"ASIAN EMERGING ECONOMIES AND UNITED STATES OF AMERICA: DO THEY OFFER A DIVERSIFICATION BENEFIT?"

Preeti Sharma
Assistant Professor, Dept. of Management,
Sriram Institute of Management and Technology, Greater Noida, U.P., India.
Email: Sharmaa.preeti@gmail.com

ABSTRACT

With the emergence of new capital markets and liberalization of stock markets in recent years, there has been an increase in investors' interest in international diversification. This is so because international diversification allows investors to have a larger basket of foreign securities to choose from as part of their portfolio assets, so as to enhance the reward-to-volatility ratio. This paper, thus, studies the issue of co-movement between Asian emerging stock markets and developed economies using the concept of co-integration. Furthermore, it has been observed that there has been increasing interdependence between most of the developed and emerging markets since the 1987 Stock Market Crash. This interdependence intensified after the 1997 Asian Financial Crisis. With this phenomenon of increasing co-movement between developed and emerging stock markets, the benefits of international diversification become limited. We have seen that stock markets behavior is random. Several researches have shown that stock markets moves in random and does not affected by any fundamentals. Some authors describe that global sentiments and fundamentals does not prove fruitful in studying the movement of stock markets. Several investment bankers and speculators daily predict the stock market movements of one economy on the basis of stock market movements of another economy. Researches have been conducted with the purpose of finding out the potential for investors to gain from investments in different economies. The paper analyzes the interdependence (if any) of developing or emerging Asian economies and United States of America. And, thus these trends can help the investors to diversify their portfolios. This study is conducted with the objective of finding out the potential for diversification in selected Asian countries and United States of America by studying correlations in the index returns.

Keywords: *Asian Emerging Markets, Diversification, Stock Market*

INTRODUCTION

In a globalize era action of one economy has and impact on the financial market of other economy. The markets for goods and services have become increasingly internationalized through the various trade production measures initiated by most countries, migration of labour and the Trans location of production and distribution operations in the other countries. Similarly, the markets for common stocks have become increasingly internationalized. Institutional and individual investors have started resorting to diversification of their investments in stocks of other countries to enhance returns. The increased availability of GDRs and ADRs has made it easier for investors to trade international stocks in their own time and in their own currency and through their normal settlement and clearance institutions. The prices of stocks on markets around the world do not move together synchronously because the economic systems in which those markets are located have dissimilar environments in terms of taxation, Industrial growth, Political stability, Monetary Policy and other factors. Low levels of co-movement of stock prices offer investors the benefit of diversifying their holdings across the markets of countries. That is, investors who allocate some of their portfolio to share from other countries can increase the portfolio's expected return with no increase in risk. This benefit of international diversification has led many investors to allocate some of their wealth to foreign markets and shares of foreign firms.

The purpose of this research work is to compare the Indians market with the emerging markets of the world, in terms of co variability. It has become important to study the foreign market along with Indian market due to globalization and also the markets are evaluated on the basis of international standards. Markets are integrated to a large extent. Most of the times, movements in one market spillovers to other markets of the world. In India, year 1992, was the most volatile year. This was because of the securities scam. After 1992, 1999 was the most volatile year followed by the year 2000. Although, in recent times the level of volatility has reduced even

though it is very high in comparison to the developed markets. In most of the emerging markets returns are low and volatility is high. Amongst emerging markets except India and china, all other countries exhibited low returns (sometimes negative returns with high volatility).

We have seen that stock markets behavior is random. Several researches have shown that stock markets moves in random and does not affected by any fundamentals. Some authors describe that global sentiments and fundamentals does not prove fruitful in studying the movement of stock markets. Researches have been conducted with the purpose of finding out the potential for investors to gain from investments in different economies. The study analyzes the interdependence (if any) of developing or emerging Asian economies and United States of America. And, thus these trends can help the investors to diversify their portfolios. Hence, the null hypothesis of the study is there is no significant degree of correlation in the stock markets of selected Asian emerging economies and United States of America.

