Impact of Oil Prices on Inflation under the Mediating Role of Exchange Rate: Evidence from Pakistan

Ibrar Asif[1], Ahsan ul Haq Satti[1], and Asim Fareed[1]

[1]Pakistan Institute of Development Economics, Islamabad, Pakistan

Abstract

This study examines the relationship between oil prices, the exchange rate and CPI inflation by taking the monthly data from 1972-M6 to 2015-M12. The total effect of oil prices on consumer prices is decomposed into direct and indirect effects i.e., the direct effect of oil prices on consumer prices without considering mediating role of the exchange rate and the indirect effect of oil prices on consumer prices under mediating role of the exchange rate. The results show a positive and statistically significant impact of oil prices and exchange rate on consumer prices. The total effect of oil prices on consumer prices in the presence and absence of exchange rate is positive i.e., higher the oil prices higher will be the consumer prices and vice-versa.

Keywords: Exchange rate, Inflation, Mediation analysis
JEL Classification: E31, F31

1. Introduction

Pakistan's economy is growing continuously which demands higher energy consumption and it has high impact on the limited energy resources of the country. The three primary energy resources of the country like oil, hydro and natural gas are being used to fulfill the energy demands of the country. The economy of Pakistan largely relies on oil and a gas resource to meet it is energy requirements. However, the country's energy reserves are insufficient to fulfill the energy demands of the economy. Moreover due to political nature of the hydro energy Pakistan imports oil and oil-based products from the Middle East particularly from Saudi Arabia. The local and international companies are involved in oil sector and Pakistan's government is trying to make such policies that can attract foreign investors in this sector. But the unsteady political situation and the high degree of uncertainty create risk for the foreign investors.

In 1977, ministry of petroleum and natural resources was formed to organize and regulate the oil sector of the country. The most important role of the ministry is to offer oil discounts by open tendering system and private negotiations. Further, ministry offers different royalties payment and tax incentives to oil companies functioning in the economy in order to boost and encourage the oil sector. The most important national oil companies working in country are Oil and Gas Development Company Limited (OGDCL), Pakistan Petroleum Limited (PPL), Pakistan Oilfields Limited (POL), Mari Petroleum Company Limited (MPCL) and Pakistan State Oil (PSO).

The national companies have joint ventures and partnerships with some domestic firms and various international companies. The major international oil companies currently working in Pakistan are BP ["British Petroleum" (UK)], ENI ["Ente Nazionale Idrocarburi"(Italy)], OMV ["Österreichische Mineralölverwaltung" (Austria)] and Orient petroleum (Canada). In addition, there is shortage of domestic oil refineries in Pakistan due to which the demand for refined petroleum products becomes greater than the oil refining capacity of the country. It is the reason that the major proportions of country's oil imports are refined products. The major oil refineries working in Pakistan are Pak Arab Refinery Limited (PARCO), National Refinery Limited (NRL), Attock Refinery Limited (ARL), Byco Petroleum Pakistan Limited previously known as Bosicor Pakistan Limited (BPL) and Pakistan Refinery Limited (PRL).

The impact of oil prices is more severe for developing countries because there is inefficient use of energy in these countries and also the alternative energy resources are limited. The use of oil in net oil importing developing economies is much more than those of developed economies. The developing economies are less able to manage the financial crisis created by higher oil import prices (International Energy Agency (IEA, 2004)). Pakistan's government mostly shifts the burden of rising oil prices on the consumers because government has to manage other severe losses running within the country. In Pakistan, Oil and Gas Regulatory Authority (OGRA) usually gives the justification of rise in oil prices on various grounds (Adiqa, 2011).

There is a possibility that the prices of oil might influence consumer prices through exchange rate where exchange rate may be considered as a mediator. The three variables relate in a way that as major proportion of Pakistan's imports consists of oil so in order to pay huge amount of imported oil bills country needs dollars because the oil prices are measured in US dollar. It is the reason that rising oil prices increases the demand for dollars and decreases demand for rupee in foreign exchange market. A rise in demand for US-dollars causes an appreciation of the dollar against the rupee and similarly a fall in the demand for Pakistani rupee causes a depreciation of rupee against the US-dollars. When the demand of a currency increases it appreciates that currency and vice versa (Krugman et al., 2012). Due to depreciation of Pakistani rupee its exports become cheaper for foreigners and as a result the demand of local goods rises in the foreign market which also inflates the prices of local goods in domestic markets.

