

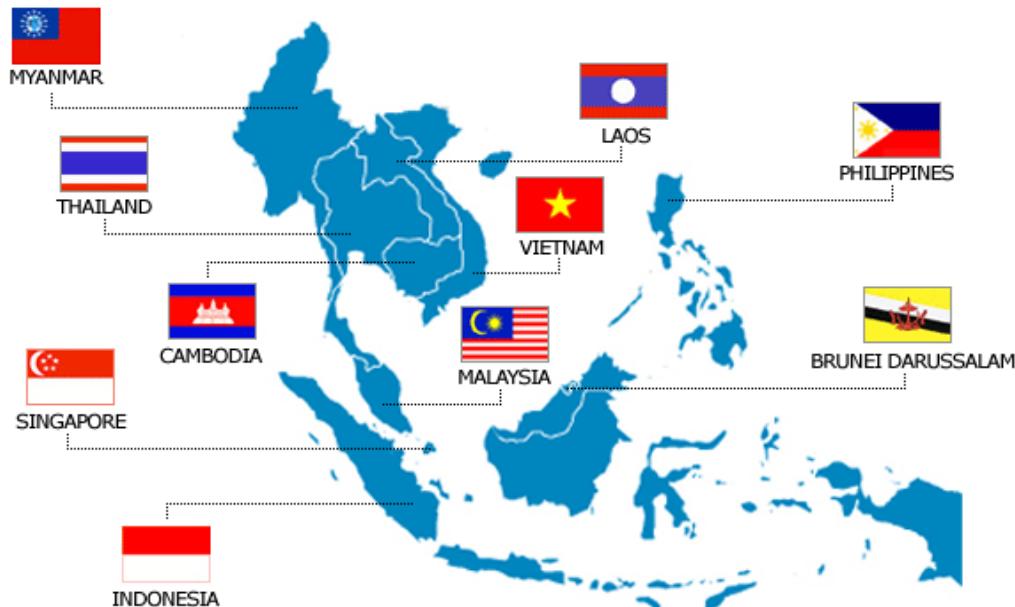
CHAPTER 1

Introduction

1.1 The Rationale Background

Currently, political, economic, and social contexts, including the relationship among Southeast Asia countries, have considerably changed. That is to say, the government of Southeast Asian countries must cooperate to enhance the power and capabilities to compete with neighboring countries. To achieve that, the governments agreed to establish the Association of Southeast Asian Nations (ASEAN) to promote cooperation and mutual assistance in the economic, social, cultural, and technology. Additionally, ASEAN also promotes peace and stability in the region. ASEAN consists of 10 Southeast Asian countries which are Thailand, Cambodia, Laos, Vietnam, Myanmar, Malaysia, Philippines, Singapore, Indonesia, and Brunei Darussalam. Each country has to develop its capability to attract the investment from foreign countries and solve economic problems together. This will cause a tremendous investment in order to be able to negotiate with other countries and economic zones. Further, ASEAN members make an effort to increase the cooperation in two aspects as well as ASEAN socio-cultural community. Therefore, those are the three pillars to expand cooperation to ASEAN (Chareonwongsak, 2014). The Cooperation of the ASEAN Capital Market by Asian 2015 Vision focuses on the integration of ASEAN member countries. They have a purpose to increase their bargaining power with suppliers and to enhance competition in the global economy. Moreover, the tax exemption for certain goods to the members plays an important role on promoting regional stability and prosperity for the public welfare. The goals of ASEAN are to have common market and production

base, the movement of goods services, investment, capital, and skilled workers freely for the ASEAN Economic Community which should be completed by the year 2015 (Suradeacha, 2010).



Source: <http://www.asean-community.au.edu/>

Figure 1.1: ASEAN Community Members.

