CHAPTER 1

INTRODUCTION

1.1 Principle and Rational of the Study

The emerging markets are nations with social or business activities that are in the process of rapid growth and industrialization. Based on data from the World Bank in 2006, there were around 28 emerging markets in the world and in 2010 it says there were 40 emerging markets. The economies of China and India are considered to be the largest. According to The Economist in 2008, many people found the term outdated, but no new term has yet to gain much traction. Emerging market hedge fund capital reached a record new level in the first quarter of 2011, which was US$121 billion. Regarding MSCI (Morgan Stanley Capital International market) Barra in May 2010, the organization classified the following 21 countries as having emerging markets: Brazil, Chile, China, Egypt, India, Peru, Czech Republic, Hungary, Indonesia, Malaysia, Mexico, Morocco, Philippines, Poland, Russia, Taiwan, South Africa, Thailand, and Turkey.

Emerging Markets are characterized as transitional, meaning they are in the process of moving from a closed economy to an open market economy while building accountability within the system. Examples include the former Soviet Union and Eastern bloc countries. As an emerging market, a country is embarking on an economic reform program that will lead it to stronger and more responsible economic performance levels, as well as transparency and efficiency in the capital market. An emerging market will also reform its exchange rate system because a stable local currency builds confidence in an economy, especially with external investments. Exchange rate reforms also reduce the desire for local investors to send their capital abroad (capital flight). Besides implementing reforms, the markets are also most likely receiving aid and guidance from large donor countries or world organizations such as the World Bank and the International Monetary Fund.

One key characteristic of the emerging markets is an increase in both local and foreign investment (portfolio and direct). A growth in investment in a country often indicates that the country has been able to build confidence in the local economy. Moreover, foreign investment is a sign that the world has begun to take notice of the emerging market, and when international capital flows are directed toward an emerging market, the injection of foreign currency into the local economy adds volume to the country's stock market and long-term investment to the infrastructure. For overseas investors or developed-economical businesses, an emerging market which provides an outlet for expansion by serving, for example, as a new place for a new factory or for new sources of revenue. For the recipient country, employment levels rise, labor and managerial skills become more refined, and a sharing and transfer of technology occurs. In the long-run, the market's overall production levels should rise, increasing its gross domestic product and eventually lessening the gap between the emerged and emerging economies.

From the report by the Center for International Business Education and Research of Michigan State University (MSU-CIBER) in 2011 it found that most countries in Asia developed from a frontier market[1] to an emerging market. The three essential markets always include the countries in Asia. Top ten of emerging markets are almost all of countries in Asia because of abundant raw material and sufficient labor force. Singapore, Hong Kong, China, South Korea, India and Israel have been the potential markets since 2001, especially Singapore and Hong Kong. The Stock Exchange Thailand (2010) suggested that there are four reasons why to invest in emerging markets. First, emerging markets are an important mechanism for bringing economic growth, especially Brazil, India, China and other countries in Asia with wealth and consumption. The first reason results an effective economic infrastructure. In 2009, China could sustain 9-10% growth, although exports and the industry have slowed down. However, domestic demand grew stronger from the economic reform plan or the 12th Five Year Plan. The plan focused on economic restructuring through consumption. Second, the financial budget controlling of the emerging countries

[1] Accord to Rob Berger (2012), Frontier markets (FMs) are investable but have lower market capitalization and liquidity than the more developed emerging markets. The frontier equity markets are typically pursued by investors seeking high, long term returns and low correlations with other markets.

cased the strength in the economic and financial institution. The result in company has a credit rating of the credit sector continued. Third, investment in emerging economies is an asset class in the existing portfolio. The trend of capital flows to emerging countries in the long term is positive and that will drive asset prices in the country higher. Last, P/E of the emerging countries below P/E of the world that estimates are still far from the bubble crisis. The value of shares can rise again.