METHODOLOGICAL STANCE AND RESEARCH METHODS PROPOSED

The study is conducted for the period of six years, spans from 1st January 2002 to 31st December, 2007. The political and economic scene across the globe witnessed marked changes during this period. This period is sufficient to examine the co variability because this period covers all the major events, such as depression, recession, boom, political turmoil's, coalition government, full convertibility of currency, passing of right to information Act, etc. Second generation reforms are also made during this period. The study period is chosen taking al these factors into consideration.

Six years weekly data of 8 Asian Stock Markets and United states of America is used for the research which is collected from secondary sources. These countries are selected randomly and are among top ten Asian countries on the basis of market capitalization.

LITERATURE REVIEW

Solnik(1987) employing regression analysis on monthly data for eight industrialized countries from 1979-83 found a weak but positive relation between real domestic stock returns and real exchange rate movements. **Taylor,** M.P (1988) studied the impact of the abolition of UK exchange control on the degree of integration of UK and overseas stock market such as West Germany Netherlands, Japan and US by employing the Grangers Causality and Engel Granger Co integration test over the two sub periods spanning from April 1973 to september 1979 and Oct.1979 to June 1986 respectively, the study concluded, there has no significant increase in the correlation of stock market returns as a result of the abolition of exchange control. Co integration test confirmed that the UK and foreign (non UK) stock market indices were co integrated in post 1979 period but not before that.

Ma and Kao (1990) using monthly data from 1973 to 1983 on six major industrialized countries and found that domestic currency appreciation negatively affects the domestic stock price movements for an export dominant economy and positively affects an import dominate economy.

Jorion (1990) found a moderate relationship between the rate of return in US multinational firmas common stock and the rate of change in a trade weighted value of US solar over 1971 to 1987.

Chung (1990) examined empirically how price limit affects price volatility in Korean stock market and found the direction and extent of it. In addition to this, it investigates how the price limit system affects the relation between the trading activity and volatility. Daily returns of 81 sample firms were used in the equality test among the volatility of the different price level. The results of the study showed that the volatility of KSE was about 2.4 higher than that of the NYSE, which did not adopt price limits. There is no evidence that the respective price limits decrease volatility. The study shows that the positive relation exists between market volatility and the growth rate of trading volume, even though the relation seems to be significantly diluted by price limits.

Mohsen Bahmani OS Kooee and Ahmad Sohrabian (1992) analyzed the long run relationship between stock prices and exchange rates using co integration as well as the casual relationship between the two by using Granger Causality test and concluded that there is a dual causal relationship between the stock process and effective exchange rate, at least in the short run.

Libly Rittenberg (1993) employed the Granger Causality test of examine the relationship between exchange rate changes and stock price level changes in the context of Turkey. Since causality tests are sensitive to lag selection m therefore they employed three different specific methods for optimal lag selection i.e., an arbitrarily selected, Hsiao method (1979), and the SMART or subset model auto regression method of Kunst of Martin

(1989). In all cases, he found that causality runs from price level change to exchange rate changes but there is no feedback causality from exchange rate to price level changes.

Ajayim A and Mougoue (1996) made an attempt to examine the intertemporal relation between stock indices and exchange rate for a sample of eight advanced countries during the period 1985 to 1991. By applying co integration and causality test on daily closing stock market indices and exchange rate, the study found (i) an increase in aggregate domestic stock price has a negative short run effect on domestic currency values, (ii) sustained increase in domestic stock price will induce domestic currency appreciation in the long run (iii) currency depreciation has negative short run and long run effects on the stock market.

Ajayi and mongone (1996) using daily data for eight countries, show significant interactions between foreign exchange and stock markets, Hooi, Lee and Roy (2001) have tested th relationship between real stock returns, inflation and real economics activity for Malaysia. The results are consistent with fama's hypothesis (fama 1981) that the negative relations between stock returns and inflation are proving for positive relations between stock returns and real variables, which are more fundamental determinants of equity values.

