

Assessing the Impact of Demand, Import, Taxes and OPEC on Petrol Prices

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Abstract

Importance of petrol in our daily life is visible and it is a strategic fuel for economic lifeline. The price of petrol between Pakistan and other most costly fuel consuming countries is 100% to 175% higher. But if the per capita income is taken into the report the difference goes up. It is estimated that petrol prices in Pakistan is worked out to be costly as 6.64 times in Japan, .75 times in Norway and 5.3 times in UK. Pakistan is placed on 158th rank on the basis of per capita income, but in terms of petrol prices it is placed on 59th number for the most expensive petrol from 153 countries. The main emphasis of our research report is to find out what are the subsequent factors for the fluctuation of petrol prices and collecting the data regarding the reason. In this analysis we found out the major causes that how demand; import, taxes and OPEC affect the petrol prices in Pakistan. Secondary data has been collected from a variety of journals and reports and primary data from questionnaire and interviews. The sample size of 52 is applied and for testing the hypothesis the process of linear regression is applied to examine the impact of independent variables on dependent variables. It is recommended that Government should generate appropriate strategy for the equilibrium of oil demand, should drill their own wells to maintain oil import in Pakistan and should take initiatives for the suitable and stabilize tax rate.

Keywords: Demand, OPEC, Import, Taxes

1. Introduction

Petrol is a light fuel oil which is obtained by distilling petroleum and is operated in inner combustion engines. Investigation of petroleum in this region began about more than century ago. The first well was drilled in 1866 at kindal in Mianwali district of Punjab.

Now a days petrol is very essential to fulfill the prerequisite of transportation. As the petroleum consumption is increasing day by day a lot of issues are taking place in Pakistan petroleum sector i.e. short supply of petrol, corruption issues, petrol prices, shortage of refineries etc. Our vital objective is changes in petrol prices and the major dilemmas which cause the change in price. The demand plays a crucial role in increasing the price of a product. In our country when the demand of petrol increases the government also increases the price and a large amount of the price we are paying for petrol is tax collected by the government.

OPEC sets up the worth of petroleum products as the supply is short OPEC drive up the rates and Pakistan has just 58 billion barrels coffers which did not achieve the demand of petroleum and due to which it faces tough time in petroleum zone and imports it from other countries.

Pakistan import its goods and services in US dollar which source the prices of petrol to get higher and when the price of oil cut in worldwide market, no major changes occur in petrol prices because of the taxes implied by the government. The tax rate on petrol prices reaching an all-time higher level in 2016 20% sales tax apply on petroleum products. Bilal Hassan said in World times that "Tax system in Pakistan mostly depends on indirect taxation and collect their tax revenues mostly from indirect taxation for balancing their budget. Indirect tax includes: custom duty, sales tax and federal tax duty.

2. Literature review

Rehana siddiqui said that motor spirit is mainly demanded by transport sector. Energy in mainly depend on motor spirit in Pakistan. For example motor spirit depends on the vehicle's conditions, average road speed, and acceleration rate. Therefore addition in price and also addition in transport sector.

Muhammad amir and Ani bin shabri When the prices are increases so the administration cost also increases and Pakistan is depends on crude oil import and now days it has facing serious energy crises.

Afia malik said that Global demand for oil grew In the last couple of years due to rapid growth of economy is US, as well as Asia has stable in their financial performance. World demand for oil raised at the rate of 1.3 % and this is because of the highly consumption of china and India, almost 40% of demand is from china and India

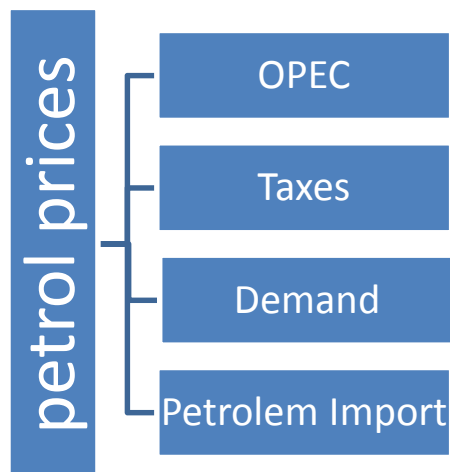
Nadeem burney and Naeem akhtar indicate that The rapid increase in the rate of producing energy has to controlled to concern, particularly in the developing countries, about whether energy will be available in adequate supply and at prices which will allow progress to continue

Sharon Xiaowenlin, Michealtamvakis OPEC countries have improving order on oil prices, and whether OPEC stuff of share changes are proficient differently between crudes of changing gravity

3. Objective

The aim of this research is to examine the fluctuation of petrol prices in Pakistan and to find the main causes of it so that the government should take the corrective actions to overcome the issue.

