Journal of Accounting & Marketing
ISSN: 2168-9601

Najaf and Najaf, J Account Mark 2016, 5:4
DOI: 10.4172/2168-9601.1000193

Research Article Open Access

Impact of Oil and Gold Prices on the Stock Exchange of Bombay: An Evidence from India

Rabia Najaf* and Khakan Najaf

Department of Accounting & Finance, University of Lahore, Islamabad Campus, Pakistan

Abstract

In this paper, we have analyzed that investors have not in rational behavior. In the imperfect markets, prices are always change in trends and these changes are known as the non random we have taken the data from 2003 to 2011. We have applied the different techniques and our results are showing that there is no long run relationship between these two dependent variables and stock exchange of India. Bombay stock exchange is known as the oldest stock exchange of India. It is also known as the fastest stock exchange of the world. It was established in 1876. The rating of bombing stock exchange is the at the 11th no. with the market capitalization is the 1.8$ trillion. It has listed near about 5600 companies. Bombay stock exchange is also known as the oldest stock exchange of Asia. Most of the investors, would like to invest in this stock market due to large captilization. According to securities act of India, Bombay stock exchange first recognized stock exchange of the India. In 2000, it was known as the derivatives market.

Keywords: Rational behavior; Imperfect market; Non-random; Market capitalization

Introduction

According to different researchers, the purpose of the investment is the way of saving in the future. Investors can save their money with the different way, one of the way is the investment in the shape of the Gold. Different studies have proved that there is positive result in the shape of the gold. Many studies have proved that investment in the gold is the known as the best way of the investment. In the case of financial crisis, it is known as the quite safe. Prior studies showed that there is positive relationship between gold prices and stock exchange, this thing is showing that gold is the safe heaven investment.

With the comparison of all metals Gold is known as the own pride. It has the main role from the time of immemorial. At the start, gold was used as the way of exchange and it was also used as the namental purpose. In simple words it is known as the portfolio investment. Investors have chosen this metal for investment among the different metals. According to different investors Glod is known as the more profitable metal and less risky. Different researchers have proved that there is inverse relationship between gold prices and stock exchange. In the condition of the downturn economy, most of the investors invest into the gold. This paper is trying to explore the relationship between Indian stock exchange and gold prices. For this purpose, we have utilized the secondary data and taken the data from, 2003 to 2011 (Figure 1 and Table 1).

Objective of the Study

The purpose of this study is to show the relationship between gold prices and stock exchange of India. The prices of gold are also favorite topic for debate. According to Nasir) there is direct linkage between gold prices and stock market. In simple words, gold is known as the simple lest way to attractive the investors into the investment in gold. Our study is showing that increase in the prices of the gold, there is impact on the GDP.

Overview of the Bombay Stock Exchange

Bombay stock exchange is known as the oldest stock exchange of India. It is also known as the fastest stock exchange of the world. It was established in 1876. The rating of bombing stock exchange is the at the 11th no. with the market capitalization is the 1.8$ trillion. It has listed near about 5600 companies. Bombay stock exchange is also known as the oldest stock exchange of Asia. Most of the investors, would like to invest in this stock market due to large capitalization. According to securities act of India, Bombay stock exchange first recognized stock exchange of the India. In 2000, it was known as the derivatives market. In simple words, most of the investors called Bombay stock exchange as the outcry floor trading exchange. There is also available the automated screen based trading. It is also introduced as the screen based trading platform. It is useful to do trade in the world at any time.

Bombay Stock Exchange

Literature review

Ahmet, Analyzed that the relationship between gold prices and Indian stock exchange. For this purpose they were collected the data from Feb 2001 to Jan 2012 and utilized the GARCH model. They had taken variables namely, stock exchange as the independent variable and gold prices, oil prices as the dependent variables, they had shown the results that there is significant relationship between Indian stock exchange and gold prices. They had suggested that investors should invest in the gold [1] (Figure 2).