The rising import bills of Pakistan due to rise in oil prices also affect the economy by making imports greater than exports and consequently creating budget deficit in the economy. In order to cover the budget deficit and to meet the other expenditures of the country government imposes different types of direct and indirect taxes which lead to increase in the consumer prices and as a result exchange rate of rupee further loses its value and depreciates against the US-dollar.

The major sectors of an economy i.e. industrial, transport and power sector are heavily dependent on energy resources foremost to oil. So the impact of oil prices also transfers to the economy through these sectors. The rising oil prices

increases different types of costs in these major sectors which in turn transfer the costs effect to the whole economy, consequently, it inflates the prices of almost everything. For example in the industrial sector the hike in the prices of oil increases the production cost and firms as a result cut their production and raise the prices of the products. This rise in the product prices decreases the demand of the economy and the firms have to further cut their production. This low production also affects the exports of the country and widens the exports imports gap and in order to cover this gap sometimes government prints new money which also brings higher consumer prices in the economy.

The objectives of the study are to capture direct and indirect relationship among oil prices, exchange rate and consumer prices. We have decomposed the total effect of oil prices into direct and indirect effects. The direct effect is between oil prices and consumer prices without considering the mediating role of the exchange rate and indirect effect of oil prices on consumer prices is through exchange rate where exchange rate is performing the role of a mediator. For testing the role of mediator we have applied the Sobel test.

The direct and indirect effects of oil prices on consumer prices are measured through which we come to know that how much oil prices contribute to consumer prices directly and how much indirectly under the influence of exchange rate. The results of the study will help policy makers to respond to an innovation in oil prices effectively.

The literature is presented in the next section. The following section discusses the empirical methods and data. The results are presented in Section 4 and the some conclusions and policy recommendations are given in the last section of the paper.

2. Literature Review

The literature review explores the different type of work done so far in this area of study. It will help to explain the general idea of this study and further understanding of the relationship among oil prices, exchange rate and CPI inflation with major emphasis on crude oil prices.

Goel and Rohit (2015) studied the relationship between oil prices and exchange rate by taking monthly data of India from January 2001 to September 2013. The data had been analyzed by using regression technique, F-statistics and statistical formulae. The results showed that with the rise in prices of oil the Indian currency depreciated against the US-dollars in real terms which in turn increased nominal exchange rate of the country. Rafee and Hidhayathulla (2015) analyzed the nexus between international crude oil prices and inflation in India by using monthly data from 2011 to 2014. The correlation-matrix and regression didn't find the perfect association between the two variables and also the results of Granger Causality test confirmed no influence of crude oil on the CPI inflation.

Mansor and Kanokwan (2014) analyzed link between crude oil prices and other price indexes in Thailand by adopting both the symmetric and asymmetric approaches of cointegration. The findings showed that crude oil prices had more

severe impact on energy, transportation, communication and non-raw food prices inflation. This suggested that the oil price inflation affected the price indexes of some commodities more than the others depending upon the type of the commodity. Tuhran et al. (2012) selected the exchange rates of 13 emerging economies to examine the nexus among oil prices and exchange rates before and after the periods of financial crisis. The study utilized the VAR systems and Granger-causality tests on the daily time series data from 03-01-2003 to 02-06-2010. The results showed that after the financial crisis the hike in oil prices depreciated the local currencies against the US dollar.

Shaari et al. (2012) analyzed the impact of oil prices shocks on inflation by utilizing VAR VECM and Granger-causality model on monthly data of Malaysia from 2005-2011. The empirical findings of the study showed the existence of co-integration among variables in long-run but in short-run only the crude oil prices influenced the inflation of Malaysia. The results of the Granger-causality showed the indication of two ways causality from inflation to oil prices and form oil prices to inflation. On the other hand, the results showed no causality form inflation and oil prices to exchange rate and also the exchange rate didn't cause to both variables. Atif et al. (2012) used the multiple linear regressions to see the impact of high-speed diesel oil prices on the food sector prices (i.e. wheat, rice, chicken, maize and cooking oil) in Pakistan by using the time series data from 2001-2010. The results concluded that the high speed diesel oil prices affected the food inflation positively and significantly in Pakistan.

Arinze (2011) used the consumer price index (CPI) to see the impact of petrol prices on inflation in Nigeria by utilizing the simple regression analysis and covering the data from 1978-2007. The findings showed the positive relationship between the petrol prices and the inflation i.e., higher the petrol prices the higher will be the consumer price index (inflation) and vice-versa. Nazlioglu and Soytas (2011) estimated the link among crude oil prices, exchange rate and agricultural prices in Turkey by adopting Toda Yamamoto causality method and impulse response function on monthly data from 1994-2010. The results of the study showed that prices of agricultural products were not affected by the shocks in crude oil prices and exchange rates.