Qiao, YU (1997) employed daily stock price indices and spot exchange rates obtained from the financial markets of Hong Kong, Tokyo and Singapore over the period from Jan.3,1983 to June 15,1994 to examine the possible interaction between these financial variables. Based on Granger Causality test, his result found that the changes in stock prices are caused by changes in exchange rates in Tokyo and Hong Kong markets. However, no such causation found for the Singapore market. On the reverse causality from stock prices to exchanges rates, his results show such causation for only Tokyo market. Therefore for Tokyo market there is bi-directional causal relationship between stock returns and changes in exchange rates. The study also used Vector Auto Regression (VAR) model to analyze a long run stable relationship between stock process and exchange rates in the above Asian financial market. His results found a strong long run stable relationship between stock prices abs exchange rate on levels for all these markets.

Jorion (1998) attempted to analyze and compare the empirical distribution of returns in the stock market and in the foreign exchange market by using the maximum likelihood estimation procedure and ARCH model in daily data of exchange rates and stock returns spanning from June 1973 to Dec.1985. The study found that exchange rates display significant jump components, which are more manifest than in the stock market. The statistical analysis of the study for the foreign exchange market and stock market suggests that there are important differences in the structure of these markets.

Ong, L.L and Izan H, Y (1999) employed Nonlinear Least Square method to examine the association between stock prices and exchange rates. The found that US share price returns fully reflect information conveyed by movements in both Japanese yen and the French Franc after four weeks. However this result suggests a very weak relationship between the US equity market and exchange rate. They concluded that depreciation in a country's currency would cause its share market returns to rise, while and appreciation would have the opposite effect.

Raju and Ghosh (2004) studied daily average returns and daily volatility across markets varying over time and space. The study found that some countries like US provide as high as 0.04 percentage return while some of the emerging markets such as Indonesia recorded negative returns of 0.01 percentage. According to them, India is a bright spot. In the sample period Indian investors could obtain as high as 0.04 percentage return with a moderate volatility of 1.89 percent. It was interesting to note that the countries such as UK, France, Germany and Australia provided low return and high volatility (as compared to the US). The returns on portfolio of stocks (index) are more or less normally distributed. The study concluded that the emerging market countries like Indonesia, Brazil, and South Korea exhibited high intra-day volatility. Among these countries, Brazil had higher intra-day volatility. Compared to emerging market and some of the developed markets- India experienced low intra-day volatility**.**

Ramaprasad Bhar and Shigeyuki Hamori (2006) studied the relationship between Japanese and Asian emerging equity markets. This study analyses the stock return characteristics for Japan and Asian emerging markets using monthly return to capture the changes in mean-variance in a two state framework. An unobserved Markov process drives the evolution of the states. The approach allows both the mean and the variance to depend on the unobserved states and the model is estimated in one step. The propensity of any market to stay in a particular state is inferred from the estimated model parameters. The study then extends the analysis by examining two

statistical techniques i.e. the causality in variance by Cheung and Ng (1996) and the concordance measure developed by Harding and Pagan (1999).

Teresiene, Aarma and Dubauskas (2008) studied the relationship between stock market and macroeconomic volatility. This study analyzes the impact of macroeconomic variables on stock market volatility. The main variables selected for analysis are inflation and interest rates. For analysis impact of inflation CPI and PPI were used.

RESEARCH METHODOLOGY

The proposed study titled "Dynamic Relationship between Asian Emerging Markets and United States of America" is being conducted to examine the co variability of returns in emerging markets. This study is of descriptive nature. For the purpose of the study data will be collected from secondary sources.

RESEARCH OBJECTIVE:

- To bring out the potential for diversification in selected Asian countries and United States by studying correlations in the index returns
- Studying the impact of US stock market on Asian stock markets.

