.2.2 The Investor Structure

The structure of investors mainly consists of individual or retail investors and institutional investors. Although some of them are long-term investors, individual investors are mostly speculators. Speculators may be helpful for liquidity, especially in the short term and in a bullish market, but speculation increases volatility and price risk. Uninformed and/or rumor trading by some speculators deteriorates efficiency, increases transaction costs, and decreases long-term liquidity.

Institutional investors are saviours in a bearish market. They are necessary for stability. Institutional investors include mutual funds, provident and pension funds, insurance companies' portfolios, financial institutions' portfolios, and corporate portfolios. Institutional investors are generally more long-

term, informed, rational, and of a large-scale nature than are individual investors. They surely stabilize liquidity, efficiency, and price volatility. Economies of scale also reduces transaction costs. Motivation of institutional investors' participation is always a goal of capital market development plans.

2.2.3 The Listed-Company Structure

Listed, authorized, registered, and public companies are securities issuers in the Thai capital market. Consequently, their issued securities are the products of the market. There are three issues in the study of the listed-company structure. The essence of quantity, quality, and variety can be significant for the investors' benefit and loss. First, quantity of products described by the number of listed securities and listed companies, and the total market capitalization, provides investors with investment alternatives. Second, quality of products reflects fairness, transparency, and integrity or creditability of securities and companies issuing securities. Quality can be measured as credit rating or default risk. Finally, variety of products, especially the products with various correlation patterns offers investment alternatives and risk-management tools. Securities with various correlation patterns of the securities market can assist investors' purpose of diversification when there are changes on economic factors. The overall market with such securities can be stabilized by narrowing the volatility of average security prices. Options and futures are some examples of the variety of products.

2.2.4 The Intermediary Structure

Financial institutions, e.g. banks, finance companies, and securities companies, and regulators, e.g. the Securities Exchange Committee (SEC), the Securities Financial Corporation (SFC), the credit rating agencies, and the Bank of Thailand (BOT), all play a great role in the capital market. However, the study concerns the tradings in the primary market (or initial public offerings) and the secondary market and will focus on brokerage and sub-brokerage firms. Not only commission fees are a major topic of discussion, but also agency costs, informational issues, and ethics are make important for stability. The intermediary structure includes ethical and technical aspects of brokerage firms, liberalization or competition of brokerage firms and brokerage commission, as well as the relating agencies (e.g., credit-rating agencies), and risk management.

2.3 Challenges on the Structure of a Capital Market

The challenges, according to Schwartz (1995), include the increasingly and globally changes in technology and procedure, competition, and regulations. This study also embraces "behaviour challenge." These challenges can be described as follows:

2.3.1 The Regulation Challenges

Scopes of regulating have been debated, but solutions are not yet reached. The deregulated market dominated by market forces may directly reduce transaction costs, but conspiracy may damage the market for a long period of time and ultimately enlarge the indirect transaction costs. The fully regulated market standardizes the market and prevents conspiracy, but it can cause a friction, and then will

raise transaction costs. Furthermore, regulation may obstruct price movement and may widen the differences between actual and equilibrium prices. Consequently, regulation must be optimized in order to minimize the total of direct and indirect transaction costs.

The implementation of short-sellings and stock lendings and the cancellation of “ceiling and floor” are some examples of the authors’ regulation challenges. Regulations are frictions in the price discovery process. For example, an upper and lower price limit per day hinders the price to move to its intrinsic value and creates stale price effects which will certainly reduce the liquidity of the market. Thus, the implementation or cancellation of any regulation should be considered carefully since it may affect the incentive for investors to put their stake into the market. Tight regulations may discourage liquidity but, on the other hand, loose regulations may encourage large price movements and may enlarge the market volatility. The regulators then have to set up the appropriate regulations which help the price to move toward its true value at the lowest possible transaction costs. The major problem is at what level and how the optimal regulations should be.