Basher and Sadorsky, Observed that the association between gold prices and china stock exchange. For this purpose they were collected the data from jan 2002 to dec 2013 and utilized the EGARCH model. They had taken variables namely, stock exchange as the independent

***Corresponding author:** Rabia Najaf, Department of Accounting and Finance, University of Lahore, Islamabad Campus, Pakistan, Tel: +92 (0)42 111-865-865; E-mail: rabianajaf@hotmail.com

Received May 26, 2016; **Accepted** September 22, 2016; **Published** September 29, 2016

Citation: Najaf R, Najaf K (2016) Impact of Oil and Gold Prices on the Stock Exchange of Bombay: An Evidence from India. J Account Mark 5: 193. doi:10.4172/2168-9601.1000193

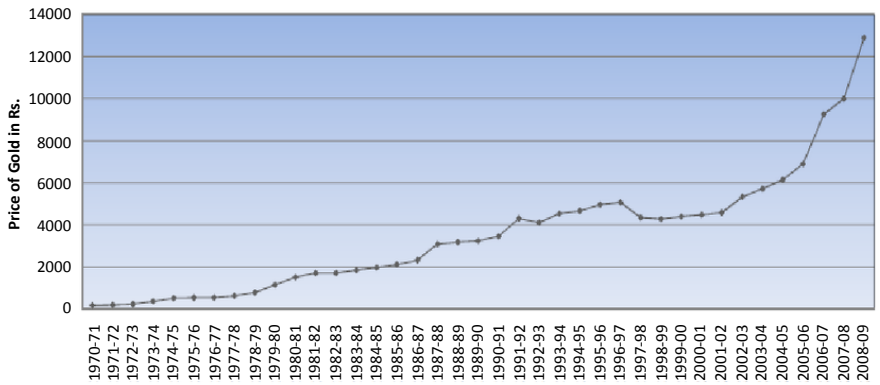

Figure 1: Relationship between gold prices and stock exchange of India.

Years	Oil prices	gold price	Indian stock exchange
$/barrel	$/barrel		$/barrel
1991	23.81	22.11	21.51
1992	18.442	19.181	18.11
1993	19.3	18.23	17.37
1994	17.142	15.61	15.3
1995	15.84	15.391	14.22
1996	17	16.71	11.91
1997	18.53	19.41	19.41
1998	19.31	18.71	17.99
1999	13.271	12.12	11.44
2000	18.02	17.31	16.1
2001	28.73	26.82	27.49
2003	25.01	23.18	22.82
2004	52.2	24.39	23.31
2005	28.61	27.67	28.41
2006	37.722	34.51	37.79
2007	54.31	50.21	51.28
2008	65.81	62.13	61.1
2009	72.31	68.72	65.79
2010	101.31	94.72	95.76

Table 1: Relationship between gold, Oil prices and stock exchange of India.

Figure 2: Bombay stock exchange.

variable and gold prices, oil prices as the dependent variables, they had shown the results that there is significant relationship between China stock exchange and gold prices. They had suggested that investors should invest in this metal [2].

Chung S Kwon and Tai S Shin Examined that the relationship between gold prices and Japan stock exchange. For this purpose they were collected the data from Feb 2004 to Jan 2014 and utilized the VAR model. They had taken variables namely, stock exchange as the independent variable and gold prices, oil prices as the dependent variables, they had shown the results that there is significant relationship between Japan stock exchange and gold prices. They had suggested that investors should invest in the gold rather than stock exchange [3].

Claire, Ginette, Rajneesh and Ahmet Shown that the relationship between gold prices and France stock exchange. For this purpose they were collected the data from Feb 2001 to Jan 2011 and utilized the simultaneous equation model. They had taken variables namely, stock exchange as the independent variable and gold prices, oil prices as the dependent variables, they had shown the results that there is significant relationship between France stock exchange and gold prices. They had suggested that investors should invest in the gold rather than stock exchange [4].