Huang and Guo (2007) utilized structural VAR model to find out the effect of oil prices and three other macroeconomic shocks on the real exchange rate of China. The study used the monthly data from 1990 to 2005. The results showed that the oil prices shocks caused a little appreciation in exchange rate of oil importing country China in the long run and also real shocks were dominant in determining the variations in real exchange than the nominal shocks. Baffes (2007) studied the impact of oil price changes on thirty five traded primary commodities by covering the annual data from 1960-2005. The results of simple econometric model (OLS regression) demonstrated that crude oil prices pass through into the total non energy commodity index was 0.16. The prices of food group and precious metals also had a strong relationship with the oil prices.

Philip and Akintoye (2006) analyzed the impact of oil prices shocks on macro-economic variables in Nigeria by employing VAR methodology and taking the data from 1970-2003. The findings showed oil prices shocks had

insignificant effect on inflation and output and significant effect on exchange rate. Cologni and Manera (2005) analyzed impact of oil prices on inflation and output growth in G-7 economies by employing structural cointegrated VAR model on the quarterly data from 1980:Q1-2003:Q4. The findings showed higher oil prices increased inflation and lowered growth in the majority of these economies. As a result the countries increased their interest rates to overcome the problem of inflation.

LeBlanc and Chin (2004) analyzed the effect of oil prices on inflation of oil importing countries (Japan, Germany, France, UK and US) by utilizing the estimates of Augmented Philips Curve and associated statistics. The quarterly time series data had been used in the study i.e. from 1980:Q1-2001:Q4. The outcome showed the increase in oil prices had only a minor effect on inflation of these countries. When oil prices increased by 10% it would lead to increase in inflation about 0.1% to 0.8% in the US and EU but the impact of oil prices on inflation was larger in Europe as compared to United States. Bhattacharya & Bhattacharya (2001) investigated transmission mechanism of rising petroleum prices on the prices of other commodities and growth in India by utilizing a VAR model. The study used monthly data from April 1994-December 2000. The empirical result of the paper showed two ways causality between the oil inflation and commodity inflation in the country.

Amano and Norden (1998) analyzed the relation between crude oil prices and exchange rate of US dollar (focusing on post Bretton Woods period) by using cointegration technique and ECM model on the monthly data from 1972-1995. Their results showed that the crude oil prices were the most important sources of persistent shocks in US dollar exchange rate. Throop (1993) analyzed the factors impacting exchange rate movements among US-dollar and the other major currencies in post 1973 flexible exchange rate system. The results of the Johansen co-integration technique concluded that the change in real oil prices, government budget deficit and productivity growth were the crucial factors impacting the stability of exchange rate.

As mentioned above, oil prices have extensive impacts. This research therefore focuses on the impact of crude oil prices on exchange rate and inflation in Pakistan. The impact of crude oil prices on exchange rate and CPI inflation usually depends on the country's nature whether country is an importer or exporter of oil. We have contributed to the literature in terms of direct and indirect effects of oil prices on consumer prices. The direct and indirect effects between oil prices and consumer prices are measured jointly under mediating role of exchange rate. We checked possible role of exchange rate as a mediator between oil prices and consumer prices by applying sobel test. The results of this research will assist policy makers to react against different changes in oil prices.

3. Data and Methodology

3.1 Data Sources

The three variables that have been utilized in this study are oil prices, exchange rate and CPI inflation. Time series data between June 1972 to December 2015 has been utilized for the analysis. The oil prices data is taken from World Bank Commodity Prices Data which shows the prices of oil in dollars per barrel. The monthly average exchange rates data has been taken from Monthly Statistical Bulletin, Annual Reports of SBP and International Financial Statistics (IFS) where the monthly nominal exchange rates are in Pak rupee per US $. Finally for inflation the consumer prices index (CPI) data has also been taken from the International Financial Statistics (IFS).

