THE LONG RUN RELATIONSHIP BETWEEN THE VALUE OF CHINESE YUAN AND STOCK MARKET RETURN IN FIVE COUNTRIES OF THE ASSOCIATION OF SOUTHEAST ASIAN NATIONS FROM 2005-2013

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Abstract

The research analyzes the long run relationship between the value of Chinese Yuan and stock market return in five countries of the Association of Southeast Asian Nations (Indonesia, Malaysia, the Philippines, Singapore and Thailand) from 2005-2013 by using daily data. The conditional work measured by Granger causality model. The value of Chinese Yuan under five selected countries were used as dependent variables. While the stock market index and trading volume of stock market were used as independent variables. The results show the evidence that the stock market indexes granger cause the exchanges rate between China and selected countries which refers to a positive long-run relationship between the value of Chinese Yuan and stock market return in five countries of the Association of Southeast Asian Nations.

Keywords: China, Indonesia, Malaysia, the Philippines, Singapore, Thailand, stock market index, trading volume, exchange rate, Granger causality

1. Introduction

1.1 Background of the study

The Association of Southeast Asian Nations, or ASEAN, was established on 8 August 1967 in Bangkok, Thailand. The member countries are: Indonesia, Malaysia, the Philippines, Singapore, Thailand, Brunei, Cambodia, Laos, Myanmar (Burma) and Vietnam. Five most economically developed countries with mature stock market in the community are selected to study in the research. These countries are Indonesia, Malaysia, the Philippines, Singapore and Thailand. All of these countries are put in alphabetical order. The dependent variable of this study is the value of Chinese Yuan under these five countries. This study analyzes the long run

relationship between the value of Chinese Yuan and stock market return in five countries of the Association of Southeast Asian Nations

Since Chinese economic growth rate has become lower consistently, the investors in the country may consider switching investment elsewhere away from home. At the same time, the economies of the ASEAN member countries look attractive and have bright future from the time of its formation. As a result, Chinese investors began planning to move to greener pastures awaiting in 2015. However, since it will be a huge project for the prospective investors, information in terms of the relationship between the value of Chinese currency and influential ASEAN countries` currency and the stock market performance of those ASEAN countries would be definitely useful and timely.

With the investigation result of this study, it will provide clear information of the relationship between the value of Chinese currency in terms of five ASEAN countries` currency and the stock market performance of those ASEAN countries. It would be of great help to investors of China to observe and realize how these two variables affect each other, which in turn would guide them on making wise choices. From intuitional stock market performance, investor can easier analyze the cost of investment and hedge the risk.

1.2 Objectives of the study

As stated previously, this study will analyze the value of Chinese currency to some ASEAN countries` currency and the stock market performance of those ASEAN countries. The specific objectives of this research are:

1.2.1 To test whether value of Chinese currency under Thailand currency has a significant long-run relationship with Thailand stock market performance.
1.2.2 To test whether value of Chinese currency under Singapore currency has a significant long-run relationship with Singapore stock market performance.
1.2.3 To test whether value of Chinese currency under Malaysia currency has a significant long-run relationship with Malaysia stock market performance.
1.2.4 To test whether value of Chinese currency under the Philippines currency has a significant long-run relationship with the Philippines stock market performance.
1.2.5 To test whether value of Chinese currency under Indonesia currency has a significant long-run relationship with Indonesia stock market performance.

1.3 Research questions

Since Chinese economic growth rate has become lower consistently, the investors in the country may consider switching investment elsewhere away from home. At the same time, the economies of the ASEAN member countries look attractive and have bright future from the time of its formation. As a result, Chinese investors began planning to move to greener pastures awaiting in 2015.

However, since it will be a huge project for the prospective investors, information in terms of the relationship between the value of Chinese currency and influential ASEAN countries` currency and the stock market performance of those ASEAN countries would be definitely useful and timely. Based on the background and objectives, the statement of the problem in this study can be:

1.3.1 Is there a significant long-run relationship between value of Chinese currency to Thailand currency and Thailand stock market performance?

1.3.2 Is there a significant long-run relationship between value of Chinese currency to Singapore currency and Singapore stock market performance?

1.3.3 Is there a significant long-run relationship between value of Chinese currency to Malaysia currency and Malaysia stock market performance?

