THE IMPACT OF CRUDE OIL PRICE FLUCTUATIONS AND INTEREST RATE ON BALANCE OF PAYMENT OF INDIA

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***Abstract*:** India is a developing nation where imports are much higher than export. There are many reasons for the deficit balance of payment. In this study we focused on two important components which affects India's Balance of Payment, that is, interest rate and crude oil price. India is one of the largest importers of crude oil in the world. This study focus on the impact of crude oil price fluctuations and interest rate on the Balance of Payment of India. For the study Crude oil price per barrel and Current account and Capital account balance for period ranging from 2005 to 2018 was collected. The data was collected from RBI website and OPEC website. Regression analysis and ANOVA was done on the data using SPSS software. The results indicated that crude oil price fluctuation significantly impacts current account of balance of payment while capital account remains unaffected by crude oil price fluctuation.

Keywords: Oil price, Balance of Payment, Interest rate, Current account, Capital account

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I.INTRODUCTION

Balance of payment statement provides detailed knowledge about circulation of a country's currency within and outside the country. And also determines the economy of a country in worldwide economic rivalry (Kamran najaf, 2017). The current account and capital account when combined forms the balance of payment (Riaz F, 2019). Current account represents net income of the nation, while capital account is a representation of net change in value of assets and liabilities over a period of time. Balance of Payment is significantly affected by various economic variables such as oil price shocks, inflation rate GDP etc.

Among the various economic variables, crude oil price shocks is one of the major factor which can influence balance of payment. Crude oil is a globally traded commodity and its price is keeps fluctuating as per the fluctuations in supply and demand factors on a worldwide basis (Ural, 2016). Today, in the present world, crude oil has got importance as a source of energy as well as a source of income. Oil trade results in transfer of income between nations and can affect trade relationships. According to Khaleefah Jabar Al Sabah, (2016) crude oil is a major component in International trade between various countries. Countries such as Saudi Arabia, Russia, Qatar, Kuwait, Iraq, Iran, UAE etc. are some of the largest exporters of crude oil. The economic stability and GDP of oil exporting nations is highly dependent on oil price. Whereas, China, India, USA, Japan, South Korea, Netherlands etc. are some of the major importers of crude oil. Increase in demand of crude oil price can result in positive impact on GDP of exporting nations, while it can negatively impact on GDP of oil importing nations (Farhad Taghizadeh Hesary, 2013). High inflation rate, increased output costs, reduced non-oil product demand and lower investments are some of the impacts which can be seen in oil importing nations due to crude oil price rise.(Ural, 2016). Studies makes it evident that monetary policy and outputs of a nation are significantly impacted by crude oil price. (Malik, 2008). These price fluctuations can lead to unemployment and fluctuation of labor markets and can significantly affect standard of living of people (Javier Ordonez, 2011; Khaleefah Jabar Al Sabah, 2016). It is statistically proven that increasing crude oil price positively impacts outputs of countries like Iran, Kuwait, Libya etc. which are producers of crude oil (M Hakan Berument, 2010). Many researchers have investigated into the impact of Crude oil fluctuations price on various economic factors like inflation, output costs, national income, stock returns, investment patterns etc. There are number of studies which analyses impact of crude oil price fluctuation on stock market. A study conducted by Rabia Najaf (2016) and Jamal Bouoiyour (2017) on stock prices of shares in Bombay stock exchange and the Shanghai stock exchange proved that stock prices, inflation and stock returns are positively related to each other. Research shows that, an increase in WTI crude oil price leads to inflation and exchange rate depreciation in Indian stock market. A favorable impact will be created on BSE index by an increase in West Texas Intermediate crude oil price. (Sreenu, 2019)

Interest rate variations also affect Balance of Payment. Interest rates are changed with an intention to reduce inflation. These variations also lead to the appreciation of currency. Finally, all these will have an impact on India's trade relation with other nations, which will in turn affect foreign exchange reserves and Balance of Payment.

India is a developing nation with an economy which is growing fast and has a population of 1.3 billion. Indian economy is the world's 5th largest economy by GDP and the 3rd largest by Purchasing Power Parity (PPP). Highly growing population makes the oil requirement also high. As a result, the available oil reserves in the country is not sufficient to meet the requirement. This places India in the position of an importer of crude oil. According to data released by the Ministry of Petroleum and Natural gas, India produced 34.2 million tonnes of crude oil in the fiscal year ended March, 31st 2019, while the consumption was 206.2 million tonnes. Almost all economic aspects of India including banking and finance, global trade relations, FDIs, currency rates etc. are affected by crude oil price (Firdoos Ahmed Wani, 2015). In addition to economic factors, there are also some non-economic factors like political issues, terrorism, production levels, trade wars which triggers changes in crude oil price.