Table 1.1: Top 10 Constituents of the MSCI Emerging Markets Asia Index

Enterprise	Mkt cap (USD billions)	Index Weight (percent)	Sector Weight (percent)	GICS® Sector
SAMSUNG ELECTRONICS CO	97.1	5.16	24.2	Info Tech
TAIWAN SEMICONDUCTOR MFG	60.5	3.22	15.1	Info Tech
CHINA MOBILE	57.5	3.06	42.3	Telecom Srvcs
ICBC H	33.7	1.79	7.5	Financials
CHINA CONSTRUCTION BK H	32.5	1.73	7.2	Financials
CNOOC	32.2	1.71	17.5	Energy
HYUNDAI MOTOR CO	28.7	1.53	15.7	Cons Discr
PETROCHINA CO H	25.9	1.38	14.1	Energy
HON HAI PRECISION IND CO	23.7	1.26	5.9	Info Tech
INFOSYS	21.5	1.14	5.4	Info Tech
Total	413.5	21.98		

Source: MSCI (2011)

Investors in the world know the MSCI Barra is a stock market index of over 1,600 world's stocks. It is maintained by MSCI Inc., formerly Morgan Stanley Capital International, and is often used as a common benchmark for world or global stock funds. The index has many categories such as bonds, hedge funds, and real estate investment trusts. The index have many categorizes such as bonds, hedge fund, and real estate investment trust moreover MSCI Barra manage the rank all countries indexes and classify market characteristic. MSCI classifies 3 market indices, which are developed markets, emerging markets, and frontier markets. The study investigates the Asian index of emerging markets. MSCI Emerging Markets Asia Index in 2011 reported top ten constituents as table 1.1. The major constituents are the information technology sector and the financial sectors (figure 1.1). The top five countries (figure 1.2) are China, South Korea, Taiwan, India, and Malaysia. This index can be an important portion of investment portfolio of any stock market investor. According to the Thailand Securities Institute (2012), the economies of emerging markets typically grow much faster than those of developed markets. The performance of equity markets of countries often has a strong correlation with the overall economic growth of such countries.

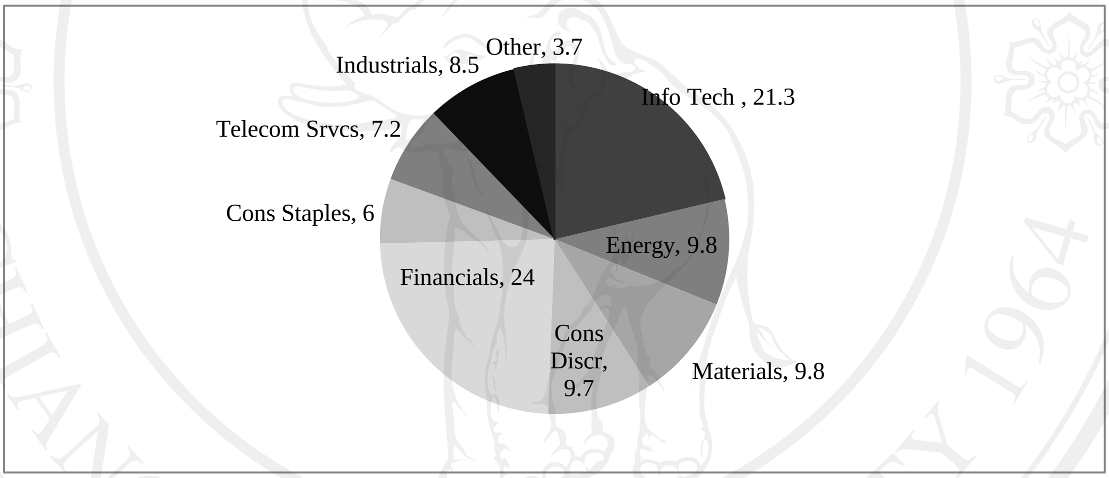

Figure1.1: The major sector weight of the MSCI Emerging Markets Asia Index

Source: MSCI (2011)