2.3.2 The Technology and Procedure Challenges

By nature, technology should help improve liquidity, reduce transaction costs and increase the efficiency of the market. For example, the use of computerized order-matchings can increase the number of orders traded per hour in the SET compared to a manual system used in the past. Also, a procedure which helps create the competition of order flow (from buyers and sellers) should ultimately promote high liquidity at a low level of transaction costs. Thus, the SET must follow the new technologies and procedures which can be used to upgrade the existing system to compete for order (or fund) flowing with other regional emerging stock markets.

2.3.3 The Competition Challenges

Competition is one of the major factors for the development of the SET since the incentive of listed companies is to have a low cost of capital of fund raising in the SET in order to finance their further growth which, in turn, will help expand the market size and induce more investment funds from abroad. Thus, the SET must always think globally in their policy and strategic setting. All new measures should go toward this direction. With the purposes of globalization and financial liberalization, the SET must be alert and stay competitive in all aspects, e.g. the technology and procedures, optimal regulations, and encouragement of institutional investors.

2.3.4 The Behaviour Challenges

There are two issues in the behaviour challenges: ethics and speculations. Compromise in ethical and moral issues deteriorates stability. Lack of information, rumor, and insider tradings cause inefficiency and monitoring costs. Volatility risks are increased and rational investors will be forced to leave the market. Products without fairness, transparency, and integrity, can fool investors only once, and then investors will abandon the market forever. Speculation sometimes activates the market, but too much

of it destroys stability. For the individual investors with a long-term saving purpose, changing in behaviour to investing in mutual funds increases institutional investors and, then, stability.

3. The Structure of the Thai Capital Market

Restructuring is the means to improve the stability of the Thai capital market. The authors' hypothesis is that the differences of structures of capital markets causes differences in stability. The purpose of challenges in regulation, technology and procedure, competition, and behaviour, is to restructure the markets, investors, products, and intermediaries.

The authorities, and other participants, are now focusing on financial innovation and investment. These measures include the futures and options market and many kinds of warrants which are challenged in the product structure as investment alternatives for improving the liquidity and efficiency of the market. For challenges in the market microstructure, the regulators implement several measures such as short sales, stock lendings, as well as the credit balance system in order to comfort tradings, reduce transaction costs, and lower the price volatility in the market. In addition, institutional investors are motivated to participate in the market via the standardization, internationalization and liberalization policy. Finally, financial intermediaries are guided to ethical and moral issues in order to support fairness, transparency, and integrity of all participants in the market.

3.1 The Exchange Structure of the Thai Capital Market

The authorized secondary market in Thailand consists of three major markets, namely the Securities Exchange of Thailand (SET), the Bangkok Stock Dealing Center (BSDC), and the Bond Dealer Club (BDC). These authorized secondary markets are regulated by the Securities and Exchange Commission (SEC). The SET is the only national exchange, while the BSDC and the BDC are over-the-counter (OTC) trading networks. There is neither a regional exchange nor an organized derivatives exchange in Thailand. Table 1 lists some characteristics of these authorized secondary markets.

The SET, which is the national stock exchange of Thailand, lists larger and higher-quality companies than does the BSDC, which is the over-the-counter (OTC) stock trading network. The Securities and Exchange Commission (SEC) of Thailand does not allow dual listing on both national and OTC exchanges.

Table 1: The Authorized Secondary Capital Markets in Thailand (as of December 31, 1995)

	The SET	The BSDC	The BDC
Types of markets	National exchange	Over-the-counter	Over-the-counter
Types of instruments traded (Number of securities)	Common stocks (437) Preferred stocks (9) Convertible debentures (1) Debentures (5) Warrants (36) Unit Trusts (66)	Common stocks (2)	Private debt instruments (29)
Trading hours	10:00-12:30 14:30-16:30	10:00-12:30	10:00-12:30
Number of members	50	74	87
Market capitalization	US \$150 billion	n.a.	n.a.
Major trading system	Automatic order matching	Dealership	Dealership