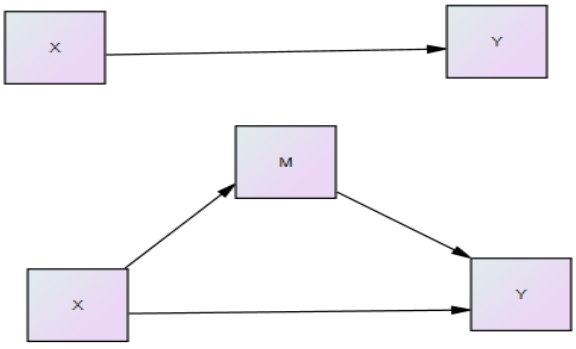
3.2. Descriptive Statistics

The simple and easily applied descriptive statistics usually provide valuable information and enable an analyst to grab the basic behavior of a time series data. We have used bivariate correlation coefficients in this study for the bivariate analysis among the variables.

3.3. Methodological Framework

3.3.1. Direct and Indirect Effects (Mediation Model)

Most of the studies focus on the relationship that exists between dependent and independent variables, Y and X, under which Y is being affected or caused by X. But the relationship between the dependent & independent variables can also be analyzed under these conditions.



The above snaps show relationship between X and Y directly and mediating effect indirectly causing X to impact Y through M. The mediation model explains the existing relationship between a dependent and an independent variable under the influence of mediating variable. The meditational model hypothesis assumes that the independent variable first affects the mediating variable which in turn affects the dependent variable. So, in this way the total

effect of X on Y (c) is divided into a direct effect (c') and an indirect effect ($\alpha\beta$). Thus, the total effect is ($c = c' + \alpha\beta$). A measure of mediation effect is also the difference between (c) and (c') which is equal to the product of the paths to and from the mediator. Therefore, $(c - c') = \alpha\beta$.

3.3.2. The Classical Mediation Test

There are more than a dozen distinct methods to test for mediation effect. MacKinnon et al. (2002) divided these mediation methods into the three important groups: the causal steps approach; difference in coefficients approach; and the product of coefficients approach.

Mediation Regression Equations

The most important example of causal steps approach is given by Baron and Kenny (1986). Using their approach; in order to evaluate mediation effect three different regression models are examined:

$$Y = \gamma_1 + cX + \varepsilon_1 \quad \ldots\ldots\ldots (3.1)$$

$$M = \gamma_2 + \alpha X + \varepsilon_2 \quad \ldots\ldots\ldots (3.2)$$

$$Y = \gamma_3 + c'X + \beta M + \varepsilon_3 \quad \ldots\ldots\ldots (3.3)$$

where Y is dependent variable; M is mediator and X represents to independent variable. γ_1, γ_2 and γ_3 are intercepts; α, β, c and c' are the regression coefficients capturing the relationship among the variables. The term 'c' is the coefficient connecting dependent and independent variables; 'α' represents coefficient related to independent variable and mediator; 'c'' shows the coefficient linking the dependent and independent variables by adjusting them for mediating variable; 'β' is the coefficient connecting the mediating variable to dependent one after adjusting them for independent variable; and, finally, the epsilons ε_1, ε_2, and ε_3 are model fit errors.

For mediation model the Baron and Kenny approach suggested four steps/conditions according to which the evidence from mediation is said to be likely if in the first step, the term 'c' in equation (3.1) is significant, i.e., there must be linear relationship between dependent and independent variable. In second step, the term 'α' in equation (3.2) is significant, i.e., there must be linear relationship between independent and mediating variable. Next the term 'β' in equation (3.3) is significant, indicating that mediating variable must be linearly related to dependent variable and finally, in fourth step, the term 'c'' linking the dependent and independent variables in the regression analysis in which both the mediating and independent variables, in the unique equation, are predictors of the dependent variable must become significantly smaller in size than the coefficient 'c' connecting the dependent variable to the independent variable in equation (3.1). Moreover, if either (α) or (β) is not significant, there is said to be no mediation. If the first three conditions hold, then there will be "partial mediation"

and if the first three conditions hold and also (c') is not significantly different from zero, then there will be perfect or complete mediation.

MacKinnon et al. (2002) stated that, "the overall purpose of the causal steps methods is to establish the conditions for mediation rather than a statistical test of the indirect effect". Baron and Kenny go on to recommend the Sobel (1982) z-test in order to check the statistical significance of indirect path $\alpha \times \beta$ (product of coefficients) and difference in coefficients ($c - c'$). The product of the coefficients approach measures product of paths from the independent variable to mediator and then from mediator to the dependent variable. After that the product is divided by it is pooled standard error and then compared with normal distribution. On the other hand the difference in coefficients approach compares the relationship between dependent and independent variables before and after accounting the role of mediating variable (Clogg et al., 1992). Also in this approach the difference in the coefficients is divided by pooled standard error and then compared with normal distribution. There are several formulas for calculating pooled standard error for mediation effect in both the approaches and these standard error formulas have only a minor difference in their estimation (Goodman, 1960; Sobel, 1982; Baron and Kenny, 1986).