In terms of investment, ASEAN is very interesting because many investors have flowed into ASEAN as a new and attractive market. Also, the minimum wage and living costs are not high. These are the reasons that influence the investors who are looking for the emerging market. Thus, it can be said that ASEAN is a big market for investors. Another reason is that ASEAN freely provides transport and trade between countries and reduces tax ceilings which appeals to lots of investors. It is an opportunity to expand the investor base and increase the visibility of a company listed in ASEAN. There are 7 stock markets in ASEAN which are Bursa Malaysia (MYX), Indonesia Stock Exchange (IDX), Philippine Stock Exchange (PSE), Singapore Exchange (SGX), Stock Exchange of Thailand (SET), Ho Chi Minh Stock Exchange (HOSE), and Hanoi Stock Exchange (HNX) along with a total of 3778 registered companies have listed. The ASEAN population is approximately 540 million people;

market capitalization costs 2 trillion US dollars as well. The growth rate of GDP in ASEAN countries is an average of 6 % per year in 2011 to 2015 (Suradeacha, 2010).



Source: <http://www.aseanexchanges.org/>

Figure 1.2: ASEAN Exchanges member.

ASEAN realizes that economic prosperity is a key factor in keeping the peace, stability, and security of the region. In addition, ASEAN is committed to expand economic cooperation between member countries, and also cooperates in other aspects such as political, social, educational, and cultural contexts. In 1992, ASEAN leaders resolved to establish ASEAN Free Trade Area (AFTA) including Singapore, Malaysia, Thailand, Philippine, Indonesia, and Brunei Darussalam. The aimed were to provide members with more free trade before opening free trade around the world. And it could also enhance the competitiveness of ASEAN as an important manufacturing base to enter into the global market. ASEAN countries in AFTA agreed to trade freely between them to promote economic growth among members. Under the terms of Common Effective Preferential Tariff (CEPT), it aims to reduce tariffs to 5 % in 2003 and 0 % in 2010. ASEAN has gradually reduced its tariffs for new members since 1993. That is the result from ASEAN trade. The result has expanded rapidly in the past. In 2010, leaders of ASEAN drafted ASEAN Trade in Goods Agreement (ATIGA) with the rules relating to trade in the region. From Table 1.1, it shows the imports and exports in ASEAN. It

represents massive growth of the import and export rate in ASEAN from 2003 to 2013 (ThaiFTA, 2013).