	The SET	The BSDC	The BDC
Ceiling & Floor	10%	10%	No
Trading board	Main, odd-lot, big-lot, and foreign boards	No	No
Bid-ask spread	0 Price<10 move 0.10 baht 10 P<50 move 0.25 bt. 50 P<100 move 0.50 bt. 100 P<200 move 1.00 bt. 200 P<600 move 2.00 bt. 600 P<1,000 move 4.00 bt. Price 1,000 move 6.00 baht	n.a.	Upon the rating of bonds
Commission fee	Equity: 0.5% Unit trust: 0.3% Debenture: 0.1%	1% for value<50,000 baht 0.75% for 50,000 v<200,000 baht 0.5% for value 200,000 bt	n.a.
Capital gain tax	Free	15% withholding	Free
Dividend tax	10% withholding	10% withholding	n.a.
Interest or discount tax	15% withholding	n.a.	15% withholding

Source: The Stock Exchange of Thailand, the Bangkok Stock Dealing Center and the Bond Dealer Club

Capital markets in Thailand are highly regulated and restricted. For example, short sales are not allowed in these authorized markets. The price movement, both up and down, is also limited within 10% of the previous closing price. Not until 1997, net settlement of profit and loss has not been permitted. Market maker system of trading in the SET is confined to a few listed companies. Share repurchase, treasury stock systems, and stock dividends are not yet accepted. Commission fees can only be negotiated among brokerage firms, but not individual investors. In addition, foreign shareholding is restricted to 25% of shares in financial institutions and 49% of shares in the other businesses. The major challenge on restructuring the market microstructure may have to be concentrated on the “deregulation” of the Thai capital market.

3.2 The Investor Structure of the Thai Capital Market

The investors in the SET are divided into four sectors: individual investors, foreign investors, mutual funds, and brokerage portfolios. While mutual funds and brokerage portfolios are institutional investors, foreign investors can actually be divided into individual and institutional investors. Since foreign investors are mainly institutional, we can group these three sectors into an institutional sector. The individual sector is bigger than the institutional sector; the turnover of the individual sector, as of December 1995, being sometimes as high as 70% of the total turnover².

As the regulator’s policies are to increase the number of institutional investors, to educate investors, and to change the individual investors’ behaviour to invest through mutual funds, the problem is that individual investors’ transactions dominate the market tradings. Shetty, McGrath, and Hammerbacher (1995: 550) say that “research has demonstrated that individual investors cannot manage portfolios much larger than 15 different securities without making serious mistakes, both of omission and commission. However, the attempt of reducing individual trading portion is accompanied by the fear of sacrificing liquidity.

² The figure is from the statistical record collected by the Phatra Research Institute.

As of December 1995³, individual investors' shareholding is 37% of total market capitalization while their transactions represent 54% of the total turnover value, and institutional investors' shareholding is 63% of total market capitalization while their transactions represent 46% of the total turnover value. Table 2 presents shareholding and transactions of participants in the Thai capital market. However, the investors' classification as determined by the SET is possibly biased and mistaken because some other institutional investors (e.g., pension funds, provident funds, and insurance companies) are classified as individual investors.

Table 2: Stock Ownership and Transactions of Investors in the SET (as of December 31, 1995)

	Stock Ownership (% of total market capitalization)	Stock Transactions (% of total turnover value)
Individual investors	37%	54%
Foreign investors	43%	23%
Mutual funds	13%	8%
Other	7%	16%

Source: The Securities and Exchange Commission (SEC), the Stock Exchange of Thailand (SET) and the Phatra Research Institute

3.3 The Listed-Company Structure of the Thai Capital Market

In this study, products include not only securities but also companies issuing securities. The criteria of the basic qualifications for listing common or ordinary and preferred shares are shown in Table 3. Debentures, convertible debentures, and warrants can be issued by a public limited company which has ordinary shares listed for at least one year. Unit trusts can be issued by getting approval from the Securities and Exchange Commission (SEC). All listed companies in the SET must be converted into public companies and listed companies' accounting systems are required to meet the SET standard. In order to focus on the quality of listed companies, the SET targets the listing of large companies with high quality and professional management.

