# Volatility of Stock Markets (an Analysis of South Asian and G8 Countries)

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**Abstract:** The objective of this study is to make an analysis of volatility of stock markets between South Asian Stock Markets and Stock Markets of Group of Eight Countries. This study important for the investors whose want to invest in stock markets. This study helps investors to determine what stock market is more volatile. To make the analysis three South Asian stock markets and Group of Eight countries stock markets are selected. South Asian stock markets indexes include KSE 100 (Pakistan), SENSEX (India), ASPI (Sri Lanka), CAC 40 (France), DAX (Germany), S &P / TSX Composite (Canada), FTSE MIB (Italy), RTS (Russia), Nikkei 225 (Japan), S & P 500 (USA) and FTSE 100 (UK). Data is collected from the period of January 1st 2005 to August 31st 2015. ARCH and GARCH model is used to analyze the volatility of South Asian Stock Markets and stock markets of Group of Eight Countries. The findings show that South Asian Stock Markets are less volatile while Stock Markets of Group of Eight Countries are high volatile. This study is useful for investment institutions and portfolio managers because it focuses on current issues and takes the current data.

**Keywords:** ARCH; GARCH; Heteroscedasticity

**JEL Classification***:* G10; G20

## 1. Introduction

A well-established stock market leads to a strong economy. Stock market is a volatile market. There are many factors affected directly or indirectly by stock market volatility. The most important factors include interest rate, exchange rate etc. When government has changed the monetary policy it leads to change the interest rate which is effects the stock market return. When the interest rates increases, cost of

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borrowing also increases. It directly affects both individual and business. When the interest rate is increases people give preference to invest in saving accounts rather than investing in stock market because stock market is highly risky. On the other hand, high interest rates are also directly affect the business. The cost of borrowing goes up and the business unable to invest more funds which directly affect the business profitability. If the profit decline it also leads to decline the stock prices of the company. Declining in stock prices is not a good sign for stock markets because investors are not attractive to invest in stock markets. When the central bank increases the interest rates, newly extended government securities such as T-Bills and Bonds become more popular among the investors (Corsetti, Meier, & Müller, 2009).

Stock market is a source to facilitate the investors and borrowers. It provides a platform for reallocation of funds in different sectors of the economy. It also helpful for borrowers to take loans on low interest rates as compared to market rates. Now the world has changed into a global village. Countries are trying to cut the barriers in the way of globalization to attain high profit and increase the wealth of shareholders. The objective of globalization is to increase the profitability and decrease the unsystematic risk. World Trade Organization (WTO) takes many steps to promote globalization of financial markets. Globalization helps the investors to diversify their investment and minimize the risk. Stock markets helps to promote globalization.

The main objective of this study is to explore the presence of volatility in stock markets of various countries such as Pakistan, India, Sri Lanka, France, Germany, Russia, Italy, Japan, United Kingdom, Canada and USA. This investigation focus on whole stock markets instead of a few sectors or companies. In this study ARCH and GARCH techniques are used to investigate the volatility of stock markets. This research helps the investors to know that which stock markets are more volatile and which are less and this research also helpful for the investors to know the relationship between South Asian countries and Group of Eight countries.

## 2. Literature Review

Subhani et al (2011) investigated a study on volatility in stock return relating to interest rate and exchange rate. The data of variables interest rate and exchange rate of eight countries was collected by using yahoo finance and Federal Reserve Economic Data. The data was analyzed by applying techniques of ARCH and GARCH. The results show that volatility exists in stock markets relating to interest rate and exchange rate. Moreover, this study assists the investors and decision maker to measuring the value of interest rate and exchange rate of stock markets because directly or indirectly stock market is influenced by interest and exchange rates.

Attari et al (2013) conducted a study on the relationship between macroeconomic volatility and stock markets volatility. The data of variables inflation, gross domestic product and interest rate Pakistan was collected for the period of 1991-2012. The data was analyzed by applying Arch and Augmented dicky fuller test at different level. The result indicates that there is relationship exists between stock markets prices and macroeconomic factors (inflation, gross domestic product and interest rate). Furthermore, Pakistan KSE 100 stock market is more volatile and riskier market, giving more return to investors.

Babar zaheer But (2010) examined a study on economic forces and stock market returns. The data was collected from79 firms related to 09 different industries KSE 100. The data was analyzed by using descriptive statistic, Augmented dicky fuller test Philips perron, regression and Garch. The result indicates that stock market volatility should be varying with passage of time and showing the significant relationship between risk and return. This study suggests the investors to diversify the risk in different markets.