Graham Smith, Observed that the relationship between gold prices and Malaysia stock exchange. For this purpose they were collected the data from Feb 2003 to Jan 2013 and utilized the Johnson approach model. They had taken variables namely, stock exchange as the independent variable and gold prices, oil prices as the dependent variables, they had shown the results that there is significant relationship between Malaysia stock exchange and gold prices. They had suggested that investors should invest in the gold rather than stock exchange [5].

Grorge Handroyiannis and Evangelia Papapetrou Examined that the relationship between gold prices and Asian stock exchange. For this purpose they were collected the data from Feb 2005 to Jan 2014 and utilized the VECM model. They had taken variables namely, stock exchange as the independent variable and gold prices, oil prices as the dependent variables, they had shown the results that there is significant relationship between Asian stock exchange and gold prices. They had suggested that investors should invest in the gold rather than stock exchange [6].

Hamed Sadri and Ehsan TayebiSani viewed that the relationship between gold prices and Afghanistan stock exchange. For this purpose they were collected the data from Feb 2007 to Jan 2015 and utilized the ECM model. They had taken variables namely, stock exchange as the independent variable and gold prices, oil prices as the dependent variables, they had shown the results that there is significant relationship between Afghanistan stock exchange and gold prices. They had suggested that investors should invest in the gold rather than stock exchange [7].

Kuan-Min Wang and Yuan-Ming, Showed that the relationship between gold prices and Finland stock exchange. For this purpose they were collected the data from Feb 2004 to Jan 2015 and utilized the cointegartion model. They had taken variables namely, stock exchange as the independent variable and gold prices, oil prices as the dependent variables, they had shown the results that there is significant relationship between Finland stock exchange and gold prices. They had suggested that investors should invest in the gold rather than stock exchange [8].

Mahmood Yahyazadehfar and Ahmad Babaie, Showed that the relationship between gold prices and Germany. Stock exchange. For this purpose they were collected the data from Feb 2002 to Jan 2014 and utilized the GARCH model. They had taken variables namely, stock exchange as the independent variable and gold prices, oil prices as the dependent variables, they had shown the results that there is significant relationship between Germany stock exchange and gold prices. They had suggested that investors should invest in the gold rather than stock exchange [9].

Mu-Lan, Ching-Ping and Tzu-Ying, Examined that the relationship between gold prices and Hong Kong. Stock exchange. For this purpose they were collected the data from Feb 2003 to Jan 2013 and utilized the GARCH model. They had taken variables namely, stock exchange as the independent variable and gold prices, oil prices as the dependent variables, they had shown the results that there is significant relationship between Hong Kong. Stock exchange and gold prices. They had suggested that investors should invest in the gold rather than stock exchange [10].

Mishra, Das, Mishra and Gold observed that the relationship between gold prices and Denmark stock exchange. For this purpose they were collected the data from Feb 2007 to Jan 2015 and utilized the VAR model. They had taken variables namely, stock exchange as the independent variable and gold prices, oil prices as the dependent variables, they had shown the results that there is significant relationship between Denmark stock exchange and gold prices. They had suggested that investors should invest in the gold rather than stock exchange [11].

Perry Sadorsky, viewed that the relationship between gold prices and Egypt stock exchange. For this purpose they were collected the data from Feb 2007 to Jan 2015 and utilized the ARCH model. They had taken variables namely, stock exchange as the independent variable and gold prices, oil prices as the dependent variables, they had shown the results that there is significant relationship between Egypt stock exchange and gold prices. They had suggested that investors should invest in the gold rather than stock exchange [12].

Ramazan Safi and Ugur Soytas Analyzed that the relationship between gold prices and Bangladesh stock exchange. For this purpose they were collected the data from Feb 2001 to Jan 2014 and utilized the VECM model. They had taken variables namely, stock exchange as the independent variable and gold prices, oil prices as the dependent variables, they had shown the results that there is significant relationship between Bangladesh stock exchange and gold prices. They had suggested that investors should invest in the gold rather than stock exchange [13].

