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Oil Prices and Asian Emerging Stock Markets: Pakistan and Bangladesh

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Abstract

The study attempts to examine the relationship between oil prices and stock prices; for the case of Karachi stock market and Dhaka stock market over the period of 1990 to 2014. By using the regression estimation method, the results confirmed the significant positive relationship between oil price and both the stock market prices. In the regression analysis, the variable's R shows the interdependence of all prices and the stock prices of both KSE and DSE, while R-Sq shows the factors affecting the stock market other than oil. This paper has concluded that the international oil prices hold a great importance in the Asian oil importing countries which affect their stock markets.

Keywords: oil prices, Karachi stock market, Bangladesh stock market.

1. Introduction

Volatility of international oil price has affected different countries in number of ways. These countries can be categorized into two types; oil exporting countries which includes Saudi Arabia, Iran, Kuwait etc. and oil importing countries such as Pakistan and Bangladesh etc. The most affected by the fluctuations in the oil prices are the Asian countries because it slows down their economy, the main reason of turmoil in financial markets of Asia is partially due to the oil prices. The correlation between stock markets and oil prices are very weak which will be analyzed closely in this study. Recent studies have revealed that they mostly share a negative relationship. Light will also be thrown on how demand and supply influenced and has been influencing Pakistan and Bangladesh stock market in a negative way rather than positive as the nature of the business set up in these countries depends excessively on the amount of oil they are consuming which in turn presents a contrast in the results which is our major concern.

This study focuses on the rise, fall in the stock exchange indexes around 25 years, and what sort of relation has it shared with the fluctuating international oil prices. The relationship between stock indexes and the oil prices over the past two decades has created more or less a destructive impact on both the countries. Pakistan being an oil importing country has an adverse economic impact to higher oil prices as compared to oil exporting countries. Developing countries had been and are still suffering a lot in stabilizing the increasing oil prices. One rational view is that the high prices are leading to inflation and increase in the deficit budget, forcing the governments of the developing countries to borrow more and push through politically unpopular reforms. Future oil

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demands are difficult to predict but are no doubt dependent on the growth of stock market. One possible explanation of the tendency of stocks and the oil prices is to move together as both are reacting to one common factor that is the global demand which is aggregating and hurts both corporate profits and demand for oil. The empirical findings show that it is also possible to associate expensive crude with booming economy. One rational view is that the growth of economy and the stability of the infrastructure are closely related to oil price control. Higher change in energy prices is creating an uncertainty about a secure and prosperous future.

The next section deals with supporting literature. Section 3 is about the data and appropriate methodology estimations; Section 4 presents the estimated results of the study, whereas, section 5 is about the conclusion and recommendations.

2. Literature

Dominance of oil price volatility on real stock has a negative impact on the earnings as it negatively affects the output, i.e. industrial production, as well as employment growth. China energy requirement is also increasing and will be up to 12 % in 2025. Empirical evidences show that the relationship that the oil price shocks have on the stock prices have been mixed, showing both negative and positive results (Chu Chia et al., 2009). Oil prices affects the real economy, by raising up the cost to firms which in turn minimize the amount of disposal income that consumers need to spend. China, being an Asian country has a negative and a weak relationship of oil prices and stock markets (Samuel Imarhiagbe, 2010). A direct relationship is observed between stock markets, oil price, and the affect oil prices create on the stock prices which in turn affects the future cash flow. Since there is no complete substitution affects between the factors on which the production depend so there is an increase in the cost of doing business but it reduces the profits of the non- oil related companies. (Domaso et al., 2009) gave an overview showing that countries like Japan and USA both have a negative affect regarding the oil prices and stock market. If oil price shock is positive, its effects on stock market is negative showing that they are inversely proportional to each other.

(Daniel, 2009) stated therefore, it can be expected that rising oil prices will present a negative effect on the economy and its stock markets as a result of what the consumers are going through. The major suppliers which are the GCC countries keep their stock markets likely to be influenced or affected to change in oil prices. The GCC markets represents a diversification regarding the affects that oil shocks have which have a great potential to influence the stock markets and assist the investors to make important decisions. Oil prices produce significant affects on stock markets especially on the markets of Qatar, UAE, and Oman as estimated. When the prices of oil tumbles around, it shows a sharp decline or a handsome increase in profits. The effect of oil prices on a country's economy is of keen interest to many people, particularly economists therefore, the relationship between changes in oil prices and stock market returns regarding the two oil importing countries, Pakistan and India, holds a great importance. History has shown that oil has played a vital role to shape countries' development especially the developing countries which depend on their oil reserves to run the economy, in countries like these, a common man is directly affected by the oil price shocks which can make their lives hard (Al-Fayoumi et al., 2009).