Under the Securities and Exchange Act (SEA) of 1992, the Securities and Exchange Commission (SEC) was established as the sole supervisor of the entire securities industry. The SEC takes responsibility of regulating both the primary and secondary markets. On the primary market or the initial public offering process, the SEC examines and analyses the financial conditions and operations of the issuer before allowing the company to issue securities to the public, and then the issuer can seek to list its securities on the SET or on the BSDC (the Bangkok Stock Dealing Centre: the OTC centre). In order to regulate listed companies and investors of any wrong-doing, the SET and the SEC adopt their surveillance system for a stock watch and a detection of irregular patterns of price and volume movements. The policies are designed for the better qualities of products. For example, information disclosure of listed companies is strongly regulated. Listed companies must file quarterly and annual audited financial statements within a short time after the end of each period. Information that might affect shareholders' interests must be reported at least one hour prior to the next trading session. In addition,

³ The figure is compiled from the Securities and Exchange Commission (SEC), the Stock Exchange of Thailand (SET), and the Phatra Research Institute. The sector of institutional investors consists of foreign investors, mutual funds, and brokerage firms'.

the SET designs supervision signs to inform investors of any changes in a listed company. However, the enforcement is rather questionable although the regulation is quite strict.

Table 3: Listing Criteria for Ordinary and Preferred Stocks

Qualifications	Listed companies	Listed companies in a provincial zone	Infrastructure or basic industry (newly established company)
Registered capital in form of ordinary shares	at least 60 million baht ⁴	at least 40 million baht	at least 60 million baht
Total market capitalization	at least 500 million baht	at least 200 million baht	at least 500 million baht
Distribution of ordinary shares <ul style="list-style-type: none"> • Number of small shareholders • Total shares held by small shareholders 	at least 600 shareholders at least 15-30% of registered capital depending on the size of the company	at least 300 shareholders at least 10-20% of registered capital depending on the size of the company	same as a listed company or a listed company in provincial zone depending on the size of the company
Business operations <ul style="list-style-type: none"> • Operations • Past financial status 	At least 3 years Profit for the last 3 years at least 50 million baht	At least 3 years Profit for the last two years at least 15 million baht	Having competent and experienced management in finance , production and marketing

Source: The Stock Market in Thailand 1995, the Securities Exchange of Thailand.

As of December 1995, there are 437 companies listed in the SET with the total market capitalization of US \$150 billion, approximately. The average market capitalization per company is approximately US \$343 million. The figures are extremely low compared to the New York Stock Exchange (NYSE) which has 2,675 listed companies, US \$6,013 billion of total market capitalization, and US \$2,248 million of average market capitalization per company⁵. Therefore, the Thai national stock market is far smaller than that of the developed countries.

The variety of products in the Thai capital market is somewhat unconvincing, not only because there are no organized derivatives exchanges⁶, but also because the majority of listed companies is dominated by financial institutions. Table 4 displays the proportion of listed companies's market capitalization and the systematic risk or sensitivity of each industry return to the market return (β) as of December 1995. As shown, the financial institutions are highly correlated with the market while the utility companies are rarely correlated. This causes instability in the (especially bearish) Thai capital market. Moreover, cross-border listings and Thai depository receipts are not allowed in the Thai market. The developed markets (e.g., the U.S., U.K., Japan, Hong Kong, and Singapore) have cross-border listed companies and depository receipts because they can provide a variety of products.