HYPOTHESES

The following hypothesis is tested in this study:

Ho: There is no significant degree of correlation in selected Asian emerging markets and United states.

Period for the study spans from 1st Jan, 2002 to 31st December, 2007. The political and economic scene across the globe witnessed marked changes during this period. This period is sufficient to examine the co variability because this period covers all the major events, such as depression, recession, boom, political turnmoils, coalition government, full convertibility of currency, passing of right to information Act, etc. Second generation reforms are also made during this period. The study period is chosen taking al these factors into consideration.

The proposed study will be based on the study of Indian market as well as on the emerging markets. So, representative emerging markets of Asia will be selected for the purpose of this study. Study comprises following Asian emerging countries in its sample:

1. India
2. china
3. Japan
4. Malaysia
5. South Korea
6. Philippines
7. Singapore
8. Hong Kong
9. United States of America

Seven year weekly data of 8 Asian Stock Markets is used for the research which is collected from secondary sources. These are as follows:

Table 1: Index used for study

S.No.	Country	Index
1.	India	BSE 30
2.	Japan	NIKKEI 225
3.	Hong Kong	HANG SENG
4.	China	SSE COMPOSITE
5.	South Korea	KOSPI INDEX
6.	Singapore	STRITS TIMES
7.	Malaysia	KUALA LUMPUR COMP.
8.	Philippines	PESI-PHILIPPINES
9.	United States of America	Dow Jones Industrial Av.

The proposed study titled "Dynamic Relationship between Asian Emerging Markets and United States of America" is being conducted to examine the co variability of returns in emerging markets. This study is of **descriptive nature.** For the purpose of the study data will be collected from **secondary sources.** The study covers the period of six years because this period covers all major events that took place in the economies. Various statistical tools have been employed to measure and compare the returns.
Data is collected from the web sites of indexes. And other related sites are also used for the collection of the data.

In total eight countries of Asia is considered for the present study. These countries are selected randomly and are among top ten Asian countries on the basis of market capitalization. Data used for the study is collected from secondary (internet).
For the analysis of the data different methods such as bivariate correlation, average mean and regression analysis is used as major tools are used.
For the convenience of the readers results have been shown by graphs and Tables wherever needed. The details of data analysis are provided in the next chapter.

CORRLATION ANALYSIS
Correlation is the statistical tool used to measure the degree of relationship between different variables. When the values of one variable are associated with or influenced by other variable, karl peareson's coefficient of correlation can be use as a measure of linear relationship between them. As the study is aimed at finding relationship between different emerging Asian markets, therefore bivariate correlation is used to analyze the extent to which each country's stock market is related with another.

By looking at table 1-2, following results can be concluded:
Among the selected sample, highest positive degree of correlation is founded between United States of America and Singapore (.957) followed by Philippines (.968). Correlation South Korea, India and Japan are also very positive ranging above .9 degree.

China is least positively correlated with United States of America as its degree of correlation is found to be .663. No Asian economy' stock market is having negative correlation with United States of America.

Among the selected Asian markets, highest positive degree of correlation is founded between Singapore and Philippines (.992) followed by Singapore and Malaysia (.979).

Table 2-1 Correlations

		India	Malaysia	South Korea	Japan	Philippines
India	Pearson Correlation	1	.941(**)	.971(**)	.903(**)	.969(**)
	Sig. (2-tailed)	.	.000	.000	.000	.000
	N	314	312	313	312	313
Malaysia	Pearson Correlation	.941(**)	1	.930(**)	.849(**)	.976(**)
	Sig. (2-tailed)	.000	.	.000	.000	.000
	N	312	312	312	312	312
South Korea	Pearson Correlation	.971(**)	.930(**)	1	.917(**)	.959(**)
	Sig. (2-tailed)	.000	.000	.	.000	.000
	N	313	312	313	312	313
Japan	Pearson Correlation	.903(**)	.849(**)	.917(**)	1	.894(**)
	Sig. (2-tailed)	.000	.000	.000	.	.000
	N	312	312	312	312	312
Philippines	Pearson Correlation	.969(**)	.976(**)	.959(**)	.894(**)	1
	Sig. (2-tailed)	.000	.000	.000	.000	.
	N	313	312	313	312	313
USA	Pearson Correlation	.948(**)	.939(**)	.956(**)	.945(**)	.968(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000
	N	314	312	313	312	313