Vuong Thanh Long () conducted a study on the empirical analysis of stock return volatility with regime change on Vietnam. The data was collected from the stock market of Vietnam (VSM). The data was analyzed by applying Arch, Garch and Augmented dicky fuller test at different level. The result shows that that financial liberalization has a negative influence on the volatility of stock return in VSM.

Diebold and Yilmaz (2008) investigated a study on macroeconomic volatility and Stock Market Volatility. The data was collected from broad international cross section of stock markets of forty countries and website of World Bank. The data was analyzed by applying Arch and garch. The result indicates that there exists a clear relationship between macroeconomic variables and stock market volatility.

Nazir et al (2010) conducted a study on the determinant of stock market volatility in Karachi stock market. The data was collected from stock exchange of Pakistan kse 100 and annual reports of company's balance sheet for the period 2003-2008. The data was analyzed by using payout ratio, earning volatility and leverage. The results show that dividend policy has a strong significant relationship with the stock price volatility in KSE.

Kalu o and okwuchukwu (2014) conducted a study on of stock market volatility in Nigeria market. The data was collected from stock exchange of Nigeria STOCK market NSE for the period 2000 to 2013 taking monthly values. The data was analyzed by using descriptive statistic, Augmented dicky fuller test Philips perron and garch-x model. The results show that NSE return volatility is positively affected US dollar and negative broad money changes.

OSENI and NWOSA (2011) conducted a study on of stock market volatility and macroeconomic variables in Nigeria market. The data was collected from stock

exchange of Nigeria STOCK market NSE for the period 1996- to 2010. The data was analyzed by using techniques of E-GARCH AND LA-VAR. The results show that a bi-causal relationship exists between stock market volatility and real GDP volatility; and there is no causal relationship between stock market volatility and the volatility in interest rate and inflation rate.

Farid and Ashraf (1995) conducted a study on volatility of KARACHI stock market. The data was collected from stock exchange of Pakistan kse 100. The data was analyzed by using model of Geometric Brownian Motion. The results show that fall and rising of prices has a significant relationship with the stock price volatility in KSE. Their study was helpful for the investors in case of decision making.

Qayyyum and Kemal (2006) conducted a study on volatility different stock market with foreign markets. The data was collected from Karachi stock exchange and Karachi bank for the period 1998-2006. The data was analyzed by applying technique of E-GARCH and volatility spillover model. The results show that the domestic and foreign stock markets are directly depend upon each other, if one market show fall in prices then it also effects other markets volatility. Further their study concluded that there exists no long run relationship exist these markets.

Hameed and Ashraf (2006) conducted a study on stock market volatility and weak-form efficiency. The data was collected from closing values of the KSE-100 for the period 1998-2006. The data was analyzed by applying technique of descriptive statistic, correlation and GARCH. The results show that the returns exhibit persistence and volatility gathering and also study focus on funds because higher projects are not running without funds. This study suggests the investors to diversify the risk in different markets.

Rani and sheikh (2012) investigated a study on volatility modeling of Karachi stock market. The data was collected from the data was collected from Karachi stock exchange for the period 1998-2008 on daily basis. The data was analyzed by applying technique of ARMA, ARCH, GARCH and EGARCH models. The result indicates that Karachi stock market is more volatile and positive return are linked with higher volatility, while negative return is contrast.

## 3. Hypothesis

**H1:** The volatility in stock return of current period predicts on the basis of volatility in previous stock return.

**H0:** The volatility in stock return of current period does not predict on the basis of volatility in previous stock return.

## 4. Methodology

In this study to investigate the volatility of stock markets daily data of south Asian stock markets and stock markets of Group of Eight countries is collected by using the source of Yahoo Finance and Investing.com from the period of January 1st, 2005 to June 30th, 2015. South Asian countries include Pakistan, India and Sri Lanka while Group of Eight countries include France, Germany, Russia, Canada, United Kingdom, Italy, Japan and USA. Daily data is used to investigate the volatility of stock markets because a lower frequency (monthly, quarterly or annually) does not reveal an ample representation of volatility. The market indices selected for each country are KSE 100 (Pakistan), S&P BSE 100 (India), (Sri Lanka) CAC 40 (France), DAX (Germany), FTSE (United Kingdom), FTSE MIB (Italy), NIKKEI 225 (Japan), RTS (Russia), S & P 500 (United States), S & p TSX Composite Index (Canada).