1.3.4 Is there a significant long-run relationship between value of Chinese currency to the Philippines currency and the Philippines stock market performance?

1.3.5 Is there a significant long-run relationship between value of Chinese currency to Indonesia currency and Indonesia stock market performance?

2. Literature Review

Charles et al. (2008) tried to determine if the exchange rate volatility truly impacts on stock market in Ghana. The study also investigated if there are some other macroeconomic variables which can affect the stock market volatility. Noel and John (2009) aimed to examine the relationship between stock price and exchange rates in Australia. In this research, daily observations of Australia stock price and the Australian-US dollar exchange rate from 2003 to 2006 are used.

Wann-Jyi and Ching-Huei (2010) investigated the relationship between exchange rate volatility and the stock market returns of Thailand. The result showed that the exchange rate volatility has a negative impact on the Thailand's stock market.
There is most goods market hypothesis and the portfolio balance theory that proved that a linkage between exchange rates and stock prices exists, no matter what the different direction of causality is. Christos et al. (2010) made a research to study the linkages between stock prices and exchange rates in the case of "the euro-dollar rate and two composite European stock market indices: the FTSE Eurotop 300 and FTSE eTX All-Share Index".

Paul et al. (2010) tested the interaction between stock markets and foreign exchange markets in five countries which include Japan, Australia, Switzerland, Canada, and UK. Chia-Hao et al. (2011) examined the relationship between stock price and exchange rate and test the dynamic correlation of them is influenced by the stock market volatility. From the result, it showed that there are significant relationship between stock market and foreign exchange market in those five countries of Asia.

Tobias and Kennedy (2011) tried to find out which Macro-economic factors have an impact on the stock return volatility on the Nairobi Securities Exchange, Kenya. Wai-Choi (2012) studied the relationship between the exchange rate of Chinese currency and Hong Kong stock market performance. The study focus is set on the question if the real exchange rate of RMB and stock index in Hong Kong can affect each other or not.

Syed and Anwar (2012) studied the factors which can influence the stock prices of banking industry of Pakistan. In this paper, exchange rate, interest rates, and their volatilities are selected as the factors. This paper found out a significant negative long-run relationship between the exchange rate and interest rate under the model of cointegration test. Jyoti and Jitendra (2012) explored the interaction among the economic variables which include stock prices, exchange rate and demand for money in India. In this paper, two objectives are made. The first

one is "to explain the cointegrating properties of different monetary aggregates, stock prices, exchange rate, interest rate, economic activity, and inflation in India". Under this objective, the paper works on the questions if there is a stationary long-run relationship between those factors. Secondly, the researchers examined the stability of the long-run money demand function with its determinants. Kulcsár and Tarnóczi (2012) aimed to find out how the movement of the stock market indices can drive the movement of exchange rate under euro in Romania and Hungary. Two traditional statistical methods which are simple linear regression model and the Bayesian statistics are used in this paper by the researchers to analyze the relationship between exchange rate and stock market index. From the results, a significant relationship between those two factors exists in both of those two countries.

3. Methodology

3.1 Scope of the study

This study deals with the daily data of exchange rate (between China and Thailand, China and Singapore, China and Malaysia, China and the Philippines, China and Indonesia), stock market index of Thailand, Singapore, Malaysia, the Philippines and Indonesia, trading volume of Thailand, Singapore, Malaysia, the Philippines and Indonesia. This study just selects 5 countries from a total of 10 ASEAN countries. The daily data are one selected point of the day. All the data are collected from Bloomberg and Oanda (an online forex broker leader) during Nov 2005 to Dec 2013. The collected data are tested under Granger causality Model.

3.2 Population and sample

The populations in this study are all secondary data which consisted of macroeconomic factors. In finance research, because data such as exchange rate and stock index change every second; we only focus on a period of time as a sample. In this study, 2131 days` data are used as a sample during the time from Nov 2005 to Dec 2013. There is one dependent variable in this study with different terms which are all the exchange rate between five ASEAN countries and China to measure the value of Chinese currency. Ten variables are analyzed; some of the variables are in the same group as the proxies of the same definition of macroeconomic factors.