Subarna K Samanta and Ali HM Zadeh shown that the relationship between gold prices and Bahrain stock exchange. For this purpose they were collected the data from Feb 2001 to Jan 2014 and utilized the EARCH model, they had taken variables namely, stock exchange as the independent variable and gold prices, oil prices as the dependent variables, they had shown the results that there is significant relationship between Bahrain stock exchange and gold prices. They had suggested that investors should invest in the gold rather than stock exchange [14].

Kwan, Cotsomitis and Kwok shown that the relationship between gold prices and Canada stock exchange. For this purpose they were collected the data from Feb 2002 to Jan 2012 and utilized the multi regression model. They had taken variables namely, stock exchange as the independent variable and gold prices, oil prices as the dependent variables, they had shown the results that there is significant relationship between Canada stock exchange and gold prices. They had suggested that investors should invest in the gold rather than stock exchange [15].

Kwon and Shin investigated that the relationship between gold prices and Andorra stock exchange. For this purpose they were collected the data from Feb 1998 to Jan 2012 and utilized the cointegartion and causality model. They had taken variables namely, stock exchange as the independent variable and gold prices, oil prices as the dependent variables, they had shown the results that there is significant relationship between Andorra stock exchange and gold prices. They had suggested that investors should invest in the gold rather than stock exchange [16].

Maghayereh, Aktham Analyzed that the relationship between gold prices and Korea stock exchange. For this purpose they were collected the data from Feb 1999 to Jan 2011 and utilized the VECM model. They had taken variables namely, stock exchange as the independent variable and gold prices, oil prices as the dependent variables, they had shown the results that there is significant relationship between Andorra stock exchange and gold prices. They had suggested that investors should invest in the gold rather than stock exchange [17].

Hypotheses

H1: there is long run relationship between oil prices and stock exchange of India.

H2: there is long run relationship between gold prices and Indian stock exchange (Figure 3).

Methodology

In this paper, we have taken the data of the gold and oil prices and monthly data of Indian stock exchange. In the different time series mostly, we utilized the co integration to analysis the relationship between them. The purpose of cointegration that time series should be integrated at the same level. Unit root is utilized to check the stationary level. Augmented dicky Fuller test can be utilized to check that all the variance is constant or not.

$$Zt=\alpha o+\alpha 1\ Zt\text{-}1+\alpha t\ \{t-\ T/2\}+ut$$

Oil price returns

$$OP_t=\ln\left(OP_t/OP_{t-1}\right)$$

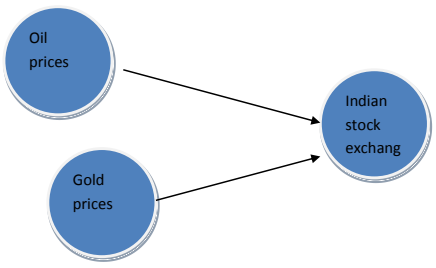

Figure 3: Theoretical framework.

Gold price returns

GPt=ln (GPt/GPt-1)

We have applied the following techniques.

1. Correlation matrix
2. Co integration tests
3. Granger causality test
4. Variance decomposition analysis

Co-integration

In the different time series mostly, we utilized the co integration to analysis the relationship between them. The purpose of cointegration that time series should be integrated at the same level. Unit root is utilized to check the stationary level. Augmented dickey Fuller test can be utilized to check that all the variance is constant or not (Table 2).

$$Zt=\alpha o+\alpha 1\ Zt-1+\alpha t\ \{t-T/2\}+ut$$

The purpose of correlation to find out the relationship between variables. In the table we have found out that there is weak correlation between oil prices and Indian stock exchange. However, there is weak correlation between gold prices and Indian stock exchange (Table 3).

VAR lag order selection

First we have used the lag length. For this purpose, we have utilized the Schwarz information criteria. It is utilized to determine the value of month that where SC is the low value. According to our results the SC value is low at -7.22.

Unit root test

For the co-integration we need a stationary data at the same level. The stationartity of the data means that there is no effect of the previous effect. According to results of unit roots, ADF and PPT has shown that data were become stationary after the first difference (Table 4).