**Table 1. Sample period and Observations of selected stock markets**

| Country | Sample Period | Observations |
|---|---|---|
| Pakistan | 01-03-2005 to 08-31-2015 | 2632 |
| India | 01-03-2005 to 08-31-2015 | 2635 |
| Sri Lanka | 01-03-2005 to 08-31-2015 | 2561 |
| France | 01-03-2005 to 08-31-2015 | 2729 |
| Germany | 01-03-2005 to 08-31-2015 | 2722 |
| United Kingdom | 01-03-2005 to 08-31-2015 | 2768 |
| Italy | 01-03-2005 to 08-31-2015 | 2702 |
| Japan | 01-03-2005 to 08-31-2015 | 2632 |
| Russia | 01-03-2005 to 08-31-2015 | 2653 |
| United States | 01-03-2005 to 08-31-2015 | 2684 |
| Canada | 01-03-2005 to 08-31-2015 | 2720 |

In this study to investigate the volatility of stock markets ARCH and GARCH techniques are used. ARCH and GARCH are used in various studies to measure the stock market volatility. ARCH is one of the best tool of measuring stock market volatility. ARCH and GARCH is was also used by Low, Ibrahim and Huang (2005) in their research. ARCH is applied when both autocorrelation and heteroscedasticity problems exists along with. So, first step is to check autocorrelation and heteroscedasticity.

## 5. Results and Findings

For Pakistan, in table 1.1 the value of Prob. Chi-Square (1) is 0.0000 which shows that both Autocorrelation and Heteroskedasticity exist in Karachi Stock Exchange.

**Table 1.1**

| **Heteroscedasticity Test: ARCH** | | | |
|---|---|---|---|
| F-statistic | 360.0045 | Prob. F(1,2628) | 0.0000 |
| Obs*R-squared | 316.8709 | Prob. Chi-Square(1) | 0.0000 |

In table 2.1, the mean equation of ARCH (1) shows that the P value of KSE (-1) is significant which explains that previous day return helps to predict the today's return and the positive value of coefficient of KSE (-1) reveals that today's return 10.43% is higher than the previous day return. In variance equation of ARCH (1), the P value of RESID (-1) ^2 0.0000 is significant which shows that today's volatility can be explained on the basis of past price behavior and the value of coefficient of residual is positive which shows that 45.60% today volatility is high as compare to previous day volatility. In table 2.2 the P-value of GARCH (-1) is significant which represents that today's volatility is affected due to the previous day volatility and the coefficient of GARCH (-1) is positive which represent that 77.38% last day volatility transfer in next day.

For India, in table 1.2 the value of Prob. Chi-Square (1) is 0.0000 which shows that both Autocorrelation and Heteroskedasticity exist in Bombay Stock Exchange.

**Table 1.2**

| **Heteroscedasticity Test: ARCH** | | | |
|---|---|---|---|
| F-statistic | 48.93257 | Prob. F(1,2631) | 0.0000 |
| Obs*R-squared | 48.07564 | Prob. Chi-Square(1) | 0.0000 |

In table 2.1, the mean equation of ARCH (1) shows that the P value of SENSEX (-1) is insignificant which explains that today's return is not predicted on the basis of previous day return and the positive value of coefficient of SENSEX (-1) reveals that today's return 2.95% is higher than the previous day return. In variance equation of ARCH (1), the P value of RESID (-1) ^2 0.0000 is significant which shows that today's volatility can be explained on the basis of past price behavior and the value of coefficient of residual is positive which shows that 42.99% today volatility is high as compare to previous day volatility. In table 2.2 the P-value of GARCH (-1) is significant which represents that today's volatility is affected due to the previous day volatility and the coefficient of GARCH (-1) is positive which represent that 89.55% last day volatility transfer in next day.

For Sri Lanka, in table 1.3 the value of Prob. Chi-Square (1) is 0.0000 which shows that both Autocorrelation and Heteroskedasticity exist in Colombo Stock Exchange.