3.3 Data collection

All of the data that were adopted in this study are secondary data, which were collected from previous empirical studies. All the data are daily data during Nov 2005 to Dec 2013, focusing on China and five ASEAN countries which include Indonesia, Malaysia, the Philippines, Singapore and Thailand, and collected from Bloomberg and Oanda (an online forex broker leader). These two sources could provide the largest time scale of data and meet the requirement of daily data of this study.

3.4 Model of the study

In order to test the relationship between those independent variables and dependent variables, the models of research will be as follows, according to forty hypotheses that will be presented next.

$$EXC_t = \beta_0 + \beta_1 Retstk_{t-1} + \beta_1 Retstk_{t-2} + \beta_1 Retstk_{t-3} + \beta_1 Retstk_{t-4} + \ldots\ldots \beta_1 Retstk_{t-n} + \alpha_1 EXC_{t-1} + \alpha_1 EXC_{t-2} + \alpha_1 EXC_{t-3} + \alpha_1 EXC_{t-4} + \ldots\ldots\alpha_1 EXC_{t-n} + u_t$$

$$Retstk_t = \beta_0 + \beta_1 EXC_{t-1} + \beta_1 EXC_{t-2} + \beta_1 EXC_{t-3} + \beta_1 EXC_{t-4} + \ldots\ldots \beta_1 EXC_{t-n} + \alpha_1 Retstk_{t-1} + \alpha_1 Retstk_{t-2} + \alpha_1 Retstk_{t-3} + \alpha_1 Retstk_{t-4} + \ldots\ldots \alpha_1 Retstk_{t-n} + u_t$$

$$EXC_t = \beta_0 + \beta_1 Volstk_{t-1} + \beta_1 Volstk_{t-2} + \beta_1 Volstk_{t-3} + \beta_1 Volstk_{t-4} + \ldots\ldots \beta_1 Volstk_{t-n} + \alpha_1 EXC_{t-1} + \alpha_1 EXC_{t-2} + \alpha_1 EXC_{t-3} + \alpha_1 EXC_{t-4} + \ldots\ldots \alpha_1 EXC_{t-n} + u_t$$

$$Volstk_t = \beta_0 + \beta_1 EXC_{t-1} + \beta_1 EXC_{t-2} + \beta_1 EXC_{t-3} + \beta_1 EXC_{t-4} + \ldots\ldots \beta_1 EXC_{t-n} + \alpha_1 Volstk_{t-1} + \alpha_1 Volstk_{t-2} + \alpha_1 Volstk_{t-3} + \alpha_1 Volstk_{t-4} + \ldots\ldots \alpha_1 Volstk_{t-n} + u_t$$