Goodman (1960) proposed the sample based estimate where pooled standard error of the coefficients ($\alpha\beta$) is equal to $S_{\alpha\beta} = (\alpha^2 S_\beta^2 + \beta^2 S_\alpha^2 - S_\alpha^2 S_\beta^2)^{1/2}$, Baron and Kenny (1986) offered a population based estimate, where $S_{\alpha\beta} = (\alpha^2 S_\beta^2 + \beta^2 S_\alpha^2 + S_\alpha^2 S_\beta^2)^{1/2}$, and Sobel (1982) used an approximation without using final term which is equal to $S_{\alpha\beta} = (\alpha^2 S_\beta^2 + \beta^2 S_\alpha^2)^{1/2}$. Among these different estimates of standard errors we have adopted Soble's standard error approximation in our study and finally to test the mediation effect, the terms ($\alpha\beta / S_{\alpha\beta}$) or ($c - c' / S_{\alpha\beta}$) have been tested against a z-distribution under the null hypothesis of $\alpha\beta$ or ($c - c'$) are equal to zero.

The product of coefficients and difference in coefficients approaches provide a more formal statistical mediation test as compared to the conditions of causal steps approach. The Z-statistics for these approaches can be written as

$$z = \frac{\alpha \times \beta}{\sqrt{\alpha^2 S_\beta^2 + \beta^2 S_\alpha^2}} \quad \text{OR} \quad z = \frac{c - c'}{\sqrt{\alpha^2 S_\beta^2 + \beta^2 S_\alpha^2}}$$

Where (α) and (S_α^2) can be obtained from equation (3.2), and (β) and (S_β^2) from equation (3.3) respectively.

4. Empirical Results and Discussions

4.1. Descriptive Statistics

4.1.1. Bivariate Analysis (Correlation Matrix)

We have done the bivariate analysis among the variables for which we have used the bivariate correlation coefficients. The results of correlation coefficients among different variables are as expected. The oil prices have positive correlation with the exchange rate. This positive correlation indicates that higher the oil prices higher will be the exchange rate i.e., depreciation of exchange rate and vice-versa. The oil prices and exchange rate also have positive correlation with the consumer price index. The positive correlation between prices of oil and consumer price index indicates that the rising oil prices will increase in consumer prices of the country and vice versa. Further the positive correlation between exchange rate and consumer price index indicates that the increase in exchange rate i.e., depreciation of exchange rate will lead to increase in consumer prices and vice versa.

$$\begin{array}{c} \\ OP \\ ER \\ CPI \end{array} \begin{array}{c} \begin{array}{ccc} OP & ER & CPI \end{array} \\ \begin{bmatrix} 1 & 0.78 & 0.84 \\ & 1 & 0.97 \\ & & 1 \end{bmatrix} \end{array}$$

Note: Significant at 5% significance level

4.2. Direct and Indirect Effects

First of all we find out the total effect of oil prices on consumer prices separately before inclusion of exchange rate as a mediator in the regression analysis. After that we find out the total effect (combination of direct and indirect effects) of oil prices on consumer prices under mediating role of exchange rate. Table 1 summaries the estimated results of the total effects before and after the exchange rate (mediator) enter into the regression model. In our analysis the total effect of oil prices on consumer prices is 1.11 before the mediating role of exchange rate.

On the other hand by using mediation effect when exchange rate is used as a mediator, the total effect of oil prices on consumer prices is decomposed into two parts, direct and indirect effects. The direct effect of oil prices on consumer prices is 0.28 and the indirect effect through exchange rate as a mediator is equal to 0.78*1.07 = 0.8346. So the effect of oil prices on consumer prices before the role of exchange rate is 1.11 and under the role of exchange rate as a mediator is 0.28. Therefore, it can be said that when there is exchange rate as a mediator in a regression analysis/model, the effect of oil prices on consumer prices is reduced which is equal to 1.11 - 0.28 = 0.83. Sobel test determines whether the reduction in this effect after including the exchange rate in regression analysis is a

significant reduction or not and whether the mediation effect of exchange rate (indirect effect) is statistically significant or not.