**Table 1.3**

| **Heteroscedasticity Test: ARCH** | | | |
|---|---|---|---|
| F-statistic | 240.4127 | Prob. F(1,2557) | 0.0000 |
| Obs*R-squared | 219.9233 | Prob. Chi-Square(1) | 0.0000 |

In table 2.1, the mean equation of ARCH (1) shows that the P value of ASPI (-1) is significant which explains that previous day return helps to predict the today's return and the positive value of coefficient of ASPI (-1) reveals that today's return 25.06% is higher than the previous day return. In variance equation of ARCH (1), the P value of RESID (-1) ^2 0.0000 is significant which shows that today's volatility can be explained on the basis of past price behavior and the value of coefficient of residual is positive which shows that 48.63% today volatility is high as compare to previous day volatility. In table 2.2 the P-value of GARCH (-1) is significant which represents that today's volatility is affected due to the previous day volatility and the coefficient of GARCH (-1) is positive which represent that 76.20% last day volatility transfer in next day.

For France, in table 1.4 the value of Prob. Chi-Square (1) is 0.0000 which shows that both Autocorrelation and Heteroskedasticity exist in Karachi Stock Exchange.

**Table 1.4**

| **Heteroscedasticity Test** | | | |
|---|---|---|---|
| F-statistic | 116.9874 | Prob. F(1,2725) | 0.0000 |
| Obs*R-squared | 112.2541 | Prob. Chi-Square(1) | 0.0000 |

In table 2.1, the mean equation of ARCH (1) shows that the P value of CAC40 (-1) is significant which explains that previous day return helps to predict the today's return and the negative value of coefficient of CAC40 (-1) reveals that today's return 4.95% is less than the previous day return. In variance equation of ARCH (1), the P value of RESID (-1) ^2 0.0000 is significant which shows that today's volatility can be explained on the basis of past price behavior and the value of coefficient of residual is positive which shows that 30.91% today volatility is high as compare to previous day volatility. In table 2.2 the P-value of GARCH (-1) is significant which represents that today's volatility is affected due to the previous day volatility and the coefficient of GARCH (-1) is positive which represent that 89.31% last day volatility transfer in next day.

For Germany, in table 1.5 the value of Prob. Chi-Square (1) is 0.0000 which shows that both Autocorrelation and Heteroskedasticity exist in Frankfurt Stock Exchange.

**Table 1.5**

| Heteroscedasticity Test: ARCH | | | |
|---|---|---|---|
| F-statistic | 80.75333 | Prob. F(1,2718) | 0.0000 |
| Obs*R-squared | 78.48103 | Prob. Chi-Square(1) | 0.0000 |

In table 2.1, the mean equation of ARCH (1) shows that the P value of DAX (-1) is insignificant which explains that today's return is not predicted on the basis of previous day return and the negative value of coefficient of DAX (-1) reveals that today's return 2.61% is less than the previous day return. In variance equation of ARCH (1), the P value of RESID (-1) ^2 0.0000 is significant which shows that today's volatility can be explained on the basis of past price behavior and the value of coefficient of residual is positive which shows that 28.97% today volatility is high as compare to previous day volatility. In table 2.2 the P-value of GARCH (-1) is significant which represents that today's volatility is affected due to the previous day volatility and the coefficient of GARCH (-1) is positive which represent that 89.31% last day volatility transfer in next day.

For Canada, in table 1.6 the value of Prob. Chi-Square (1) is 0.0000 which shows that both Autocorrelation and Heteroscedasticity exist in Toronto Stock Exchange.

**Table 1.6**

| Heteroscedasticity Test: ARCH | | | |
|---|---|---|---|
| F-statistic | 353.0899 | Prob. F(1,2716) | 0.0000 |
| Obs*R-squared | 312.6980 | Prob. Chi-Square(1) | 0.0000 |

In table 2.1, the mean equation of ARCH (1) shows that the P value of SPTSX (-1) is significant which explains that previous day return helps to predict the today's return and the positive value of coefficient of SPTSX (-1) reveals that today's return 26.32% is higher than the previous day return. In variance equation of ARCH (1), the P value of RESID (-1) ^2 0.0000 is significant which shows that today's volatility can be explained on the basis of past price behavior and the value of coefficient of residual is positive which shows that 47.89% today volatility is high as compare to previous day volatility. In table 2.2 the P-value of GARCH (-1) is significant which represents that today's volatility is affected due to the previous day volatility and the coefficient of GARCH (-1) is positive which represent that 90.65% last day volatility transfer in next day.

For United Kingdom, in table 1.7 the value of Prob. Chi-Square (1) is 0.0000 which shows that both Autocorrelation and Heteroskedasticity exist in London Stock Exchange.