Where:
EXC = Percentage change of exchange rate of Chinese Yuan under target country
Reststk = Return of stock market price under target counry
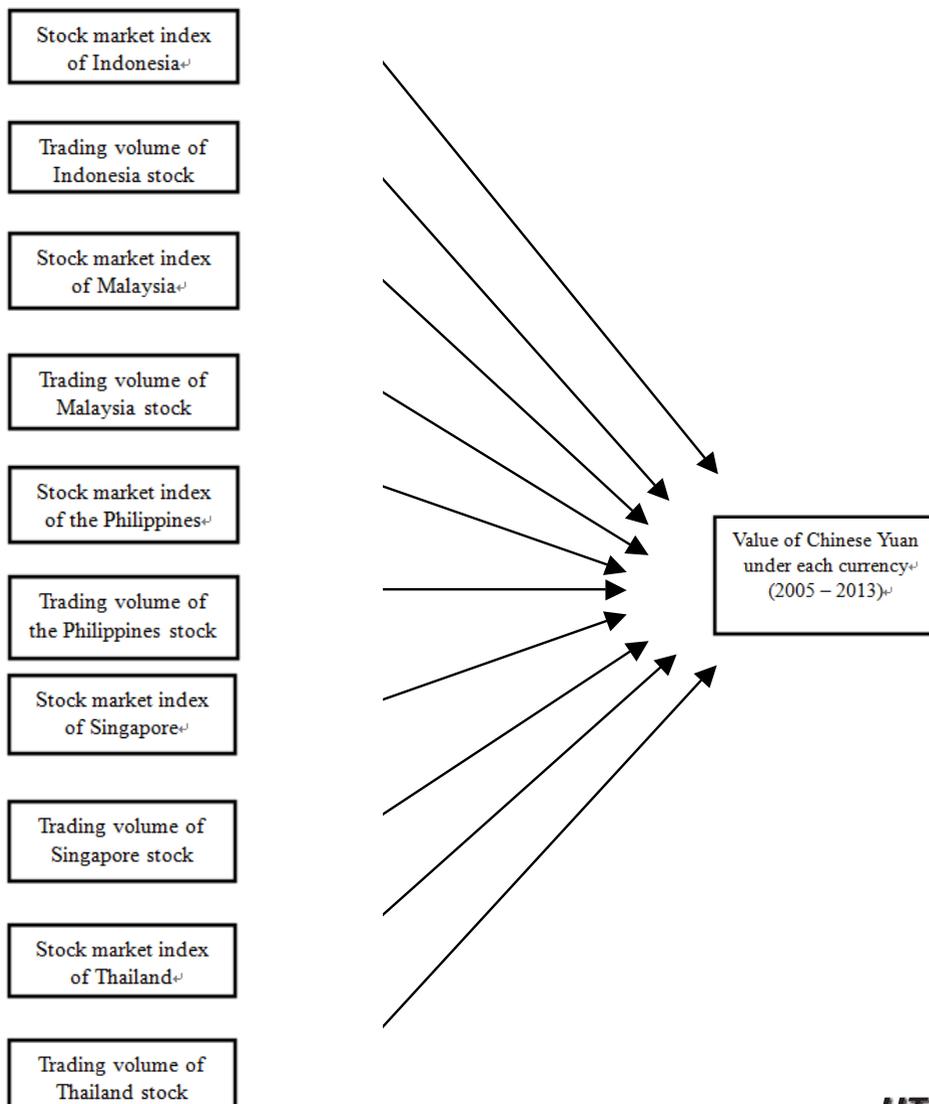Volstk = Percentage change of trading volume in stock market under target country
t = day t
α, β = regression(granger causality test) coefficient
u = error

Figure 1: Conceptual framework of the study

3.5 Hypotheses of the study

This study employs ten independent variables in total and one dependent variable. Therefore, forty hypotheses are developed according to conceptual framework in this study, in order to test the significant relationships between dependent variable and independent variables during the period from Nov 2005 to Dec 2013. Because of the subprime crisis, the period from Nov 2005 to Dec 2013 will be separated into two parts according to the different situation of each country. These two periods refer to economic recession period and economic recovery period.

4. Results

4.1 The Data Profile

The data profile provides the daily data of the exchange rate between China and Indonesia, China and Malaysia, China and the Philippines, China and Singapore, China and Thailand. Also it includes the stock market index and trading volume of Indonesia, Malaysia, the Philippines, Singapore and Thailand. All the data are shown in term of mean, median, maximum, minimum, standard deviation, skewness, Kurtosis, Jarque-Bera, Probability and number of observation.

Table 1: Summary of Original Data Description

	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Proba-bility	Obser-vations
CNY/IDR	0.000735	0.000744	0.000922	0.000501	9.09E-05	-0.203414	2.545308	33.05307	0	2131
CNY/MYR	2.091301	2.10837	2.49501	1.829826	0.108116	-0.299888	2.194275	89.58412	0	2131
CNY/PHP	0.15267	0.151368	0.181054	0.137353	0.008698	1.028606	3.980555	461.1493	0	2131
CNY/SGD	4.979187	5.015045	5.364807	4.413063	0.173161	-0.847525	3.791197	310.6984	0	2131
CNY/THB	0.211989	0.20935	0.257725	0.186355	0.013383	0.999319	3.650007	392.1983	0	2131
SMIOI	2859.591	2646.813	5214.976	1017.733	1141.189	0.139759	1.734069	149.2333	0	2131
TVOI	3.46E+09	3.10E+09	2.02E+10	2.83E+08	2.18E+09	2.269624	12.46842	9789.785	0	2131
SMIOM	1331.239	1346.1	1872.52	829.41	277.3462	-0.13587	1.936369	107.0076	0	2131
TVOM	1.62E+08	1.37E+08	8.32E+08	24042600	97872193	2.499832	11.57546	8749.109	0	2131
SMIOTP	3748.117	3362.98	7392.2	1704.41	1403.521	0.714852	2.555494	199.0391	0	2131
TVOTP	3.51E+08	2.70E+08	3.07E+09	27074360	2.83E+08	3.38705	21.67819	35051.68	0	2131
SMIOS	2854.323	2963.1	3831.19	1456.95	447.9057	-0.90657	3.637917	328.0333	0	2131
TVOS	3.16E+08	2.89E+08	2.19E+09	41849100	1.36E+08	2.634528	27.04264	39352.51	0	1559
SMIOT	908.1821	819.83	1643.43	384.15	294.3567	0.594596	2.549129	143.617	0	2131
TVOT	3.56E+09	2.86E+09	2.51E+10	7600	2.52E+09	2.418709	11.96516	9214.335	0	2131