⁴ The SET will enforce the companies listed since January 10, 1996 to have the registered capital of at least 100 million baht by the year 1998. For the companies listed before January 10, 1996, the registered capital must be at least 60 million baht by April 1, 1996. In addition, the SET is considering to increase the total market capitalization of listed companies to 1,600-2,500 million baht. The enforcement is claimed to increase the size of funds and improve the quality of products in the market. The market with high quality products is hoped to persuade more investors so that liquidity and stability can be enhanced.

⁵ The U.S. figures are from *1995 Capital Market Review-Global*.

⁶ Although there are some kinds of warrants and convertible debentures traded in the Thai capital market, they are not favorite and not liquid.

Table 4: The Market Capitalization (as of December 31, 1995) and the Systematic Risk (β : October-December 1995) of Listed Companies Grouped by International Financial Corporation (IFC) Standard

Industry	Market Capitalization (Billion Baht)	% of Total Market Capitalization	β
Finance/Insurance/Real Estate	1,674.97	46.98	1.1457
Banking	898.55	25.21	0.9800
Finance	445.74	12.50	1.6163
Real Estate	294.21	8.25	1.0484
Insurance	36.47	1.02	0.2580
Communication/Utility	749.24	21.02	0.8481
Communication	579.37	16.25	0.8081
Energy	169.87	4.77	0.9844
Manufacturing	352.46	9.98	1.1005
Chemical	92.71	2.60	1.5143
Textile	54.71	1.53	0.9238
Pulp	48.47	1.36	0.3021
Food	35.17	0.99	0.3550
Electronic	31.90	0.89	0.8863
Electric	23.30	0.65	0.4912
Packaging	20.57	0.58	0.4340
Printing	19.63	0.55	0.4548
Household	17.86	0.50	0.3208
Machinery & Equipment	3.84	0.11	0.5741
Jewelry	3.41	0.10	0.4793
Pharmacy	0.89	0.02	0.2867
Construction	320.96	9.00	1.2463
Building	320.96	9.00	1.2463
Wholesale/Retail Trade	66.93	1.88	0.5447
Commerce	66.93	1.88	0.5447
Agriculture	44.43	1.25	0.9283
Agriculture	44.43	1.25	0.9283
Service	34.23	0.96	0.3758
Hotel	23.13	0.65	0.3155
Healthcare	10.25	0.29	0.5348
Prop. Service	0.85	0.02	0.0282
Mining	2.86	0.08	-1.4655
Mining	2.86	0.08	-1.4655
Other	174.07	4.89	N.A.
Entertainment	33.45	0.94	N.A.
Transportation	112.41	3.15	N.A.
Vehicle	16.30	0.46	N.A.
Warehouse	2.73	0.08	N.A.
Other	9.18	0.26	N.A.

3.4 The Intermediary Structure of the Thai Capital Market

Brokerage firms are authorized members of the SET for buying or selling securities on the Exchange. A member company is limited to a securities company, or a finance and securities company, who obtains a license from the Minister of Finance, has a recommendation of the SEC, and is approved by the Board of Governors of the SET before becoming a stock broker. The broker structure in the SET is different from these in overseas exchanges. For example, in the United States, stock exchange members fall into several classes: commission brokers, floor brokers, registered traders, and specialists (see Shetty, McGrath and Hammerbacher, 1995: 528). In the Thai stock markets, **brokers** are stock exchange members who execute orders and buy or sell securities for their customers, which include individual investors, sub-brokers, and institutional investors. The SET requires members to buy seats on the exchange. Unlike those in the New York Stock Exchange, the seats or memberships in the SET cannot be sold without approval from the SET. As of December 31, 1995, there have been 50 members in the SET of which 5 were appointed during the year 1995.