Table 1: Summary of Estimates of Total Effects

Before mediator (ER) enter the model

	Coefficients	S.E.	p-value	Result
OP→CPI	1.11	0.031	0.000	Significant

After mediator (ER) enter the model

	Coefficients	S.E.	p-value	Result
OP→CPI	0.28	0.020	0.000	Significant
OP→ER	0.78	0.027	0.000	Significant
ER→CPI	1.07	0.020	0.000	Significant

Under Sobel test in a single mediating model, mediation effect is computed in two ways, namely, the product of coefficients approach ($\alpha\beta$) and the difference in coefficients approach ($c-c'$) respectively. The computed Z-statistics for the product of coefficients approach is equal to Z =25.42 and for the difference in coefficients approach it is equal to Z = 25.28. These computed Z-statistics values for both the approaches are greater than the critical values of normal distribution. So the null hypothesis that ($\alpha\beta$) or ($c-c'$) is not different than zero is rejected, therefore, it is concluded that when exchange rate is included in regression analysis there is significant indirect effect of oil prices on consumer prices and also there is significant reduction in the effect of oil prices on consumer prices.

The total effect of oil prices on consumer prices before the exchange rate in the model is positive which means that rising oil prices will also increase the consumer prices i.e., one unit rise in oil prices will lead to 1.11 unit rise in consumer prices. Alternatively after the inclusion of exchange rate in model, the total effect of oil prices on consumer prices can be divided into two parts, one is direct and the other is indirect effect. The direct effect is positive which shows that whenever there is one unit rise in oil prices it will bring about 0.28 unit rise in consumer prices. The indirect effect through exchange rate is also positive which shows that the rising oil prices will lead to rise in domestic currency exchange rate (depreciation of exchange rate) i.e., one unit rise in oil prices will bring about 0.78 unit rise in exchange rate.

Further the exchange rate as a mediator also affect consumer prices positively i.e., one unit increase in exchange rate will lead to 1.07 unit increase in consumer prices. Thus, the indirect effect is equal to 0.78*1.07 = 0.8346 and in this way the total effect of oil prices on consumer prices under the influence of exchange rate, which is combination of direct and indirect effect, is 0.28 + 0.8346 = 1.11. Therefore, the total effect of oil prices on consumer prices before and after including exchange rate in the regression analysis is positive i.e., (1.11) and with the help of Sobel test we come to know that how much oil prices contribute to consumer prices directly and how much indirectly. At last in brief,

it can be said that higher the oil prices higher will be the consumer prices even under the influence of exchange rate (mediator). The reason for this positive relationship is that the high oil imports of Pakistan depreciates rupee against US dollar. As a result the exports of the domestic country become cheaper and the demand for its products rises in the foreign market. This rising demand leads to increase in prices of the products not only in foreign market but also in domestic market. In this way the exchange rate as a mediating variable brings higher consumer prices in the economy.

5. Conclusion and Policy Recommendations

We find out the total effect of oil prices on consumer prices before and after mediating role of exchange rate. The Sobel test is used to test the possible role of exchange rate as a mediator. The total effect of oil prices on consumer prices before inclusion of exchange rate as a mediator in the regression model is positive i.e., higher the oil prices higher will be the consumer prices and vice versa. On the other hand the total effect (direct and indirect effects) of oil prices on consumer prices under mediating role of exchange rate is also positive. Under direct effect oil prices have positive relationship with the consumer prices i.e., higher oil prices cause higher consumer prices and under indirect effect firstly oil prices are positively related to exchange rate i.e., higher the oil prices higher will be the exchange rate and secondly exchange rate related positively to the consumer prices i.e., higher the exchange rate higher will be the consumer prices.

The results of the Sobel test conclude that when the exchange rate is included in the model there is significant indirect effect of oil prices on consumer prices. Also there is a significant reduction in the effect of oil prices on the consumer prices after the inclusion of exchange rate as a mediator. The mediating impact of exchange rate transfers to consumer prices through depreciation of exchange rate which lowers the worth of rupee and brings higher consumer prices in the economy.

There is a dire need that the attention should be given on policies related to oil prices. As the industrial and other major sectors of the economy are heavily dependent on electricity which is produced by oil so there is a desperate need of effective water resource management to enhance the hydrel electricity production capacity. Law and order situation should also be improved with in the country for the safe and secure environment to the investors. Government should also provide subsidies on the oil prices for the domestic users. In order to decrease the imbalanced pattern of petroleum products consumption there is need of tax rationalization in this sector. The impact of oil prices on consumer prices and on the depreciation of exchange rate can be decreased by the implementation of these policy recommendations.

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