Table 2: Summary of Modified Data Description

	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Prob-ability	Obser-vations
CNY/IDR	-0.00022	-0.000267	0.062065	-0.07924	0.007258	0.018452	19.76009	24930.04	0	2130
CNY/MYR	-6.89E-05	-0.000217	0.131002	-0.138199	0.010154	0.060791	37.15678	103544.7	0	2130
CNY/PHP	-3.13E-05	7.80E-05	0.040031	-0.048269	0.004573	-0.276438	13.69375	10176.24	0	2130
CNY/SGD	3.61E-06	0	0.015188	-0.018967	0.002984	0.006866	6.859306	1321.881	0	2130
CNY/THB	-3.11E-05	-0.000327	0.063646	-0.065508	0.007492	0.21561	12.87665	8673.914	0	2130
SMIOI	0.000652	0.000747	0.076231	-0.10954	0.014808	-0.678161	10.11373	4654.469	0	2130
TVOI	0.000633	0	1.441542	-1.242584	0.304474	0.198711	4.448046	200.1119	0	2130
SMIOM	0.000335	0.000272	0.042587	-0.099785	0.007856	-1.287436	19.03376	23404.39	0	2130
TVOM	0.000247	0	1.214336	-1.191197	0.283913	0.125024	4.195736	132.4425	0	2130
SMIOTP	0.000505	0	0.093653	-0.130887	0.013742	-0.757422	11.31599	6341.228	0	2130
TVOTP	0.000179	0	3.130647	-1.795475	0.453044	0.196695	4.917429	340.0269	0	2130
SMIOS	0.000175	0.000204	0.075305	-0.08696	0.012475	-0.198211	8.744262	2942.39	0	2130
TVOS	1.90E-05	0	1.878017	-1.593726	0.336379	0.213034	4.758142	212.4461	0	1558
SMIOT	0.000295	4.08E-06	0.10577	-0.160633	0.013947	-1.03627	17.96431	20255.05	0	2130
TVOT	0.000328	0	13.30695	-13.67364	0.49799	-0.731332	507.0577	22549268	0	2130

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4.2 The Stationary Testing

For time series analysis, the data must be stationary to meet the test; otherwise the testing result in this study would be of no meaning in economic terms. ADF test statistic is applied in this study for stationary testing. If the data are stationary, it means there is no problem of unit root. The hypotheses of stationary test will be shown as below.

H0: The variable has unit root.
Ha: The variable has not unit root.

If the ADF test value is greater than all critical values, it means the null hypothesis will be accepted. In contrast, if the ADF test value is less than all critical values, it means that the null hypothesis will be rejected.

Table 3: Summary of Original Data Stationary Testing

Variables	t-Statistic	Critical Value at 1% level	Critical Value at 5% level	Critical Value at 10% level	Result
CNY/IDR	0.466507	-3.433225	-2.862696	-2.567432	Non-stationary
CNY/MYR	-1.067127	-3.43325	-2.862708	-2.567438	Non-stationary
CNY/PHP	-1.275886	-3.433224	-2.862696	-2.56743	Non-stationary
CNY/SGD	-2.546436	-3.433233	-2.8627	-2.567433	Non-stationary
CNY/THB	-1.570955	-3.433259	-2.86271	-2.567439	Non-stationary
SMIOI	-1.121506	-3.43324	-2.862704	-2.567435	Non-stationary
TVOI	-5.084256	-3.433256	-2.8627	-2.567439	Stationary
SMIOM	-0.53091	-3.433224	-2.862696	-2.56743	Non-stationary
TVOM	-4.436872	-3.433243	-2.862704	-2.567436	Stationary
SMIOTP	-0.6533	-3.433248	-2.862707	-2.567437	Non-stationary
TVOTP	-7.040758	-3.433237	-2.86270	-2.567434	Stationary
SMIOS	-2.123848	-3.433247	-2.862706	-2.567435	Non-stationary
TVOS	-5.37092	-3.434376	-2.863205	-2.567705	Stationary
SMIOT	-0.58274	-3.433223	-2.862695	-2.56743	Non-stationary
TVOT	-3.827379	-3.43324	-2.862708	-2.567435	Stationary