Singapore	Pearson Correlation	.965(**)	.979(**)	.969(**)	.908(**)	.992(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000
	N	314	312	313	312	313
China	Pearson Correlation	.770(**)	.820(**)	.764(**)	.546(**)	.783(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000
	N	314	312	313	312	313
Hong Kong	Pearson Correlation	.973(**)	.958(**)	.959(**)	.849(**)	.965(**)
	Sig. (2-tailed)	.000	.000	.000	.000	.000
	N	310	310	310	310	310

** Correlation is significant at the 0.01 level (2-tailed).

Table 2-2 Correlations

		USA	Singapore	China	Hong Kong
India	Pearson Correlation	.948(**)	.965(**)	.770(**)	.973(**)
	Sig. (2-tailed)	.000	.000	.000	.000
	N	314	314	314	310
Malaysia	Pearson Correlation	.939(**)	.979(**)	.820(**)	.958(**)
	Sig. (2-tailed)	.000	.000	.000	.000
	N	312	312	312	310
South Korea	Pearson Correlation	.956(**)	.969(**)	.764(**)	.959(**)
	Sig. (2-tailed)	.000	.000	.000	.000
	N	313	313	313	310
Japan	Pearson Correlation	.945(**)	.908(**)	.546(**)	.849(**)
	Sig. (2-tailed)	.000	.000	.000	.000
	N	312	312	312	310
Philippines	Pearson Correlation	.968(**)	.992(**)	.783(**)	.965(**)
	Sig. (2-tailed)	.000	.000	.000	.000
	N	313	313	313	310
USA	Pearson Correlation	1	.976(**)	.663(**)	.932(**)
	Sig. (2-tailed)	.	.000	.000	.000
	N	314	314	314	310
Singapore	Pearson Correlation	.976(**)	1	.778(**)	.969(**)
	Sig. (2-tailed)	.000	.	.000	.000
	N	314	314	314	310
China	Pearson Correlation	.663(**)	.778(**)	1	.819(**)
	Sig. (2-tailed)	.000	.000	.	.000
	N	314	314	314	310
Hong Kong	Pearson Correlation	.932(**)	.969(**)	.819(**)	1
	Sig. (2-tailed)	.000	.000	.000	.
	N	310	310	310	310

** Correlation is significant at the 0.01 level (2-tailed).

Table 3 Descriptive Statistics

	N	Minimum	Maximum	Mean
India	314	2875.53	20686.89	7894.4928
Hongkong	310	8409.01	30468.34	14554.1962
Malaysia	312	618.37	1466.67	908.9055
China	314	1013.64	5903.26	1928.4973
Southkorea	313	537.65	2028.06	1069.2327
Singapore	314	1226.15	3857.25	2199.7495
Japan	312	7699.50	18238.95	12704.6983
Phillipines	313	1000.78	3824.20	1965.9023
USA	314	2169.92	4685.10	3337.9650

Major Findings and Conclusions

Study has founded significant relationship between emerging Asian markets and United States at .01 significance level and hence hypothesis (Ho 1: There is no significant degree of correlation in selected Asian emerging markets) is rejected. Following are the major findings of the study:

Relationship of stock markets of United States of America with Asian economies:

Among the selected Asian markets, highest positive degree of correlation is founded between United States of America and Singapore (.957) followed by Phillipines (.968). Correlation South Korea, India and Japan are also very positive ranging above .9 degree.

China is least positively correlated with United States of America as its degree of correlation is found to be .663. No Asian economy' stock market is having negative correlation with United States of America.