(Paresh et al, 2009) showed that the growth of the Vietnamese stock market was accompanied by rising oil good to developing countries and is in fact affecting their economy in a negative way and so they are not even able to use their resources constructively. Oil price shocks are not leading them out of crises and these countries are becoming more unstable than before. Inconsistent oil prices haves brought the worst down torn in decades. Being one of the most significant and influential factor in the economic industry, an increase in the oil price is followed by the increase in the cost of production in industries which will naturally slow down the growth rate and will automatically reduce the level of output due to recession and this may also lead to an increase in the price level and potentially an increase in the inflation rate. These tendencies eventually cause a decline in the stock prices (Norasibah et al., 2009). The regulations of the financial markets after the financial crises do not go far enough according to some other estimation but unquestionably, the bounce in global stock markets and the after effects it cause sometime prove to be devastating (Hamilton, 2008). Investigations so far, in this study show a relationship of oil prices change and stock market prices. Literature seems to show that oil prices and international market are affected negatively in this relationship (Afia Malik, 2008). (El Hedi, 2006) provide strong evidences which show that changes in oil prices forecast the stock returns.

Oil prices relatively have a positive and statistically significant impact on stock prices as the stock prices, oil prices and nominal exchange rates are co integrated. This result is inconsistent with theoretical expectations. In recent years, the immense influence of oil prices and foreign exchange rates regarding US and Russian stock prices and their interest rates have also affected the stock market to a great extent (Stanislav, 2006). (Rodriguez and Sanchez, 2005) analyzed and came up with an investigation those fluctuations in oil prices are affected by the exchange rates which influences the economy. According to some known analysts such as (Gerben Driesprong et al, 2004); the predictability is economically significant, but can also be drastic and unexplainable by calendar anomalies or known by the economic variables that predict stock returns. The changes in the prices tend to be permanent and hard to predict. (Hong et al., 2002) also identified a negative association between oil-price returns and stock-market returns. However, as far as the multifactor market is concerned, there are several risk premiums that prove that interest, exchange and oil prices are the main determinants of oil and gas stock returns. Some analysts, on the other hand also examined a significant positive relationship between oil prices and stock returns coming from oil and gas, but it is observed that oil price changes have chain effects on real economic activities which refers to the strong relationship they share whether it is profitable or unprofitable. The projects launched by these countries are either of low cost or are long term projects that take a lot more time than required to be completed. A struggling global economy will bring crucial changes in the market and more instability than making it rather stable and secure. (Kaul, Seyhun, 1990; Sadorsky, 1999) came up with the result that oil-price volatility on stock prices presents a negative effect. Records maintained show that an oil price shock has a negative impact on stock because the output and employment growth of these countries are influenced by it negatively. Oil price shocks have a major effect on the aggregated economic activities according to many researchers. (Amano, Norden, 1998) explained that effects produced by oil prices shocks are expected to be different for oil exporting and oil importing economies.

Asian countries such as Pakistan which heavily depends on oil imports to run its economic but is badly affected by oil price shocks. Change in oil price is an important factor which has undoubtedly a strong impact on the rise and fall of stock prices. Oil prices affect earnings of companies which use oil as a direct or indirect cost of operation. Therefore, rise in oil prices have an adverse effect on expected earnings, and thus bringing about a sudden decline in stock prices (Noreen et al., 2005). Energy firms face a tough balancing act to stay financially afloat while preserving the production, infrastructure and capacity that will allow them to complete and grow when the market recovers. Generally speaking, although changes in the price of crude oil are found to be critical for understanding fluctuations in stock prices but there is and has been no consensus among economists about the relationship between stock prices and the price of oil. To be more precise, the relevant literature generates variable views regarding the effect of oil-price shocks on asset prices, specifically the one related to Pakistan and Bangladesh.

3. Methodology

The data collected in this study is based on the data of more than two decades about oil prices and stock markets of Bangladesh and Pakistan; the data from the year 1990 to 2014. Countries not producing oil have to spend heavily on importing oil from the oil exporting countries. Thus, the great volume of oil import is a great expenditure for the countries like Pakistan and Bangladesh which do not produce oil. To facilitate the manufacturing of their goods and products, they should be provided the oil regularly as they rely on it.

Crude oil is the fundamental input as far as the production of oil is concerned. A theory predicts that the supply- side shows significance of oil price hikes which plays a vital role in narrowing the aggregate economic activity and inflationary pressures. In addition to this, it can be easily predicted that aggregate demand tends to decrease in an oil importing economy in comparison to oil exporting economy, where the demand escalated. The inference is likely to be applicable for real currency rates. These currency rates are the price of both local and international currencies. Theories predict that the nominal exchange rate is mostly responsible for the inflation differentials among the countries. Hence, Pakistan and Bangladesh are largely dependent on oil imports in order to fuel their economy. On the other hand, developing countries that are unable to produce a large quantity of oil have a negative impact on their trade balance after they import the

oil. We can clearly judge the dependent variable related to Pakistan (KSE) and Bangladesh (DSE) in the stock market prices.

