



Management

IMPACT OF GLOBAL FINANCIAL CRISIS ON JAPAN, CHINA, INDIA AND USA STOCK EXCHANGE AND INTER-LINKAGE BETWEEN THEM



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ABSTRACT

In this paper, we analyzed the impact of financial crisis on different countries by the using of E-GARCH model .our main finding is that in the financial crisis has impact on the stock exchange of different countries. We proved that due to financial crisis most of countries stock exchange have been affected badly. In the world, the American stock exchange was established in 1792. Two dozen brokers were started the stock trading. Now a day, 2,429 companies are listed under this stock exchange. The prime objective of the scholars is to find out the impact of financial crisis on the different stock market. Scholars have proved that financial crisis have always impacted on the financial markets.

Keywords:

Financial Crisis, E-GARCH, Brokers, Financial Markets.

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1. INTRODUCTION

Stock exchange is known as backbone of any country.in this paper, researchers are trying to prove that how financial crisis did impact of stock exchange of different countries. The phenenomen of financial crisis is common in all over the world therefore, not anybody can reject this hypothesis that stock exchange can be affected by financial crisis. Robust of the studies have been observed that there is causal Association between stock market and exchange rate. Exchange rate is crucial element for analysis the performance of the stock exchange. Stock prices have the main tool through which investors can take proper decision about the future investments. For the better investment public must be aware about the stock market prices. It is also act as the risk seeker. There are no of variables, which have influenced on the stock market performance. Exchange rate is such the shock that can block the stock market. Therefore most of the researchers take it for analysis the performance of the stock market. Exchange rate is also affected on the industries production. This thing has proved that there is negative association

between increase exchange rate and stock market .Due to financial crisis exchange rate is affected badly and thus will effect on performance of stock returns.

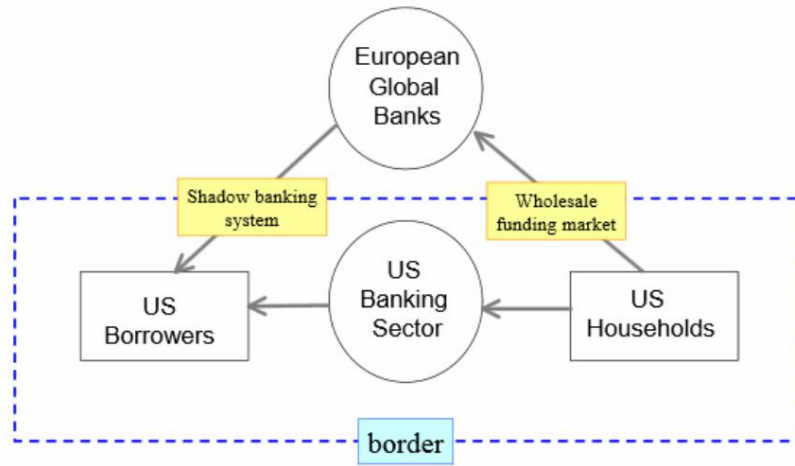


Figure 1. European global banks add intermediation capacity for connecting US savers and borrowers