Relationship between stock markets of Asian emerging economies:

Among the selected Asian markets, highest positive degree of correlation is founded between Singapore and Philippines (.992) followed by Singapore and Malaysia (.979). Correlation between Philippines and Malaysia is also very positive i.e. .976. This signifies that Singapore, Philippines and Malaysia are the economies whose stock markets usually moves in tandem.

So an investor can think of diversifying its portfolio by undertaking the investment in any one of the above three economies i.e. Philippines, Malaysia and South Korea. Also, an investor is investing in any of the three economies can earn very near returns as of the returns of other two stock market.

Countries having least correlation among the sample are Japan and china (.546) followed by United States of America and China (.663). The correlation among other Asian economies is: South Korea and China (.764), India and china (.770), Malaysia and china (.820).

The study found that China is least positively correlated economy in the sample. South Korea, India and Singapore are the highly positively correlated economies in the sample. None of the Asian economy's stock markets is having negative correlation.

As study is conducted for a long period, therefore investors can take the benefit of diversification in long periods. Hence, investors can take the advantages of diversification by investing in countries having high degree of negative correlation with their home country. At the same time they can take the benefits of investment in those countries which have high restriction for entry of foreign investors or having very high transaction costs by investing in highly positive country vis a vis the restrictive country.

But as the economies are undergoing through different reforms and fundamentals keep on changing therefore due care should be taken while taking investment decisions. This study alone should not be taken as the basis of selection of stock market.

BIBLIOGRAPHY

1. Aggarwal, Reena, Inclan, Carla and Leal, Ricardo (2005), "Volatility in Emerging Stock Markets". Sources: www.google.com
2. Amihud, Y and Mendleson, H (1987), "Trading Mechanisms and Stock Return: An Empirical Investigation", *The journal of Finance, XLII(3),* 533-55
3. Campbell, Sean D. (2005), "Stock Market Volatility and Great Moderation", Finance and Economic Discussion Series.
4. Chung, J.R., (1990), "Price Limit System and Volatility of Korean Stock Market", *Pacific Basin Capital Markets Research, 2,* 283-90.
5. French, K.R. and Roll, R. (1986), "Stock Return Variance-The Arrival of Information and Reaction of Traders", *Journal of Financial Economics, (17).*
6. Ho, Y.K. and Cheung, Y (1984)," Seasonal Pattern In Volatility In Asian Stock Market", *Applied Finance Economics, 4,* 61-67.
7. Jones, Charles P., Walkar, Mark and Wilson, Jack W. (2004), "Analyzing Stock Market Volatility Using Extreme-day Measures", The journal of Finance Research, *XXVII(4),* 585-601.
8. Raju, M.T. and Ghosh, Anirban (2004), "Stock Market Volatility-An International Comparison", Securities and Exchange Board of India.
9. Reddy, Y.S. (1997-98), "Effects of Microstructures on stock Market Liquidity and Volatility", Prajanan, *XXVI(2),* 217-31.
10. Schewert, W.G (1989A), Margin Requirement and Stock Volatility"' journal of Financial Services Research, December, 153-69.
11. Schewert, W.G (1989b), "Why Does Stock Market Volatility Change Over Time?" the Journal of Finance, *XLIV(5),* 1115-51.
12. Keith K. H. Park, Antoine W. van Agtmael, " The world's emerging stock markets: structure, developments and regulations"

WEBSITES

1. www.tase.com
2. www.nasdaq.net
3. www.tse.com
4. www.sse.com.cn
5. www.krx.co.kr
6. www.klse.com
7. www.jsx.co.id
8. www.pse.co,.pn/
9. www.nseindia.com
10. www.finance.yahoo.com
11. www.infomine.com
12. www.marketvolume.com
13. en.wikipedia.org/wiki/Stock_market
14. www.bullinvestors.com
15. www.britannica.com
16. www.asiamarketresearch.com/
17. www.fidelity-international.com