In table 3, it shows that most data contain unit roots, which mean non-stationary, as the relevant t-statistic value is greater than critical value. The next step is to transfer the data which are non-stationary to be stationary by using first difference of log, it means that the percentage change in variable from period to period. The modified data will show as below like table 4.

Table 4: Summary of Modified Data Stationary Testing

Variables	t-Statistic	Critical Value at 1% level	Critical Value at 5% level	Critical Value at 10% level	Result
CNY/IDR	-10.5692	-3.433244	-2.862705	-2.567436	Stationary
CNY/MYR	-9.072518	-3.43326	-2.862712	-2.56744	Stationary
CNY/PHP	-9.545465	-3.433253	-2.862709	-2.567438	Stationary
CNY/SGD	-10.63843	-3.43325	-2.862708	-2.567438	Stationary
CNY/THB	-9.073734	-3.43326	-2.862712	-2.56744	Stationary
SMIOI	-11.76886	-3.433243	-2.862704	-2.567436	Stationary
TVOI	-12.69173	-3.433256	-2.8627	-2.567439	Stationary
SMIOM	-40.97753	-3.433224	-2.862696	-2.56743	Stationary
TVOM	-17.79256	-3.433243	-2.862704	-2.567436	Stationary
SMIOTP	-22.42128	-3.43323	-2.862698	-2.567436	Stationary
TVOTP	-17.36325	-3.433243	-2.862704	-2.567436	Stationary
SMIOS	-9.838932	-3.433247	-2.862706	-2.567437	Stationary
TVOS	-12.35265	-3.434398	-2.863213	-2.567709	Stationary
SMIOT	-10.19733	-3.433246	-2.862705	-2.567436	Stationary
TVOT	-15.0759	-3.433254	-2.862709	-2.567438	Stationary

Table 4 shows that all selected data of each variable are stationary, because t-statistic values are less than all critical values. All variables have no unit root.

4.3 Granger Causality Testing

In this process, all the hypotheses are measured from Lag1 to Lag6 under Granger Causality Test model. The purpose of this study is to find and analyze the significant long-run relationship between the value of Chinese Yuan and stock market return in five countries of The Association of Southeast Asian Nations (Indonesia, Malaysia, the Philippines, Singapore and Thailand) from 2005-2013. There are one dependent variable and ten independent variables to be analyzed. In total, there are 2131 observations for all the sample data except one variable (trading volume of stock market in Singapore) with 1559 observations set in this study, and all these data are tested for examining the 40 hypotheses stated in chapter 3. The hypotheses test result are confirmed from the Granger causality test model, that null hypothesis can be rejected if p-value is less than 10% significant level. In contrast, null hypotheses fail to reject when p-value is greater or equal to 10% significant level.