4. Schematic diagram



5. Theoretical framework

The dependent variable is petrol prices which is the variable of crude oil, in which the variation is attempted to be explained by the four independent variables of: (1) OPEC (The Organization of Petroleum Exporting Countries) (2) Demand (3) Petroleum imports (4) Refineries

OPEC the group of fourteen countries is accountable for 42% of the world's crude oil production and set strategies among member countries to meet over-all consumption. OPEC can affect the crude oil by increasing or decreasing production among member countries.

When consumer demand rises the suppliers will meet that demand at a higher price. Many fuel retailers especially along interstate and major highways will rise prices to overcome the increased demand for fuel by the travelling public. In Pakistan the demand of petrol is increasing day by day because of increase in transportation, increasing in industrial sector etc. today's demand of petrol is 4 million tons/year and expected that the demand of petrol is increase by 8 million tons in 2020.

Pakistan is an oil importing country Its import is increased by \$4 million and the export is \$1 million. We import petrol from Saudi Arabia which is the largest member of OPEC. Saudi Arabia import 12 % petrol from its production to Pakistan and the import is in US dollars which is the main reason of high petrol prices because petrol is bought in high prices and supply it to public with included taxes. But recently decrease in international oil prices had positive impact on our import bill. Administration has decrease local oil prices by almost 17% during one month and has passed on partial impact of decrease in global oil prices to local consumers.

The total revenue is earned with sales tax and now they increase tax on motor spirit from 17% to 20%. They take loans from IMF and after that increase sales tax, income tax to recover their loans which cause increase prices in Pakistan including petrol prices.

OPEC price = \$50.96 a barrel

1 dollar = 104.82 pkr

1 barrel = 119 liter

$$50.96 \times 104.82 = 5341.62/119 = 44.82$$

So, in Pakistan the original price petrol is 42.82/ liter excluding taxes

And when the 20% tax rate is applied the price become 51.38/liter, after including custom duties, transportation charges and companies profit the prices reach to 65/liter

6. Scope

The research report having factors or information extracted is advantageous for the students of commerce and petroleum as well. The abstract can also be utilized for the analysis by economist and for the evaluation of how much variation actually eventuates in past and present data. It helps the government in decision making and determining the feeble areas of the petroleum industry which helps them to take the effective measure for the improvement of the industry.

7. Significance of study

There is not much research done concerning petrol prices in Pakistan so it would be convenient for the individuals who want to get the information about this sector. This research is significant for the government policies to enhance the efficiency in moderating the prices. The importance of this research is to explore the history of petrol prices and to know the truth behind those hidden facts which are undulating the prices.

8. Methodology

As the study comprised of facts and figures and various independent variables hence quantitative research approach was applied to conclude the result. We used statistical inference, correlation and regression analysis to enhance the link between variables.

The secondary data had been formulated from the different websites, articles, and books. The primary data was collected from PSO, SHELL, BYCO, refineries, economist, researchers, and journalist. We took sample size of 52 from the population.

A linear regression and correlation technique was considered for attaining the purpose of the research which correlated the link among the dependent and independent variables.

$$Y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + e$$

$$\text{Petrol} = a + \beta_1DE + \beta_2PI + \beta_3TA + \beta_4OP$$

Whereas:

DE = demand

PI = petroleum import

TA = taxes

OP = OPEC

e = error term

9. Hypothesis

DEMAND

Ho = There is no relation between demand and petrol prices

HA = There is a significance relation between demand and petrol prices

OPEC

Ho = There is no relation between OPEC and petrol prices

HA = There is a significance relation between OPEC and petrol prices

TAXES

Ho = There is no relation between taxes and petrol prices

HA = There is a significance relation between taxes and petrol prices

PETROLEUM IMPORT

Ho = There is no relation between Petroleum Import and petrol prices

HA = There is a significance relation between Petroleum Import and petrol price

10. Limitation

During the process of research we faced so many difficulties managers of the companies were hesitant to fill the questionnaire due to the lack of sufficient knowledge regarding the topic and appropriate data was not available on the websites.

11. Recommendations

The government should boost more private company contribution. Relaxed downstream requires satisfactory industry facilities, reduction of some laws, a change in pricing policy as well as facility of transport and storing services, To attract new applicants into the market, petrol prices have to be locked by the market in line with

economic boundary prices.