This study investigates the effect of oil prices on both stock prices; KSE and DSE. On the basis preceding literature the present research has formulated the studied hypothesis as follows:

Ho: there is a significant positive relationship between oil prices and stock market prices.

H1: there is a significant negative relationship between oil prices and stock market prices.

4. Data Analysis

For data analysis, the study employs the descriptive, correlation and regression analysis. In the descriptive analysis the mean value and standard deviation present the deviate of data from its mean value. The correlation analysis showed there was positive correlation between oil prices and both the KSE and DSE .The correlation between DSE and the international oil prices are more perfectly correlated then with KSE and the oil prices. The sensitivity of correlation in Dhaka stock market toward the oil price is more than the Karachi stock market.

Table 1. Descriptive

Variables	Mean	Std. Dev	Min	Max
Oil Price	4.021	0.697	2.192	4.062
KSE	70.438	40.951	11.549	175.376
DSE	94.085	73.494	17.561	195.739

Table 2. Correlation

Variables	Oil Price	KSE	DSE
Oil Price	1.000		
KSE	0.708	1.000	
DSE	0.762	0.481	1.000

Table 3. Regression Analysis

	Coff	p-value	R	R Sq	Adj R sq
KSE	2.01	0.000	46.2	55.7	53.1
DSE	4.26	0.000	48.6	62.4	59.8

The regression equation for KSE and the international oil prices is:

$$KSE = - 15.8 + 2.01 * \text{oil prices} \dots\dots\dots (1)$$

The regression equation shows that -15.8 is constant and 2.01 is the slope intercept, one dollar change in oil price can change the KSE index by 2.01 on average. The regression equation for DSE and international oil price is

$$DSE = - 13.5 + 4.26 * \text{oil prices} \dots\dots\dots (2)$$

The regression equation presents the constant is -13.5 while 4.26 is the slope intercept, one dollar change in oil price can change the DSE index by 4.26 on average. In this the significance level of both the oil prices and the stock prices are reliable but most often oil prices are more reliable then stock prices. In both KSE and DSE cases, the coefficients prove to be significant at 1 % level of significance. Their standard deviation is also given depicting the risk level of both the variables. But it is observed that oil price changes have chain effects on real economic activities the projects launched by these countries are either of low cost, in fact most of them are long term projects that take a lot more time than required to be completed. A struggling global economy will bring crucial changes in the market and more instability than making it rather stable and secure.

Table 3 presents R value for KSE that shows the correlation between the independent and dependent variable which was 46.2, and R-Sq is 55.7 % that shows the variations of all independent variables on dependent variable while rest of variation cause by other factors, and Adj R-Sq comes after removing the standard error that is 53.1 %. For DSE the R value and R-Sq are 48.6 % and 62.3 %, respectively. Whereas, Adj R-Sq for DSE shows 59.8 %.

5. Conclusion

The conclusion shows how both the variable fluctuates and how far a hidden variable can be responsible to bring change in the value. The stock markets of both the countries show a negative relationship. Analysis of the results and reports of 1990 to 2014 show that the oil prices are interlinked with respect to the stock exchange. The prices of oil seem to be uncontrollable in these two neighboring countries and they must find alternatives for oil instead of putting their efforts to control the oil prices. They seriously need to switch to other sources that will ultimately lower down the prices of oil. The model above shows how the oil prices tend to bring change to stock market. In the regression analysis, the variable's R shows the interdependence of all prices and the stock prices of both KSE and DSE, while R-Sq shows the factors affecting the stock market other than oil. These factors can vary; they can be either economic or social depending on the demand of the company on which the share prices are depending. The tables above show the extent to which other factors are responsible in affecting the relationship of oil prices and stock prices. Almost 50 % is affected by economic factors and the rest by other factors.

This paper has concluded that the international oil prices hold a great importance in the Asian countries which affect their stock market. Oil importing countries find it hard to pay for oil in order to fulfill their needs. It is one of the most expensive imports. On the other hand, oil producing countries heavily rely on the import of oil in order to strengthen their economy and therefore its trade balances are negatively affected due to oil import. One solution of not being affected by oil prices is to switch to gas, but the problem arises that the gas prices and its supply to the industries is also a big issue in countries like Pakistan so it won't be a good idea to try this option.

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