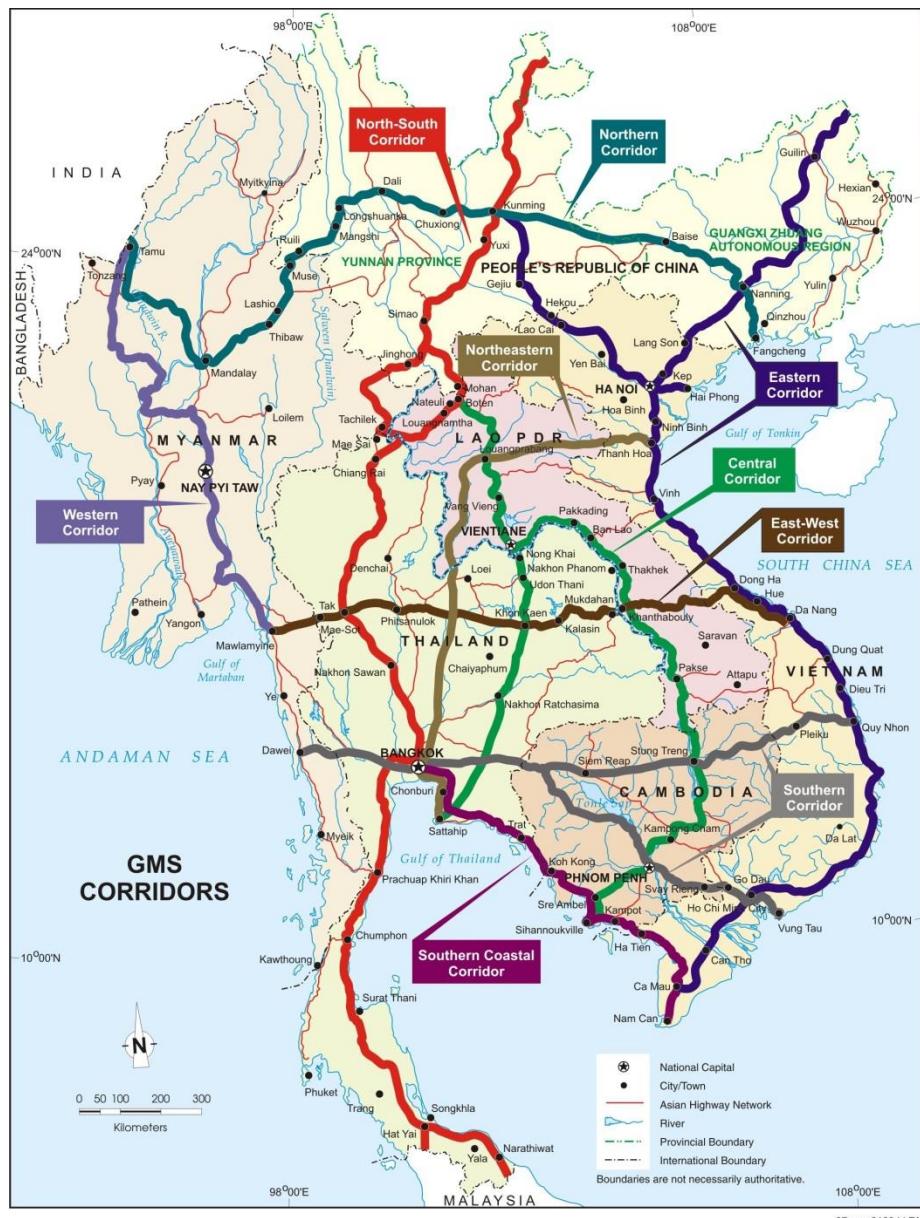
Table 1.1: Import and export in ASEAN

	Year 2003	Year 2013
Exports in ASEAN	9,970	330,318
Exports to other	330,690	940,810
Imports in ASEAN	74,490	278,240
Import from other	284,830	962,148

Note: Unit: Dollar U.S.

Source: ThaiFTA (2013).

Because of being located in the center of ASEAN, this advantage makes Thailand the center of trade between ASEAN member countries and the hub linking to India and China, which are regarded as big economic zones. The East-West Economic Corridor (EWEC) is a route that connects ASEAN countries to each other. It begins from Myawaddy (Myanmar) to Da Nang (Vietnam), connecting Myanmar, Thailand, Laos, and Vietnam. The next route is North-South Economic Corridor (NSEC) starting from Kunming (China) to Singapore which connects China, Thailand, Laos, Malaysia, and Singapore together. Then, South Economic Corridor (SEC) which is from Trat (Thailand) to Hochiminh City (Vietnam) connects Vietnam, Cambodia, Thailand, Malaysia, and Singapore. The last route is Singapore-Kunming Rail Link (SKRL) connecting China, Laos, Cambodia, Myanmar, Thailand, Malaysia, and Singapore. Additionally, Maptaphut and Laem Chabang Port take a role of being a waterway transport in order to develop the project of the eastern coastal shipping in Indochina region to ASEAN countries and East Asia. For Andaman Sea, Pakbara Port project is considered as a land bridge to Songkla Port (ThaiFTA, 2010).



Source: Asian Development Bank (2011).

Figure 1.3: The Greater Mekong Subregion corridors.

Most ASEAN members allow ASEAN investors to have shares of more than 50 % in the construction industry. In addition, Singapore and new members of ASEAN (Cambodia, Laos, Myanmar, and Vietnam, or CLMV) also allow foreign investors to carry shares in the construction industry up to 100 %. CLMV countries have a strong economic growth which is a key factor in advocating the economy. The growth of the construction industry that comes from economic growth can stimulate the demand by investing in any construction such as residence, building, industry, infrastructure, the

road network, ports, airports, and etc. All of the constructions above imply that most countries in ASEAN should develop their facilities and infrastructures to connect the neighboring countries or other economic zones. Therefore, CMLV countries have to offer concessions to the companies or have joint venture cooperation with the government to develop infrastructure for supporting economic growth in the future. However, the construction industry is necessary for infrastructure development, which is a fundamental development of every country. Thus, it is particularly interesting if ASEAN countries can open for investment, freely. This will help the construction companies to do business overseas. Eventually, the construction industry will appear to be a very interesting business (Export – Import Bank of Thailand, 2012).