The federal government as well as the state and local governments should begin to source deposit from other areas of the economy by tapping other resources in the country and stop liable on oil as the main source of revenue.

More of other resources should be selected so as to spread the economy.

The present system of taxation needs to recover and the government should reduce the tax rate for the oil industry

12. Conclusion

We conduct a research report on petrol prices in Pakistan and we have to test the relation between four variables which were taxes, demand, import and OPEC. To check hypothesis we conduct research through questionnaire, the result was derived that three hypothesis are rejected while one was accepted which was between OPEC and petrol prices. We also conclude that import, taxes and demand plays a vital role in fluctuation in petrol prices.

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DEMAND RESULT

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.486 ^a	.237	.154	.900

a. Predictors: (Constant), WEATHER, DEMAND, SPECULATIVE_BUYING, FUTURE_CONTRACTS, SUPPLY

b. Dependent Variable: petrol prices

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.549	5	2.310	2.850	.025 ^a
	Residual	37.277	46	.810		
	Total	48.827	51			

a. Predictors: (Constant), WEATHER, DEMAND, SPECULATIVE_BUYING, FUTURE_CONTRACTS, SUPPLY

b. Dependent Variable: petrol prices

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.350	.913		5.858	.000
	DEMAND	-.263	.135	-.276	-1.945	.058
	SPECULATIVE_BUYING	-.091	.128	-.096	-.711	.481
	FUTURE_CONTRACTS	.268	.168	.214	1.594	.118
	SUPPLY	-.218	.113	-.274	-1.937	.059
	WEATHER	-.247	.220	-.148	-1.122	.268

a. Dependent Variable: petrol prices

PETROLEUM IMPORT RESULTS

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.430 ^a	.185	.115	.920

a. Predictors: (Constant), WAR_BETWEEN_IRAN_AND_IRAQ, DOLLAR_EXCHANGE, IMPORT, IRANIAN_FOREIGN_POLICIES

b. Dependent Variable: petrol prices

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.023	4	2.256	2.664	.044 ^a
	Residual	39.804	47	.847		
	Total	48.827	51			

a. Predictors: (Constant), WAR_BETWEEN_IRAN_AND_IRAQ, DOLLAR_EXCHANGE, IMPORT, IRANIAN_FOREIGN_POLICIES

b. Dependent Variable: petrol prices

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.610	.584		7.899	.000
	IMPORT	-.083	.126	-.101	-.656	.515
	DOLLAR_EXCHANGE	-.291	.122	-.356	-2.388	.021
	IRANIAN_FOREIGN_POLICIES	-.081	.166	-.082	-.490	.626
	WAR_BETWEEN_IRAN_AND_IRAQ	.173	.186	.152	.933	.356

a. Dependent Variable: petrol prices

OPEC RESULTS

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.370 ^a	.137	.083	.937

a. Predictors: (Constant), CRUDE_OIL_PRODUCTION, OPEC, REFINERIES

b. Dependent Variable: petrol prices

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.671	3	2.224	2.532	.068 ^a
	Residual	42.156	48	.878		
	Total	48.827	51			

a. Predictors: (Constant), CRUDE_OIL_PRODUCTION, OPEC, REFINERIES

b. Dependent Variable: petrol prices

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.222	.817		2.721	.009
	OPEC	.038	.133	.039	.289	.774
	REFINERIES	.204	.147	.195	1.391	.171
	CRUDE_OIL_PRODUCTION	.254	.140	.256	1.822	.075

a. Dependent Variable: petrol prices

TAXES RESULTS

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.625 ^a	.391	.339	.795

a. Predictors: (Constant), BUDGET_DEFICIT, LOCATION_FACTOR, IMF, TAXES

b. Dependent Variable: petrol prices

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.099	4	4.775	7.549	.000 ^a
	Residual	29.728	47	.633		
	Total	48.827	51			

a. Predictors: (Constant), BUDGET_DEFICIT, LOCATION_FACTOR, IMF, TAXES

b. Dependent Variable: petrol prices

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.735	.541		5.056	.000
	TAXES	-.210	.106	-.264	-1.991	.052
	IMF	.206	.094	.274	2.189	.034
	LOCATION_FACTOR	-.032	.135	-.028	-.238	.813
	BUDGET_DEFICIT	.440	.092	.567	4.760	.000

a. Dependent Variable: petrol prices