Table 5: The Compared Results of Hypotheses Testing

Hypotheses	Result	
	First period	Second period
Stock market index of Indonesia does not have a significant long-run relationship with (granger causality) value of Chinese yuan under Indonesian currency.	Reject	Reject
Value of Chinese yuan under Indonesian currency does not have a significant long-run relationship with (granger causality) stock market index of Indonesia.	Fail to reject	Reject
Trading volume of Indonesia stock does not have a significant long-run relationship with (granger causality) value of Chinese yuan under Indonesian currency.	Reject	Reject
Value of Chinese yuan under Indonesian currency does not have a significant long-run relationship with (granger causality) trading volume of Indonesia stock.	Reject	Fail to reject
Stock market index of Malaysia does not have a significant long-run relationship with (granger causality) value of Chinese yuan under Malaysian currency.	Reject	Reject
Value of Chinese yuan under Malaysian currency does not have a significant long-run relationship with (granger causality) stock market index of Malaysia.	Fail to reject	Reject
Trading volume of Malaysia stock does not have a significant long-run relationship with (granger causality) value of Chinese yuan under Malaysian currency.	Fail to reject	Reject
Value of Chinese yuan under Malaysian currency does not have a significant long-run relationship with (granger causality) trading volume of Malaysia stock.	Fail to reject	Reject
Stock market index of the Philippines does not have a significant long-run relationship with (granger causality) value of Chinese yuan under Philippine currency.	Reject	Reject
Value of Chinese yuan under the Philippine currency does not have a significant long-run relationship with (granger causality) stock market index of Philippines.	Reject	Fail to reject
Trading volume of the Philippine stock does not have a significant long-run relationship with (granger causality) value of Chinese yuan under the Philippine currency.	Fail to reject	Reject
Value of Chinese yuan under the Philippine currency does not have a significant long-run relationship with (granger causality) trading volume of the Philippines stock.	Reject	Reject
Stock market index of Singapore does not have a significant long-run relationship with (granger causality) value of Chinese yuan under Singaporean currency.	Reject	Reject
Value of Chinese yuan under Singaporean currency does not have a significant long-run relationship with (granger causality) stock market index of Singapore.	Reject	Reject
Trading volume of Singapore stock does not have a significant long-run relationship with (granger causality) value of Chinese yuan under Singaporean currency.	Reject	Reject
Value of Chinese yuan under Singaporean currency does not have a significant long-run relationship with (granger causality) trading volume of Singapore stock.	Fail to reject	Fail to reject
Stock market index of Thailand does not have a significant long-run relationship with (granger causality) value of Chinese yuan under Thailand`s currency.	Reject	Reject
Value of Chinese yuan under Thailand`s currency does not have a significant long-run relationship with (granger causality) stock market index of Thailand.	Reject	Fail to reject
Trading volume of Thailand stock does not have a significant long-run relationship with (granger causality) value of Chinese yuan under Thailand`s currency.	Fail to reject	Reject
Value of Chinese yuan under Thailand`s currency does not have a significant long-run relationship with (granger causality) trading volume of Thailand stock.	Fail to reject	Fail to reject

5. Conclusion and discussion

5.1 Conclusion

The global integration of the world economy is deepening; profound changes have taken place in the international financial field. One of the most prominent performances is the exchange rate volatility changing frequently. The frequent fluctuation of exchange rate not only makes people working in the financial sector face more and more uncertainty, but also makes people engaged in daily production activities facing huge risk. At the same time, people want to be able to accurately predict the exchange rate movements, so that they can take corresponding measures to deal with exchange rate volatility ahead of time.

The main purpose of this study is to find if there is long-run relationship between the value of Chinese Yuan and stock market return in five countries of The Association of Southeast Asian Nations (Indonesia, Malaysia, the Philippines, Singapore and Thailand). Data used in this study are daily data from the period of November 2005 to December 2013. Total daily data are 2131 or equal to 2130 returns of observations. The Granger causality model is used to test the long-run relationship between selected variables. The result shows the stock market index can affect the exchange rate between China and each country. That means the exchange rate between China and each country can be forecasted by the movement of stock market index. But the trading volume of the stock market is not a good indicator to predict the movement of the exchange rate between China and each country; the results which related to the trading volume are different in terms of different country and in different period.

5.2 Discussion

From the result of the null-hypotheses of Indonesia, during Nov 2005 to Dec 2008, the stock market index has an impact on the exchange rate between China and Indonesia. But the movement of the exchange rate between China and Indonesia cannot affect the stock market index; the trading volume of Indonesia stock market and the exchange rate between China and Indonesia can affect each other in this period. From Dec 2008 – Dec 2013, the stock market index and the exchange rate between China and Indonesia can affect each other; the trading volume has impact on the exchange rate between China and Indonesia, but the exchange rate between China and Indonesia cannot affect the trading volume of the stock market in Indonesia.

From the result of the null-hypotheses of Malaysia, during Nov 2005 – Apr 2009, only stock market index can affect the exchange rate between China and Malaysia. During Apr 2009 – Dec 2013, the stock market index and the exchange rate between China and Malaysia can affect each other; the trading volume and the exchange rate also can affect each other.