Until the beginning of 1997, the commission fee charged by the SET members is not negotiable and fixed at 0.5% of transaction value for equity tradings, 0.3% for unit trust tradings, and 0.1% for debenture tradings⁷. A broker gets a full commission fee if it executes orders for its non-subbroker customers. **Sub-brokers** also buy or sell securities for their customers, but cannot execute orders by themselves. They must submit orders to their broker and allocate the “negotiable” commission between them and their broker.⁸

Brokers are the only registered traders who, without commission fee, buy and sell securities for their own accounts. Specialists in the SET serve as both brokers and dealers. However, there are only few stocks that are assigned in the market maker system. Since brokerage firms buy or sell securities for their customers for the “fixed” commission fee, they are not differentiated among themselves. Without taking cost-effectiveness into account, brokerage firms may perform several functions approved by the Securities and Exchange Commission (SEC), such as security trading, research, venture capital, investment banking, market making, bond dealing, portfolio management, provident fund management, mutual fund sales, and takeover business. In other words, there are no discount brokerage firms in the SET, and each brokerage firm tries to function as a full-service brokerage firm.

Facing the economic downturn in 1994-1997, securities companies confront the problem of liquidity due to the non-performing margin loan. As a source of funds for securities business, the Securities Financial Corporation (SFC) was established in the beginning of 1997 as a self-regulated organization which can raise funds by many ways, including issuing securities, in order to lend the funds for the securities business. In spite of the existence of the SFC, the finance and securities sector is expected to be considerably restructured in the near future.

4. Concluding Comments

The Thai capital market is now substantially developed to be a prime mover for the Thai economy. However, there are some debated issues regarding the roles of policy markers on the stability or quality of the market. The primary purpose of this study is to analyse the existing structure of the Thai capital market in order to identify the key factors for enhancing the stability of the Thai capital market. This study revises the Stability-Structure-Challenge (SSC) model, proposed by Nittayagasetwat, Withisuphakorn and Phoocharoon (1996), as the infrastructure for analysis. The rationale is that a market with satisfactory stability or quality must have acceptable liquidity, volatility, efficiency, and transaction costs. This goal can be achieved by restructuring the exchanges, investors, listed companies, and intermediaries. Restructuring can be executed by challenging the existing policies on regulations, technology and procedures, competition, and investors' behaviour.

The study finds that the Thai capital market is quite regulated and rarely liberalized. The restriction are e.g., the prohibition on short sales, stock lendings, share repurchases, stock dividends, and cross-border listings, etc. The daily price movement of stocks in the Stock Exchange of Thailand is limited to

⁷ The regulators are considering to allow the commission fee flexible (depending on trading magnitude) for foreign and institutional investors. However, the regulation is not yet finalized.

⁸ Not until 1997, the commission fee had been divided into 0.2% of transaction value to the sub-broker and 0.3% of transaction value to its broker. Then, the allocation of the commission fee was turnaround in the beginning of 1997. Finally, with the most recent regulation, the commission fee is negotiable between a sub-broker and its broker.

ten percent over or under the previous closing price. The transaction on derivatives is confined and a formal derivatives exchange is not authorized in the Thai market. In addition, the instability of the Thai capital market may be derived from the problematic structure of the market. For example, retail investors which have a small fraction of stock ownership, become the most active investors and dominate the market trading. There are not many listed companies as alternatives for investment. The listed companies, on average, are of modest size and have scarcely variety. The number of brokerage firms is determined by the Stock Exchange of Thailand, not by the demand and supply of the products. Besides, the commission fee is to the most extent fixed at 0.5% of the trading value.

On July 2, 1997, the Thai Government has changed the determinant of Thai currency from the "basket" system to the "managed float" system. The major reason of the floating currency is to ease the economic problems, the falling exports, and the speculators' attack on the Thai Baht. The situation reflects the fact that the Thai financial market cannot avoid the coming pressure of the financial liberalization. The Thai capital market's authority is also considering the possibility of lifting some restrictions on, for example, stock price movement, short sales, and treasury stocks measures. The restructuring of the Thai capital market by deregulation and liberalization may be a key factor to increase liquidity, to decrease volatility, to improve efficiency, and to reduce transaction costs, which are needed for the stability or quality of the Thai capital market.

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