Co-integration

Our results is showing that all the series have the lag lead relationship. Cointegration is showing that series are the stationary at the same level (Tables 5 and 6).

Granger causality

Cointegration is not showing that market does not lead to the other market. Co-integration is showing the absence of the long run association. Granger causality is showing the causality is not present here (Tables 7-9).

Our results are showing that 5% change in the due to gold and oil prices while, 94% change in stock exchange due to their innovations. Gold and oil prices are showing the same results. Our study is also showing that mostly changes in gold and oil prices due to their own

	BSE 100	Oil Prices	Gold Prices
KSE 100	1	0.207852	-0.03863
Oil Prices	0.207852	1	0.190823
Gold Prices	-0.03863	0.190823	1

Table 2: Correlation.

Months	0	1	2	3	4	5	6	7	8	9	10	11	12
SC	2.29	-7.22	-6.99	-6.84	-6.61	-6.32	-6.08	-5.84	-5.59	-5.33	-5.08	-4.82	-4.6

(SC: Schwarz information criterion)

Table 3: VAR lag order selection.

Series Name	ADF Level	ADF First Diff.	PP Level	PP First Diff.
BSE	-0.83347	-8.07756	-0.90688	-10.3106
Oil Prices	-1.38548	-6.0139	-1.27543	-8.86015
Gold Prices	1.066462	-8.84958	0.986298	-10.9823
Critical values				
1%	-3.48124	-3.48164	-3.48083	-3.48123
5%	-2.88377	-2.88395	-2.88359	-2.88376
10%	-2.57869	-2.57879	-2.5787	-2.57868

Table 4: Unit root test.

Hypothesized		Trace	0.05	Prob.
No. of CE(s)	Eigenvalue	Statistic	Critical Value	
None	0.164895	27.18098	29.79708	0.0974
At most 1	0.028072	3.755465	15.49472	0.9224
At most 2	0.000416	0.053978	3.841467	0.8164

Table 5: Unrestricted Cointegration Rank Test (Trace).

Hypothesized		Max-Eigen	0.05	Prob.
No. of CE(s)	Eigenvalue	Statistic	Critical Value	
None	0.164895	23.42553	21.13163	0.0235
At most 1	0.028072	3.701488	14.2649	0.8895
At most 2	0.000416	0.053978	3.841467	0.8164

Table 6: Unrestricted Co integration Maximum Eigen Value Test.

Null Hypothesis:	Obs	F-Statistic	Probability
ΔOil Prices does not Granger Cause ΔBSE 100	132	1.68384	0.19676
ΔKSE 100 does not Granger Cause ΔOil Price		1.23476	0.26858
ΔGold Price does not Granger Cause ΔBSE 100	132	1.40128	0.2388
ΔKSE 100 does not Granger Cause ΔGold Price		0.55514	0.4577
ΔGold Price does not Granger Cause ΔOil Price	132	3.08046	0.08164
ΔOil Price does not Granger Cause ΔGold Price		0.00614	0.93768

Table 7: Granger causality.

Period	S.E.	BSE 100	Oil Prices	Gold Prices
1	0.089174	300	0	0
2	0.090145	98.4719	0.769826	0.758577
3	0.092489	93.8426	1.222258	4.935243
4	0.0925095	1.228214	4.94302	2.695579
5	0.092603	93.63973	1.334828	5.025454
6	0.092608	93.63428	1.339509	5.026207
7	0.092609	93.63408	1.339496	5.026419
8	0.092609	93.63398	1.339524	5.026508
9	0.092609	93.63387	1.339554	5.026558
10	0.092609	93.63386	1.339553	5.026555

Table 8: Variance decomposition of BSE 100.