India is having deficit Balance of Payment for past several years. This is mainly because of excessive oil imports, constant fluctuations in interest rates etc. Various initiatives introduced by the Central government failed miserably in eliminating this issue. A developing country like India with high population growth rate, can attain favorable BOP position only through promoting exports. Similarly, Reserve Bank of India should exercise more control on the factors that affect Balance of Payment of the country. This paper makes an assessment of the extent to which Balance of Payment of India is impacted by crude oil price shocks and interest rate fluctuations.

II. LITERATURE REVIEW

The impact of various economic variables on Balance of Payment has received a lot of attention among various economists. This led to large number of studies done on implications of economic variables including oil price, interest rate, GDP, inflation etc. on Balance of payment. The existing studies makes it evident that, in long run, real GDP, exchange rate and energy price are negatively and significantly related to current account balance of Balance of Payment. Real GDP and Real Effective Exchange Rate are positively and significantly related to financial account (Magda Kandil, 2002). The method of financing that a government chooses for the nation can also decide the nature of the balance of payment. A study conducted in Jordanian economy found that budget deficit financing and current account deficits are negatively related. It also observed that a developing economy like Jordanian economy should opt for mixed sources of financing from both internal and external sources in order to reduce their current account deficit (Kasasbeh, 2018) . The savings and investment strategies of various developing countries in the world are also affected by crude oil price (Julia Devlin, 2004). Price of crude oil is an economic variable which directly or indirectly impacts all global economies. Rise in crude oil prices have the potential to affect the price of commodities (Firdous A Wani*, 2015). Oil exporting nations benefits most from oil price shocks directly by getting better GDP and indirectly through the effect oil price shocks lay on importing nations which are their trade partners (Farhad Taghizadeh Hesary, 2013). A study conducted based on MENA countries also gave the same conclusion that, rise in oil price can improve GDP of countries that export crude oil (M Hakan Berument, 2010). The fluctuations in the price of crude oil have a major economic impact on OPEC countries (Jan F R Fabritius, 1981). Previous studies indicate that, crude oil variables like oil price, oil import, oil production and oil consumption have a long run relationship with government revenue (Zukarnain Zakaria, 2017).Crude oil price has also a major role in driving labor markets also. It is found that, job finding rate keeps changing along with crude oil price shock (Javier Ordonez, 2011). Oil price also have impact on decisions related to public investment. A study conducted in Saudi Arabia shows that, being a nation which has its revenue mainly dependent on oil export, the decisions related to public investments are affected by crude oil price variations and a risk premium is associated with this. (Axel Pierru, 2014). Russia's development in terms of economic growth is mainly affected by crude oil price variations as the nation is a leading crude oil producer in the world. (Koves, 2005) For countries like US oil price shocks can be classified as "large and normal" oil price shocks. Studies shows that, large oil price shocks has impact on GDP of the nation while normal oil price shocks affects variables like consumer price index and import prices (Gronwald, 2008).

A study conducted in Nigeria makes it evident that, oil price rise can improve current account balance of an oil producing nation like Nigeria. At the same time, the study also emphasizes on the fact that, for a country like Nigeria, promoting non-oil based exports are also equally important to stabilize exchange rate. Else, the positive impact on current account from oil price increase will be distorted due to disproportionate demand in oil exchange (Osaretin Kayode, 2019). The study also gives a similar conclusion that, oil price variations improves current account of countries which export crude oil, at the same time they must diversify their export base to non-oil based products also. Meanwhile, importing nations should discover alternatives like coal, gas etc. to make their current account position better (Sayeda Qurat-ul-Ain, 2013).

Balance of Payment is also mainly affected by the fluctuations in interest rate. The interest rate policy followed by a country has a significant impact on its external balance (Thomas D Willett, 1969). Interest rate, inflation rate and exchange rate are the important factors that affect the balance of payment of countries like India and Pakistan (Khuram Shafi, 2015). There exist a strong relationship between government budget constraints and balance of payment of the country. These budget constraints are a major factor that affects the BOP and international trade (Eden S H Yu, 1975). According to Kennedy P, (2010) a rise in real interest rate of a country without change in interest rates of other countries may result in capital inflow to country and shows impact on Balance of payment.

Net foreign asset, trade openness and domestic relative income are major macro-economic variables which are associated with current account of South Asian countries like India, Pakistan, Bangladesh, Sri Lanka etc. (Fareeha Riaz, 2019). A study conducted in India during 2013 provides that, widening of trade deficit and excessive import are the major threats faced by Indian BOP. The study also recommended the government to cut down import so that India's BOP can be improved (Kubendhran, 2013). India is a country where exports are lower than imports. The nation's over dependence on the import of crude oil and other commodities like gold, led to the increase in trade deficit in recent years (R Krishnaswamy, 2013). India as a developing country and importer of crude oil will have to face a negative impact on GDP due to crude oil price shocks (Firdous A Wani*, 2015).The nation is always under the threat of variations in the price of crude oil which affects the economic growth and standard of living of the people (Honavar, 1974). Kamran najaf, (2017) studied the effect of exchange rate, interest rate and inflation rate on Balance of payment based on evidences from India and Bangladesh. It was found that, exchange rate and inflation rate has positive impact on balance of payment of India and Bangladesh while interest rate had a negative impact on balance of payment statement of the countries. (Niti Bhasin, 2014).