**Table 1.7.**

| Heteroscedasticity Test: ARCH | | | |
|---|---|---|---|
| F-statistic | 173.8215 | Prob. F(1,2764) | 0.0000 |
| Obs*R-squared | 163.6554 | Prob. Chi-Square(1) | 0.0000 |

In table 2.1, the mean equation of ARCH (1) shows that the P value of FTSE (-1) is significant which explains that previous day return helps to predict the today's return and the negative value of coefficient of FTSE (-1) reveals that today's return 8.43% is less than the previous day return. In variance equation of ARCH (1), the P value of RESID (-1) ^2 0.0000 is significant which shows that today's volatility can be explained on the basis of past price behavior and the value of coefficient of residual is positive which shows that 47.65% today volatility is high as compare to previous day volatility. In table 2.2 the P-value of GARCH (-1) is significant which represents that today's volatility is affected due to the previous day volatility and the coefficient of GARCH (-1) is positive which represent that 87.70% last day volatility transfer in next day.

For Italy, in table 1.8 the value of Prob. Chi-Square (1) is 0.0000 which shows that both Autocorrelation and Heteroskedasticity exist in Borsa Italian.

**Table 1.8**

| Heteroscedasticity Test: ARCH | | | |
|---|---|---|---|
| F-statistic | 91.44596 | Prob. F(1,2698) | 0.0000 |
| Obs*R-squared | 88.51367 | Prob. Chi-Square(1) | 0.0000 |

In table 2.1, the mean equation of ARCH (1) shows that the P value of FTSE (-1) is significant which explains that previous day return helps to predict the today's return and the negative value of coefficient of FTSE (-1) reveals that today's return 7.33% is less than the previous day return. In variance equation of ARCH (1), the P value of RESID (-1) ^2 0.0000 is significant which shows that today's volatility can be explained on the basis of past price behavior and the value of coefficient of residual is positive which shows that 32.18% today volatility is high as compare to previous day volatility. In table 2.2 the P-value of GARCH (-1) is significant which represents that today's volatility is affected due to the previous day volatility and the coefficient of GARCH (-1) is positive which represent that 91.19% last day volatility transfer in next day.

For Japan, in table 1.9 the value of Prob. Chi-Square (1) is 0.0000 which shows that both Autocorrelation and Heteroscedasticity exist in Tokyo Stock Exchange.

**Table 1.9**

| Heteroscedasticity Test: ARCH | | | |
|---|---|---|---|
| F-statistic | 287.9999 | Prob. F(1,2628) | 0.0000 |
| Obs*R-squared | 259.7530 | Prob. Chi-Square(1) | 0.0000 |

In table 2.1, the mean equation of ARCH (1) shows that the P value of NIKKEI225 (-1) is significant which explains that previous day return helps to predict the today's return and the negative value of coefficient of NIKKEI225 (-1) reveals that today's return 15.69% is less than the previous day return. In variance equation of ARCH (1), the P value of RESID (-1) ^2 0.0000 is significant which shows that today's volatility can be explained on the basis of past price behavior and the value of coefficient of residual is positive which shows that 35.70% today volatility is high as compare to previous day volatility. In table 2.2 the P-value of GARCH (-1) is significant which represents that today's volatility is affected due to the previous day volatility and the coefficient of GARCH (-1) is positive which represent that 86.44% last day volatility transfer in next day.

For Russia, in table 1.10 the value of Prob. Chi-Square (1) is 0.0000 which shows that both Autocorrelation and Heteroscedasticity exist in Moscow Exchange.

**Table 1.10**

| Heteroscedasticity Test: ARCH | | | |
|---|---|---|---|
| F-statistic | 200.1030 | Prob. F(1,2649) | 0.0000 |
| Obs*R-squared | 186.1895 | Prob. Chi-Square(1) | 0.0000 |

In table 2.1, the mean equation of ARCH (1) shows that the P value of RTS (-1) is significant which explains that previous day return helps to predict the today's return and the positive value of coefficient of RTS (-1) reveals that today's return 19.14% is higher than the previous day return. In variance equation of ARCH (1), the P value of RESID (-1) ^2 0.0000 is significant which shows that today's volatility can be explained on the basis of past price behavior and the value of coefficient of residual is positive which shows that 36.98% today volatility is high as compare to previous day volatility. In table 2.2 the P-value of GARCH (-1) is significant which represents that today's volatility is affected due to the previous day volatility and the coefficient of GARCH (-1) is positive which represent that 88.44% last day volatility transfer in next day.