Period	S.E.	BSE 100	Oil Prices	Gold Prices
1	0.099936	3.063794	96.9363	0
2	0.103517	4.131073	93.37714	2.491798
3	0.106066	6.162795	91.3429	2.4943
4	0.106244	6.225824	91.15356	2.620622
5	0.106333	6.234766	91.07328	2.691962
6	0.106336	6.236353	91.06808	2.695575
7	0.106335	6.236433	91.06798	2.695572
8	0.106334	6.236453	91.06795	2.695572
9	0.106333	6.236455	91.06793	2.695573
10	0.106332	6.236456	91.06794	2.695572

Table 9: Variance decomposition of oil prices.

changes. Empirical evidence is showing that 8% change in oil prices bring 9% change in gold prices.

Conclusion

Investors have herding behavior due to changes in prices. They do not always behave rationally. In the imperfect markets there are changes in the trend and these changes are known as the non random. Our results are showing that there is no long run relationship between stock market of India and oil and gold markets. Our study is showing that only oil and gold market are the places from where the investors can escape from the risky investment. In these markets the liquidly ratio is very high. Our study is showing the there are no impact of oil and gold prices on the investors s decision. In the developing country investments in gold, oil are known as the best source for the investment. For getting the maximum return investors are trying to find the way of getting high return. Stock market is the consider the best way of investment in the world.

References

1. Ahmet B (2010) The Effect of Macroeconoics Variables on Stock Return: Evidence from Turkey. European Journal of Social Science.
2. Basher SA, Sadorsky P (2006) Oil price risk and emerging stock markets. Globel Finance Journal 17: 224-251.
3. Kwon CS, Shin TS (1999) Cointegration and Causality between Macroeconomic Variables and Stock Markets Returns. Globel Finance Journal 10: 71-81.
4. Claire, Ginette, Rajneesh, Ahmet (2009) The Dynamics of Gold Prices, Gold Mining Stock prices and Stock Market Prices Comovements. Research in Applied Economics.
5. Smith G (2001) The Price of Gold and Stock Price Indices for the United States. Adrienne Roberts FT Personal Finance.
6. Handroyiannis G, Papapetrou E (2001) Macroeconomic Influences on the Stock Market. Journal of Economics and Finance 25: 33-49.
7. Sadri H, TayebiSani E (2012) the Impact of Crude Oil, Gold Price and Their Volatilities on Stock Markets: Evidence from Selected Member of OPEC. Journal of Basic and Applied Scientific Research 2: 10472-10479.
8. Wang KM, Lee YM (2012) Could Gold Serve as Exchange Rate Hedge in Japa. Inzinerine Ekonomika - Engineerig Economics.
9. Yahyazadehfar M, Ahmad B (2012) Macroeconomic Variables and Stock Price, Middle-East. Journal of Scientfic Research 11: 408-415.
10. Mu-Lan, Ching-Ping, Tzu-Ying (2010) Relationship among Oil Price, Gold Price, Exchange Rate and International Stock Markets. International Research Journal of Finance and Economics.
11. Mishra PK, Das JR, Mishra SK (2010) Gold Price Volatility and Stock Market Returns in India. American Journal of Scientific Research 9: 47-55.
12. Sadorsky P (1999) Oil price shock and stock market activity. Energy Economics 21: 449-469.
13. Safi R, Soytas U (2006) The Relationship between Stock Returns, Crude Oil Prices, Interest Rates, and Output: Evidencefrom a Developing Ecomomy. The Emperical Economics Letters.
14. Samanta SK, Zadeh AHM (2012) Co-Movement of Oil, Gold, the US Dollar, and Stocks. Modern Economy 3: 111-117.
15. Kwan AJ, Cotsomitis, Kwok B (1996) Exports, Economic Growth and Exogeneity: Taiwan 195388, AppEconomics 28: 467-471.
16. Kwon CS, Shin TS (1999) Cointegration and Causality between Macroeconomic Variables and Stock Market Returns. Global Finance Journal 10: 71-81.
17. Aktham M (2003) Causal Relations among Stock Prices and Macroeconomic Variables in the Small, Open Economy of Jordan. Economics & Administration 17: 3-12.