III.THE MODEL

1. Data

The paper focus on the impact of crude oil price and interest rate on the current and capital account of balance of payment using regression analysis. For estimation, this paper used data from 2005 to 2018. India's Balance of Payment statement from 2005 to 2018 is used for this study. The current account and capital account balance for the respective period is extracted from the Balance of Payment statement. The international crude oil price per barrel and interest rate for this period is also used. The data was collected from the websites of RBI and OPEC. Regression test was performed using SPSS for this study. The monthly average of international crude oil price was initially calculated and these average values were used to estimate annual crude oil price per barrel.

Table: 1 – Descriptive Statistics

OIL PRICE	13	2528.2150000000000	6283.4483333333340	3957.609487179487000	325.780033002831030	1174.616613514058000
CURRENT ACCOUNT	13	-4796000000000	-443000000000	-1885307692307.69	361289027429.872	1302646113660.920
Valid N (listwise)	13					

N statistics shows the number of samples, oil price and current account balance value for thirteen years. Oil price has a mean of 3957.61 with a standard error of 325.78, current account balance exhibited a mean of 1885307692307. Crude oil price exhibits a spread of 1174.62 and current account balance exhibits a spread of 1302646113660.9

Table: 2 – Normality test

						Sig.
INTEREST	.156	13	.200*	.912	13	.194
OIL PRICE	.227	13	.065	.893	13	.107
CURRENT ACCOUNT	.227	13	.067	.894	13	.110

Table: 2 represents the result of normality test. In this table, the Sig. value of Interest, Oil price and Current account is greater than 0.05 in case of Kolmogorov – Smirnov test, so the data is normal.

Table: 3 – Regression

Table 3 represents results of regression analysis in which current account is the dependent variable and interest rate, oil price are the independent variables.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.682[a]	.465	.358	1043577402780.277

ANOVA

					F	Sig.
1	Regression	9472104813294478000000000.000	2	4736052406647239000000000.000	4.349	.044[b]
	Residual	10890537955936285000000000.000	10	1089053795593628600000000.000		
	Total	20362642769230764000000000.000	12			

Coefficients

			Std. Error	Standardized Coefficients Beta		
1	(Constant)	-723925592264.116	2244756117739.153		-.322	.754
	OIL PRICE	-847816239.694	294433112.897	-.764	-2.879	.016
	INTEREST	316867741541.974	368793474262.291	.228	.859	.410

a. Dependent Variable: CURRENT ACCOUNT

Through the test, it was found that, crude oil price is statistically significant in determining current account balance. There exists a p value of 0.016 between crude oil price and current account balance. It was also found that the interest rate is not statistically significant in determining the current account balance as they exhibited p value greater than 0.05.

Table: 4 – Regression

Table 4 represents results of regression analysis in which capital account was dependent variable and interest rate, oil price are independent variables.

Model Summary

	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.399[a]	.159	-.009	1648705070584.401

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5136113594600545000000000.000	2	2568056797300272700000000.000	.945	.421[b]
	Residual	27182284097707150000000000.000	10	2718228409770715300000000.000		
	Total	32318397692307697000000000.000	12			

Coefficient

Model				Standardized Coefficients Beta	t	Sig.
1	(Constant)	845990545275.877	3546397980333.732		.239	.816
	OIL PRICE	552171875.272	465162780.343	.395	1.187	.263
	INTEREST	12070596975.057	582641660690.210	.007	.021	.984

a. Dependent Variable: CAPITAL ACCOUNT

Through this test it was found that there is no statistically significant relationship between capital account, oil price and interest rate. All the 'p values' are greater than 0.05. So crude oil price and interest rates are not affecting the capital account part of Balance of Payment of India.

IV.CONCLUSION

The Balance of Payments (BOP) is impacted by number of internal and external factors. This paper focused on the impact of crude oil price and interest rate on Balance of Payment of India. The results would be useful to manage Balance of Payment and taking steps towards practices for controlling BOP deficit. The finding of the study is that, crude oil prices significantly impact current account of India's Balance of Payment. India is currently in the process of becoming an economic superpower of the world. One of the major drawback faced by the nation at the current situation is the unfavorable BOP position. The Central government and other related agencies should give more importance to this issue. From this study, it is evident that crude oil is the major factor that affects India's Balance of Payment. So the government should promote the use of electric vehicles and public transport in the country so as to reduce the crude oil import. If the nation rely more on renewable sources, then the BOP position will be improved. Future studies can be based on the impact of renewable sources of energy on the balance of payment of India.

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