Table 1.2: The growth rate of the world and the CLMV economy in year 2011-2013

	2011	2012*	2013**
World	2.6	2.1	2.6
Cambodia	4.0	4.6	5.0
Laos	8.1	7.7	8.0
Myanmar	4.8	5.0	5.3
Vietnam	5.9	5.3	6.6

Note: *preliminary figures, **forecast

Source: EIU (2012)

In terms of investment, it claims that the construction industry is one of the industries that is very charismatic. It takes a role to develop countries for a long time and the flow of money into this industry is very high. Likewise, employment and income are directly generated from this industry. Hence, the construction industry contributes a quality of life to people in that country. Not only improving people's lives, but the growing construction industry also relates to other economic sectors, such as industry sector, transport sector, energy sector, banking sector, and financial sector. Therefore, this industry creates indirect income advantages and employment rate of industries, and it clearly signifies the relation of every business. Even more, population growth has been increasing, thus these need of using the services is rising. The integration of ASEAN has led to an interesting exchange of investments, especially in the construction industry. The construction industry is the basis of the economy in every country, and is the heart of the development to keep pace with globalization. Thus, it is an interesting point to study the stock's construction industry of ASEAN in order to see and understand the flow of money in certain countries in this region that will enhance

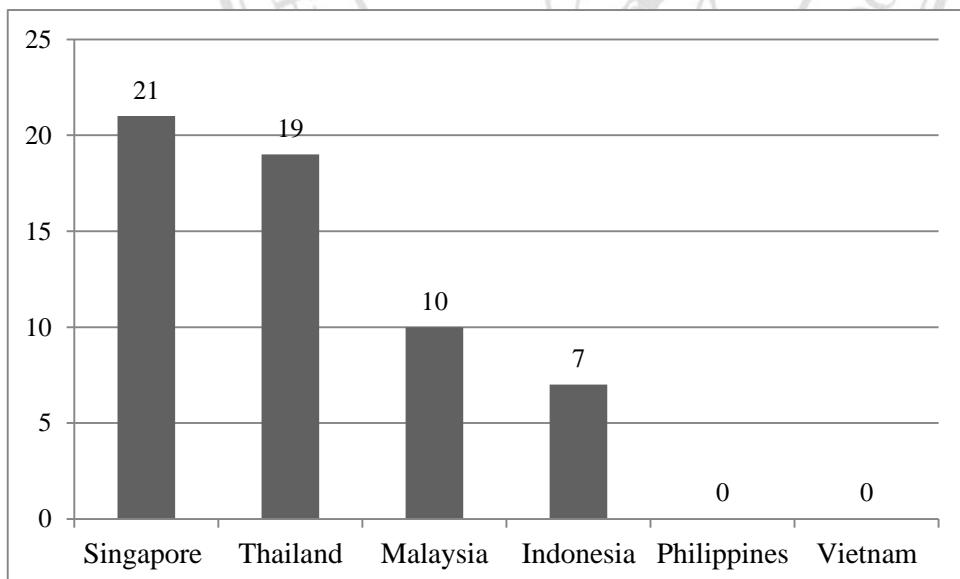
the construction, development, roads, buildings such as dams or major projects in any country that does not yet have high technology. The developments of ASEAN may attract investors because of its abundant natural resources and low investment cost which brings about enormous investment as well (Deewong & Leungbootnak, 2013).

The construction industry is a vital part of economic development and the stability of the country. According to the 4th edition of the industrial classification from the United Nations (UN), the construction industry was categorized in Group F which is composed of three sub-industry groups namely construction of buildings, civil engineering, and special construction activities which are provided by operators in the industry that will cause the output directly. The definition of construction industry will make it easy to collect the account information and economic planning (United Nations, 2008).