The cycle of market emotions

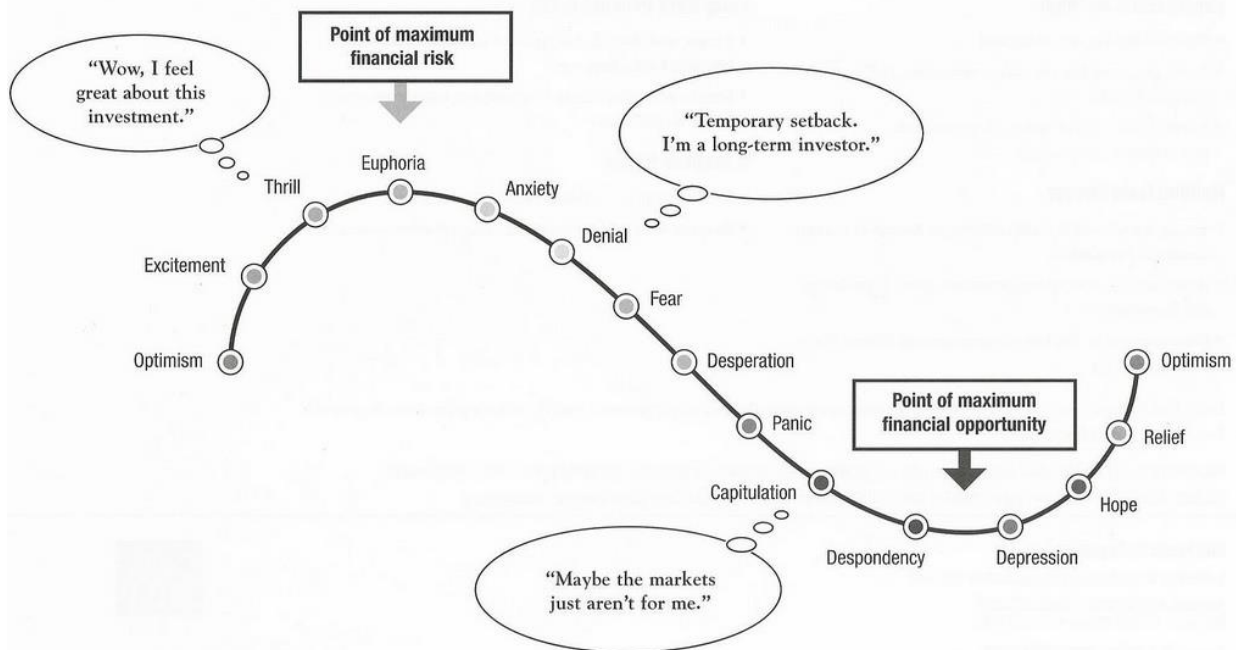


Figure 2:

2. LITERATURE REVIEW

There are three types of volatility which are being significant in this era. Robust of researchers have been study the different models to analysis the influence of financial crisis on the stock

returns. Ke, wang, muray, analyzed the volatility spillover influence between Shanghai stock exchange and different stock market namely, New York, London and Frankfurt and also did comparison between emerging countries and shanghai stock exchange through E-Garch model. Their results have shown that after the financial crisis there is bidirectional influence. This paper is also exploring that before the financial crisis the shanghai stock exchange was B shape and it had influenced on the Japan stock exchange [1].

Kim analyzed the efficiency of different stock markets and financial crisis 1997, impact on the performance of these stock markets. These studies have proved that Hong Kong was badly affected due to financial crisis [2].

Sakthivel, and Kamaiah had analyzed the independency between European and, Asian stock exchange and US market. They utilized the daily data for this purpose and applied the Johansen co integration method. This study is proving that Indian stock market was highly affected due to this financial crisis [3].

Sakthival, BODkhe, and Kamiah, observed the statistical relationship between major stock exchange .For this purpose they have utilized the Vicariate Garth model and found the results that there exist the long run co integration between them. This study is also proving that USA and Japan stock exchange had experienced the external shocks because these both stock exchanges are powerfully united due to their international trade [4].

Royfaizal, Lee, Azali, had analyzed the linkage between ASEAN countries and US stock exchange. They had applied the Granger causality test and found the result that these stock exchanges have linkage with each other [5].

Sigh, analyzed the linkage between Indian and Chinese stock market with developed countries he had utilized the daily data from period of 2000 to 2009 ,he had applied the ECM and granger causality .it is proving that Chinese and Indian stock exchange has correlation with the developed countries stock exchange[5].

Abidin, analyzed the asymmetric volatility in the stock exchange of New Zealand for the period of 2007-2008 .they had applied the E –Garch and T-Garch model and has shown the results that there exist the asymmetric volatility in this stock exchange [6].

Verma and Mahajan, employed the augmented E –Garch model on the stock prices of India .this study is showing that US. Financial dissolving has influenced on the Indian stock exchange [7].

Olowe, studies that volatility of the Nigeria stock returns for this purpose he had utilized the data from periods of 5 Jan 2005 to Jan 10, 2009.He had found that there is exist the high volatility and in the stock market there exists the risk return relationship [8].

3. GAPS IN THE LITERATURE

- 1) In the prior studies had not discussed about the how convergence of the stock markets reruns on the sectoral level.

- 2) If there is convergence then how fast it is?
- 3) What is the impact of financial crisis on the integration of stock market?
- 4) Why China stock exchange has not any special influence and USA stock market affected very roughly.