For USA, in table 1.11 the value of Prob. Chi-Square (1) is 0.0000 which shows that both Autocorrelation and Heteroscedasticity exist in New York Stock Exchange.

**Table 1.11**

| Heteroscedasticity Test: ARCH | | | |
|---|---|---|---|
| F-statistic | 102.6401 | Prob. F(1,2680) | 0.0000 |
| Obs*R-squared | 98.92792 | Prob. Chi-Square(1) | 0.0000 |

In table 2.1, the mean equation of ARCH (1) shows that the P value of SP500 (-1) is significant which explains that previous day return helps to predict the today's return and the negative value of coefficient of SP500 (-1) reveals that today's return 26.78% is less than the previous day return. In variance equation of ARCH (1), the P value of RESID (-1) ^2 0.0000 is significant which shows that today's volatility can be explained on the basis of past price behavior and the value of coefficient of residual is positive which shows that 55.35% today volatility is high as compare to previous day volatility. In table 2.2 the P-value of GARCH (-1) is significant which represents that today's volatility is affected due to the previous day volatility and the coefficient of GARCH (-1) is positive which represent that 87.81% last day volatility transfer in next day.

**Table 2.1. ARCH Results**

| Country | Mean Equation | | | Variance Equation | | |
|---|---|---|---|---|---|---|
| | Variable | Coefficient | Prob. | Variable | Coefficient | Prob. |
| Pakistan | KSE(-1) | 0.104343 | 0.0000 | RESID(-1)^2 | 0.455952 | 0.0000 |
| India | SENSEX(-1) | 0.029469 | 0.0202 | RESID(-1)^2 | 0.429852 | 0.0000 |
| Sri Lanka | ASPI(-1) | 0.250614 | 0.0000 | RESID(-1)^2 | 0.486348 | 0.0000 |
| France | CAC40 (-1) | -0.049524 | 0.0001 | RESID(-1)^2 | 0.309144 | 0.0000 |
| Germany | DAX (-1) | -0.026127 | 0.0272 | RESID(-1)^2 | 0.289661 | 0.0000 |
| Canada | SPTSX(-1) | 0.263172 | 0.0000 | RESID(-1)^2 | 0.478863 | 0.0000 |
| Italy | FTSE(-1) | -0.073336 | 0.0000 | RESID(-1)^2 | 0.321800 | 0.0000 |
| Russia | RTS(-1) | 0.191394 | 0.0000 | RESID(-1)^2 | 0.369793 | 0.0000 |
| Japan | NIKKEI225(-1) | -0.156931 | 0.0000 | RESID(-1)^2 | 0.356998 | 0.0000 |
| United States | SP500(-1) | -0.267827 | 0.0000 | RESID(-1)^2 | 0.553546 | 0.0000 |
| United Kingdom | FTSE(-1) | -0.084271 | 0.0000 | RESID(-1)^2 | 0.476465 | 0.0000 |

**Table 2.2. GARCH Results**

| Country | Variable | Coefficient | Prob. |
|---|---|---|---|
| Pakistan | GARCH(-1) | 0.773793 | 0.0000 |
| India | GARCH(-1) | 0.895471 | 0.0000 |
| Sri Lanka | GARCH(-1) | 0.762035 | 0.0000 |
| France | GARCH(-1) | 0.893073 | 0.0000 |
| Germany | GARCH(-1) | 0.893102 | 0.0000 |
| Canada | GARCH(-1) | 0.906454 | 0.0000 |
| Italy | GARCH(-1) | 0.911877 | 0.0000 |
| Russia | GARCH(-1) | 0.884442 | 0.0000 |
| Japan | GARCH(-1) | 0.864367 | 0.0000 |
| United States | GARCH(-1) | 0.878105 | 0.0000 |
| United Kingdom | GARCH(-1) | 0.877042 | 0.0000 |

## 6. Conclusion

This study concludes that Borsa Italiana Exchange (Italy) is the most volatile stock market because 91.19% previous day volatility transfer in next day while Colombo Stock Exchange (Sri Lanka) is less volatile because 76.20% previous day volatility transfer in next day. The finding shows that stock markets of Group of Eight Countries are more volatile than the South Asian Stock Markets. This study also concludes that South Asian stock markets return is higher when comparing with previous day return.

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