The stock exchange or stock market is a way to keep the company secure in the long term. It also includes secondary market trading in securities that are sold to the public only. Long-term securities normally consist of debt, equity securities, common stock, preferred stock, stock warrants, derivative warrant, debenture, unit trusts, etc. This type of instrument was known as a stock to invest in almost every country around the world (The Stock Exchange of Thailand, 2001).

ASEAN countries have 7 stock markets which are Bursa Malaysia (MYX), Indonesia Stock Exchange (IDX), Philippine Stock Exchange (PSE), Singapore Exchange (SGX), Stock Exchange of Thailand (SET), Ho Chi Minh Stock Exchange (HOSE), and Hanoi Stock Exchange (HNX). These stock markets need to raise the share in ASEAN that receive an attention from investors both inside and outside the region. A common goal is to increase the liquidity of the stock market in ASEAN by promoting cross-market transactions, convenient optimizing access channel ASEAN Exchanges, and underlying securities products in ASEAN. Then, cooperation of ASEAN Exchanges will attract investors and then draw investments to the region. The investment in ASEAN Exchanges increases the chance of getting a higher return more so than investing in one stock market and diversification of investment. ASEAN Exchanges applies ASEAN Trading Link for investors who can buy and sell stocks in the global market. ASEAN Trading link gives convenience and increases efficiency in

trading. It reduces the investment risk in one country and offers more opportunities to invest in diverse stocks although the investment is in the same group. Investing in other stock markets will increase the chance of being a pioneer who can buy outstanding stocks and expect a low price in the future. Moreover, the capital gain will be used for tax exemption of the same investment in Thailand. There are some factors that investors have to carefully consider before deciding on investing. Firstly, concerning the investment in ASEAN Exchanges, investors need to understand the economic situation in that country that can affect investments, such as political unrest, natural disasters, the changes of economic development plan, etc. Secondly, the investors must study the company's profile and information before buying stocks when investing in Stock Exchange of Thailand or other stock markets. Furthermore, the exchange rate is another thing to be determined before investing in the ASEAN Exchanges. The changes of exchange rate have an effect on the investment, significantly. Therefore, investors need to calculate and forecast trends of the exchange rate before deciding to trade foreign stocks. This is a new challenge for investors (Rodchareon, 2014).



Source: [Bloomberg \(2012\)](#).

Figure 1.4: Number of securities that have market capitalization of more than 1 billion USD and average daily trading value of more than 10 million USD.

In ASEAN Exchanges (Figure 1.4), it shows the number of securities that have market capitalization of more than 1 billion USD and average daily trading value of

more than 10 million USD in Bursa Malaysia (MYX), Indonesia Stock Exchange (IDX), Philippine Stock Exchange (PSE), Singapore Exchange (SGX), Stock Exchange of Thailand (SET), Ho Chi Minh Stock Exchange (HOSE), and Hanoi Stock Exchange (HNX) (Bloomberg, 2012). Consequently, this study had chosen 3 of the best ranges from ASEAN Exchanges (Singapore, Malaysia, and Thailand) and 2 companies from each stock market (Singapore, Malaysia, and Thailand) to analyze. That is because they perform Bivariate Extreme Value analysis. And these chosen companies represent the highest market capitalization value (The Stock Exchange of Thailand, 2014).

Table 1.3: 5 highest rank of construction industry's market capitalization in The Stock Exchange of Thailand.

Company	Market cap. (U.S. Dollar)
Siam Cement Public Company Limited	20,100 million
Siam City Cement Public Company Limited	2,595 million
TPI Polene Public Company Limited	1,804 million
Super Block Public Company Limited	1,422 million
CH. Karnchang Public Company Limited	1,323 million

Source: <https://www.set.or.th>

From Table 1.3, Siam Cement Public Company Limited (SCC) is in the first rank of The Stock Exchange Thailand. In 1938, SCC started the business of construction products. Nowadays, this company is producing and selling construction materials and a lot of decoration items. SCC has applied a high technology to the production process, quality control, creation of modern design, and building up excellent workers. These make SCC the business leader in Thailand and in ASEAN. Meanwhile, this company is continuously expanding their manufacturing base as well. (Siam Cement Public Company Limited, 2015). The second rank belongs to Siam City Cement Public Company Limited. This company was founded in Thailand more than 45 years ago. The company is in the second rank of cement manufacturers in Thailand who are providing initiatives of cement products and the requirements of consumer services (Siam City Cement, 2015).