From the result of the null-hypotheses of the Philippines, during Nov 2005 – Nov 2008, stock market index and exchange rate between China and the Philippines can affect each other; the exchange rate has impact on the trading volume but the trading volume cannot affect the exchange rate between China and the Philippines. During Nov 2008 – Dec 2013, the stock market index has impact on the exchange rate between China and the Philippines but the exchange rate between China and the Philippines cannot affect the stock market index; the trading volume and the exchange rate between China and the Philippines can affect each other.

From the result of the null-hypotheses of Singapore, during Nov 2005 – Mar 2009, the stock market index and the exchange rate between China and Singapore can affect each other; the trading volume has impact on the exchange rate between China and Singapore but the exchange rate between China and Singapore cannot affect the trading volume. During Mar 2009 – Dec 2013, the stock market index and the exchange rate between China and Singapore can affect each other; the trading volume has impact on the exchange rate between China and Singapore but the exchange rate between China and Singapore cannot affect the trading volume.

From the result of the null-hypotheses of Thailand, during Nov 2005 – Mar 2009, the stock market index and the exchange rate between China and Thailand can affect each other; there is no long-run relationship between the trading volume and the exchange rate between China and Thailand. During Mar 2009 – Dec 2013, the stock market index has an impact on the exchange rate between China and Thailand. But the movement of the exchange rate between China and Thailand cannot affect the stock market index; the trading volume has impact on the exchange rate between China and Thailand but the exchange rate between China and Thailand cannot affect the trading volume.

Because of the different result of each country under the trading volume parts, the trading volume of the stock market cannot be an indicator which can be a measurement of the changing of exchange rate. Also, the exchange rate between China and each country can hardly affect the stock market index. Only one country`s results did not change which is Singapore. But the other four countries which are Indonesia, Malaysia, the Philippines and Thailand all have different results which before and after the crisis. These two periods can also measure as economic recession period and economic recovery period.

From the result of each period of every country, the common point is that the stock market index can affect the exchange rate between China and each country. That means the exchange rate between China and each country can be forecasted by the movement of stock market index. But the trading volume of the stock market is not a good indicator to predict the movement of the exchange rate between China and each country; the results which related to the trading volume are different in terms of different country and different period. Ajayi and Mougoue (1996) pointed that a rising stock market is an indicator of an expanding economy. From the result of this research, the stock market performance is a very important indictor to measure the trend of the exchange rate. Granger, Huang and Yang's (2000) research further indicate that those two markets (stock market and exchange market) have an impact on each other. Parts result of this study has proved this point.

5.3 Limations and Future Researches

This study only focused on the relationship between exchange rate and stock market return. It could also be applied to find some other variables which also related to the exchange rate. Future studies can also apply variables such as interest rate and inflation.

This study only selected five countries from ASEAN, which are Indonesia, Malaysia, the Philippine, Singapore and Thailand. The other members which are Brunei, Cambodia, Laos, Myanmar (Burma) and Vietnam can also be applied in future studies.

Future studies also can focus on different time periods, or they can be done by several time periods according to the economic cycle, such as during the economic recession, or during the economic recovery. It will provide different results by analyzing different economic periods

This study only use the Granger causality model as the tool for analysis, future studies can apply other models.

5.4 Recommendation

From intuitional stock market performance, investor can easier analyze the cost of investment and hedge the risk. Since Chinese economic growth rate has become lower consistently and the investment environment has become worse, the investors in the country may consider switching investment outside of China. At the same time, the economies of the ASEAN member countries look attractive and have bright future from the time of its formation. Thus, it is more wise for the inventors of China to invest their fund in some ASEAN countries.

This research can give beneficial information to the investors who are from China. With the investigation result of this study, it will provide clear information of the relationship between the value of Chinese currency under five ASEAN countries` currency and the stock market performance of those ASEAN countries. This study is helpful to investors of China to observe and realize how these two variables affect each other, which in turn would guide them on making wise choices.

However, since it will be a huge project for the prospective investors, information in terms of the relationship between the value of Chinese currency and influential ASEAN countries` currency and the stock market performance of those ASEAN countries would be definitely useful and timely.

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