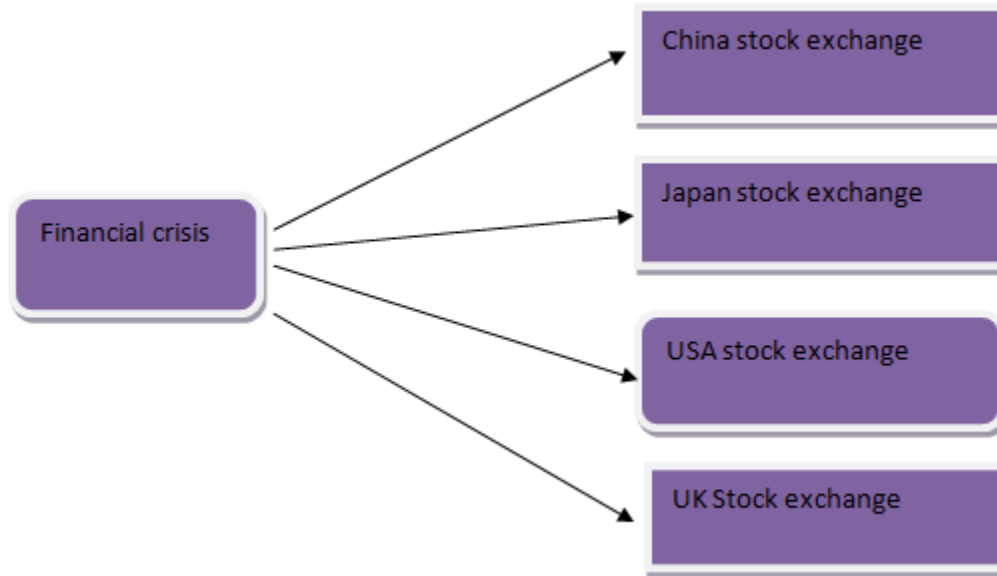


Figure 3:

4. DATA

Our study is based on the daily stock index closing prices of main two developed country and tan Asian emerging markets. The sample period consists of 1662 observations which is taken from Jan 2, 1995 to May, 15 2001. All stock indices are expressed in the shape of local currency and in the form of US dollar. Our source of data is data stream.

CO INTEGRATION ANALYSIS RESULTS

On the base, of Aaike information criterion we have selected the VAR model. In this research we have selected two logs. Diagnostic statistics is showing that residuals are free from autocorrelation problems. We are representation the Trace test results in table 1 and 2 respectively.

Table 1:

	Entire Period (6 th of January, 2006 to 22 nd of April, 2011)	Period 1 (6 th of January, 2006 to 21 st of January, 2008)	Period 2 (22 nd of January, 2008 to 25 th of March, 2009)	Period 3 (26 th of March, 2009 to 22 nd of April, 2011)
Mean	0.000297	0.001196	-0.001124	0.000221
Median	0.000565	0.001657	-0.001028	0.000417

Maximum	0.039234	0.022561	0.039236	0,020321
Minimum	-0.040196	-0.040198	-0.034934	-0.030327
Std.Dev.	0.008533	0.007896	0.011979	0.006527
Skewness	-0.448394	-1.023946	0.180803	-0.729034
Kurtosis	5.649954	6.296178	3.878892	5,287908
Jargue-Bera (Probability)	438.9354 (0.000000)	321.8785 (0.000000)	11.10193 (0.003885)	164.9976 (0.000000)
Observations	1347	514	296	539

Source: Results from Eviews-7

Table 2:

	Entire Period (6th of January, 2006 to 22nd of April, 2011)	Period 1 (6th of January, 2006 to 21st of January, 2008)	Period 2 (22nd of January, 2008 to 25th of March, 2009)	Period 3 (26th of March, 2009 to 22nd of April, 2011)
Mean	0.000233	0.000518	-0.00092	0.000512
Median	0.000543	0.000849	-0.000975	0.000565
Maximum	0.069444	0.028955	0.034313	0.069445
Minimum	-0.050396	-0.033423	-0.050398	-0.026095
Std.Dev.	0.008365	0.007087	0.012234	0.006687
Skewness	0.111931	-0.503934	-0.084916	2.091369
Kurtosis	8.958181	5.711593	3.695188	24.94131
Jargue-Bera (Probability)	1931.551 (0.000000)	176.4365 (0.000000)	6.060206 (0.048312)	10685.12 (0.000000)
Observations	1305	507	285	515

Source: Results from Eviews-7

Table 3: Unit root test

Stock return	SSE composite	BSE-30	Nikkei-225
ADF statistic	-36.69064 (0.0000)	-33.58153 (0.0000)	-37.65206 (0.0000)
ADF (I)	-36.72071 (0.0000)	-33.59568 (0.0000)	-37.65731 (0.0000)
ADF (I&T)	-36.78341 (0.0000)	-33.58375 (0.0000)	-37.64318 (0.0000)

Source: Results from Eviews-7

Unit root test

There is need of statistical adequacy to take the different in the time series. For this purpose we have utilized the unit root test. For checking the stationary of data we applied the ADF test. In the table no 3 and 4 have shown that there is not unit root exist between the time series all the stock return are stationary.