Table 1.4: 5 highest rank of construction industry's market capitalization in Bursa Malaysia.

Company	Market cap. (U.S. Dollar)
Gamuda Berhad	3,408 million
IJM Corporation Berhad	2,957 million
WCT Berhad	557 million
Muhibbah Engineering Berhad	297 million
Hock Seng Lee Berhad	283 million

Source: <https://www.bursamalaysia.com>

According to Table 1.4, Gamuda Berhad is in the first rank of Bursa Malaysia. It is a leading company for infrastructure and is a property developer in Asia and the Middle East region. The company has three core businesses including engineering and construction, infrastructure concessions, and property development. Gamuda is regarded as one of the largest privatised water suppliers in Malaysia, providing essential water resource for 2 million residents and industries in the Klang Valley and Selangor (Gamuda, 2015). IJM Corporation Berhad stays in the second rank. Its major business activities are encompass construction, property development, manufacturing and quarrying, infrastructure concessions, and plantation. IJM has expanded markets to 10 neighboring countries, primarily focusing in Malaysia, India, United Arab Emirates, China, and Indonesia (IJM Corporation Berhad, 2015).

Table 1.5: 5 highest rank of construction industry's market capitalization in Singapore Exchange.

Company	Market cap. (U.S. Dollar)
Chip Eng Seng Corporation Limited	461 million
Low Keng Huat Limited	429 million
Wee Hur Holdings Limited	251 million
Rotary Engineering Limited	240 million
LianBeng Group Limited	220 million

Source: <http://www.sgx.com/>

From Table 1.5, Chip Eng Seng Corporation Limited is number one in construction and property group in Singapore Exchange. In the 1960s, Chip Eng Seng was founded, and started in the business as a building subcontractor for conventional landed properties. Nowadays, the company has two core business activities which are engineering and construction as well as property investment and development (Chip Eng Seng, 2015). The second rank is a construction company called Low Keng Huat Limited. LKHS has three core business activities such as construction and civil

engineering, property development, and property investment. In the 1990s, LKHS used to be in the top rank among construction companies of Singapore Exchange (Low KengHuat Limited, 2015).

1.2 Background of the companies.

Siam Cement Public Company Limited (SCC).

The Siam Cement Public Company Limited (SCC) started the business of construction products in 1913 and has been operating for more than 100 years. Nowadays, this company is producing and selling construction materials and a lot of decoration items. SCC has applied high technology to the production process, quality control, creation of modern design, and building up excellent workers.

The Siam City Cement Public Company Limited (SCCC).

The company was first established on May 16th, 1969 as Siam City Cement Company limited with the initial registered capital of 100 million baht and began to produce cement after the completion of its cement plant in 1972. This company has been operating in Thailand for more than 45 years. The company is in the second rank among cement manufacturers in Thailand who provide initiatives of cement products and the requirements of customer services.

Gamuda Berhad (GAM).

It is a leading company for infrastructure and is a property developer in Asia and Middle East region. The company has three core businesses including engineering and construction, infrastructure concessions, and property development. Gamuda is regarded as one of the largest privatized water suppliers in Malaysia, providing essential water resource for 2 million residents and industries in the Klang Valley and Selangor.

IJM Corporation Berhad (IJM).

IJM Corporation Berhad is second place in the rankings. Its major business activities are encompassing construction, property development, manufacturing and quarrying, infrastructure concessions, and plantation. IJM has expanded markets to 10 neighboring countries, primarily focusing on Malaysia, India, United Arab Emirates, China, and Indonesia (IJM Corporation Berhad, 2015).

Chip Eng Seng Corporation Limited (CES).

In 1960, Chip Eng Seng was founded and started the business as a building subcontractor for conventional landed properties. Nowadays, the company has two core business activities which are engineering and construction as well as property investment and development (Chip Eng Seng, 2015).