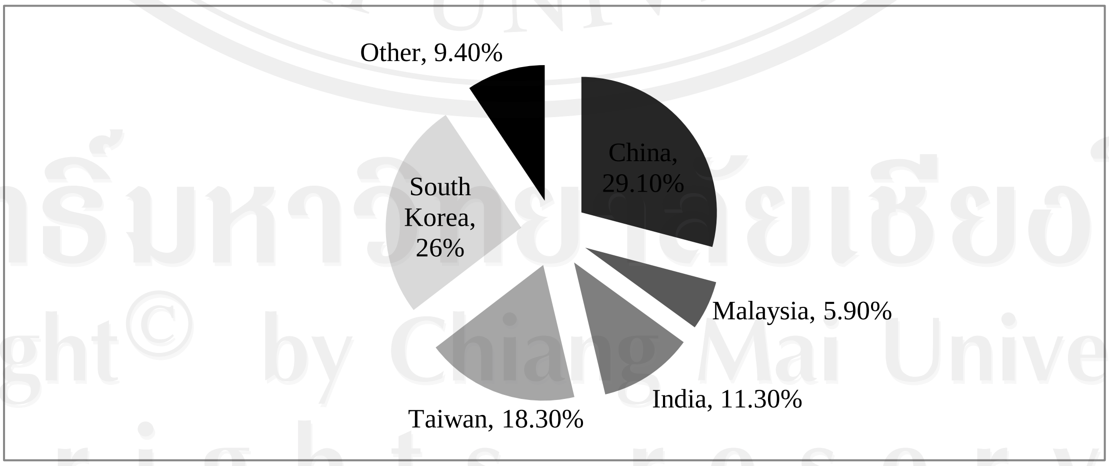

Figure 1.2: The top 5 countries of the MSCI Emerging Markets Asia Index

Source: MSCI (2011)

The purpose of this paper is to investigate the relative predictive performance of various alternative Value at Risk (VaR) and expected shortfall (ES) models of the MSCI Emerging Market Index in Asia, which including China, India, Indonesia, Malaysia, Philippines, South Korea, Singapore, Taiwan, and Thailand. The study emphasizes on extreme value theory-based models. To this end, both unconditional and conditional Extreme Value Theory (EVT) models are used to forecast VaR and ES. Aragonés, José R., Blanco C., and Dowd K. (2000), the parameters of the theory include location parameter and scale parameter, equal to mean and standard deviation. Last parameter of EVT importantly represents the shape parameter. It indicates the heaviness of the tail. The bigger shape parameter explains the heavier the tail of distribution. The parameter is known as the tail index, and the case of most interest in financial is where it more than zero. It corresponds to the fat tail commonly founded in financial return data.

The study analyzes Extreme Value Theory of the daily return on the MSCI Index Emerging Market Index in Asia. The theory has been applied in many fields where extreme values may appear. Such fields range from hydrology (Davison and Smith, 1990; Katz et al., 2002) to insurance (McNeil, 1997; Rootzen and Tajvidi, 1997) and finance (Danielsson and de Vries, 1997; McNeil, 1998; Embrechts, 1999; Gençay and Selçuk, 2004). Extreme value theory provides a solid framework to formally study the behavior of extreme observations. It focuses directly on the tails of the sample distribution and could, therefore, potentially perform better than other approaches in terms of predicting unexpected extreme changes (Dacorogna et al., 1995; Longin, 2000). Extreme value theory methods have two characteristics which make them attractive for tail estimation based on a sound statistical theory. Theory brings out a parametric form for the tail of a distribution. Two main approaches are proposed in the literature to measure extreme value theory, which are the block maxima (BM) based on the generalized extreme value (GEV) and the peak over threshold (POT) based on the generalized pareto distribution (GPD).

The purpose of this paper is to investigate the relative predictive performance of various alternatives “Value-at-Risk” (VaR) and expected shortfall (ES) models of the MSCI Emerging Market Index in Asia, which include China, India, Indonesia, Malaysia, Philippines, South Korea, Singapore, Taiwan, and Thailand. The study emphasizes on extreme value theory-based models. To this end, both unconditional and conditional Extreme Value Theory (EVT) models are used to forecast VaR and ES. Aragonés, José R., Blanco C., and Dowd K. (2000), the parameters of the theory include location parameter and scale parameter, equal to mean and standard deviation. Last parameter of EVT importantly represents the shape parameter. It indicates the heaviness of the tail. The bigger shape parameter explains the heavier the tail of distribution. This parameter is known as the tail index, and the area of most interest in finance is where it is more than zero. It corresponds to the fat tail commonly found in financial return data.

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1.2 Purpose of the Study

The study analyzes and evaluates Value-at-Risk and Expected Shortfalls of Asian Emerging Markets return index using extreme value theory.

1.3 Advantage of the Study

The advantage for investors who can manage a risk in portfolio efficiently base on Extreme Value Theory. The results of this paper can be a part of decision investment in the MSCI of Asian Emerging Markets and other stock. The use of Value at Risk and Expected Shortfall of this will help to balance the portfolio management.

1.4 Scope of the Study and Data Collection

This study uses daily MSCI Emerging Market Index in Asia including China, India, Indonesia, Malaysia, Philippines, South Korea, Singapore, Taiwan, and Thailand over the period from January 1, 2001 through to December 31, 2011. The paper is considered to estimate Value at Risk (VaR) using an extreme value theory applied in modeling extremes block maxima models modeled by the generalized extreme value (GEV) distribution; threshold models realized large values over some high threshold, which can be simulated by the generalized pareto distribution.