Table 4: Unit root test

Stock return	S&P 500	NYSE
ADF statistic	-30.79142 (0.0000)	-31.07222 (0.0000)
ADF (I)	-31.07223 (0.0000)	-31.06094 (0.0000)
ADF (I&T)	-30.78037 (0.0000)	-31.05638 (0.0000)

Source: Results from Eviews-7

					0.947549	
β (GARCH effect)	0.967108	0.00	0.955135	0.00	(0,0000)	
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International Journal of						No. 1 /
Economic Sciences						2016
T3	0.021457	(0.05)	0.035271	(0.05)	0.065364	(0.00)
t4						
	-0.016905	(0.00)	-0.020861	(0.04)	0.020517	(0.04)
Diagnostic test						
				All	All	
Q-Stat	All insignificant			insignificant	insignificant	
ARCH-LM						
				1,034521		
F-Statistics	0.025269	(0.38)		(0.3093)	0.376789	(0.54)
				1,035289		
N*R2	0.025304	(0.39)		(0.3089)	0.377261	(0.54)
Source: Results from Eviews-7						
Note: Number of Lag determination has been calculated by Akaike						
Information Criterion (AIC). It has been estimated 5% significance						
level.						
	Nikkei-225					

(0.00)	-0.000135	(0.05)						
(0.01)	-0.00095	(0.02)						
0.00	-0.663648	0.00						
0.00	0.139673	0.00						
0.00	-0.169616	0.00						
0.00	0.947548 (0,0000)							
(0.05)	0.065365	(0.00)						
(0.04)	0.020518							
	All insignificant							
All insignificant								
1,034521 (0.3094)	0.376787	(0.55)						
1,0352897(0.3088)	0.377262	(0.55)						

Note: Number of Lag determination has been calculated by Akaike Information Criterion (AIC). It has been estimated 5% significance level.

Table 6: Parameter Estimates of E-GARCH model for S&P 500 and NYSE

Coefficients (Probability)

Variables

	S&P 500	NYSE
μ	0.000148(0.0094)	0.000138 (0,0089)
α_1	-0.001359 (0.0023)	-0.001358 (0,000)

Variance Equation

ω	-0.425422 (0.0000)	-0.433833 (0.0000)
α (ARCH effect)	0.084724 (0.0000)	0.091951 (0.0000)
γ (Leverage effect)	-0.172081 (0.0000)	-0.182682 (0.0000)
β (GARCH effect)	0.968422(0.0000)	0.968531 (0.0000)
σ^2	0.070834 (0.0000)	0.071796 (0.0000)

• 4	0.024494 (0.0000)	0.023182 (0.0000)
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Diagnostic test

Q-Stat	All insignificant	All insignificant
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ARCH-LM

F-Statistics	8.529254 (0.0037)	8.770444 (0.0032)
N*R2	8.487652(0.0033)	8.726096 (0.0036)

Source: Results from Eviews-7

5. SUGGESTION

- 1) There should be proper integration of different Asian stock market with global stock market.
- 2) There is needed to make policy makers for this purpose.
- 3) USA stock exchange should do work against the financial crisis.
- 4) Japan also should apply some policies against such type of financial crisis.

6. CONCLUSION

Our results is showing that global financial crisis become the reason of decrease the stock return. Global financial crisis has become the increase the volatility of different Asian countries and volatility of stock prices of USA stock exchange. The result of EARCH model is showing that financial crisis has not more affected on the China s stock exchange as compared to other stock exchange. In the large extent global financial crisis has influences on the USA stock exchange. The results of Granger causality are showing that at the start of financial crisis the USA stock exchange has the bidirectional influenced on the Asian stock exchange. Due to USA stock exchange Japanese stock exchange receives the volatility spillover. Our paper has examined that Chinese stock exchange do not receive the volatility spillover.

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