Low Keng Huat Limited (LKH).

LKHS began as a general building construction company with an initial capital outlay of \$150,000. LKHS has three core business activities such as construction and civil engineering, property development, and property investment. In the 1990s, LKHS used to be in the top rank among construction companies of Singapore Exchange (Low KengHuat Limited, 2015).

Accordingly, the stock price of the companies in the construction industry are the focus of in this research and the stock markets were analyzed by using Bivariate Extreme Value to determine trends for the investment in interesting stock markets. Moreover, the growth of the construction business in each country is likely to continuously develop which makes it convenient and easy for investors to make a decision on investing stocks in the construction industry. The growth can reassure the investors for their investments and it also indicates the future of that country as well (Rodchareon, 2014).

1.3 Objectives of the study

1.2.1 To study the financial status of the construction industry's stock exchanges in ASEAN exchange.

1.2.2 To analyze the relationship between stock prices of construction industry and each chosen stock market index in Extreme event case.

1.4 Advantages in the study

1.3.1 The information in this research would be beneficial for investors to inform them about the investment in ASEAN countries by identifying technical data of Bivariate Extreme Value.

1.3.2 The information in this research would be beneficial for the private sector to inform them about the investment in ASEAN countries by learning technical information direction in relation to the prices of stock exchanges.

1.3.3 The information in this research would be beneficial for government sectors to know technical information direction in the construction industry of ASEAN countries for supporting the growth in their countries.

1.5 Scope of the study

This study provided the data from the two highest market capitalization ranks of construction industry securities in The Stock Exchange of Thailand, Bursa Malaysia, and Singapore Exchange. The securities of each market were the closing stock price of securities from 2nd January 2013 to 31th January 2015.

1.6 Data Collection

The data in this study was the closing stock price of securities from 2nd January 2013 to 31th January 2015 totaling 4419 data. This data was from Siam Cement Public Company Limited (SCC), Siam City Cement Public Company Limited (SCCC), Gamuda Berhad (GAM), IJM Corporation Berhad (IJM), Chip Eng Seng Corporation Limited (CES), Low Keng Huat Limited (LKH), Stock Exchange of Thailand (SET), Bursa Malaysia (MYX), and Singapore Exchange (SGX).

1.7 Definition

Extreme value theory is a branch of statistics dealing with the extreme deviations from the median of probability distributions. In general, this theory is used for evaluating a given ordered sample of a given random variable. The probability of events is more extreme than any previously observed. Extreme value theory is widely used in risk evaluation for high abnormal events or less possible event, such as a big earthquake in South East Asia.

Construction is any activity or action that causes the assembly or installation of the building, infrastructure, or components of the things mentioned above (Deewong & Leungbootnak, 2013).

ASEAN Exchanges is a place for selling, buying, or exchanging long-term properties and stocks of publicly held companies which are issued and traded either through exchanges or over-the-counter markets. Therefore, this is the secondary market. There are 7 stock markets in ASEAN which are Bursa Malaysia (MYX), Indonesia Stock Exchange (IDX), Philippine Stock Exchange (PSE), Singapore Exchange (SGX), Stock Exchange of Thailand (SET), Ho Chi Minh Stock Exchange (HOSE), and Hanoi Stock Exchange (HNX) (Thailand Stock Exchange, 2013).

Closing Price is a stock price in the exchange market which is the last trade and last price in each operation day (Thailand Stock Exchange, 2002).

Investment is the collected money used for generating higher returns for normal savings and getting the return in the future. Investment is classified as a type of saving. However, investment is risky because it is about the profit and the loss (Thailand Stock Exchange, 2002).

Investor is a person who wants to buy securities with returns in the form of divided profit or interest. The investor can be a person or corporation from inside or outside the country (Thailand Stock Exchange, 2002).

Risk is the risk of uncertain or unexpected returns such as the political risk, macroeconomics risk, etc. These factors are unavoidable. Thus, the investor should follow the economic news attentively and should study risk factors of that kind of business to avoid risk (Thailand Stock Exchange, 2014).