

Oil Price Volatility and its Impact on Economic Growth in Pakistan

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Abstract The main objective of this research is to analyze the impact of oil price volatility on the economic growth of Pakistan. Secondary data from 1973 to 2011 were used to estimate the coefficients. Linear Regression analysis is used to analyze the dependency among the dependant and independent variables. All variable Oil price, Oil supply, oil demand, Gross Domestic production, Public sector investment, private sector investment and Trade balance is stationary at 1st Difference through ADF test. Trade Balance, Private sector investments have a significant effect on Gross domestic production and Public sector investment, Oil price volatility has insignificant impact on Gross domestic production. Government should make a proper plan and procedure according to Pakistan's economic growth and requirement which would help to maintain the equilibrium of oil demand and supply and decreased the impact of oil price volatility on the economic growth. Meanwhile, the government of Pakistan also focused on its trade balance and also tries to increase private sector investment to increase its economic growth.

Keywords: *oil price volatility, linear regression, macroeconomic variables, economic growth of Pakistan*

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1. Introduction

Increased in oil price causes different impacts together on net oil importers and net oil exporters (combining both crude and products). Consequently, the oil price shock has an important effect on growth of the world economies due to limited purchasing power by oil importers. But, higher oil import costs will not fulfill its demand and that's also effects exports. On the other hand, as an oil exporter, oil price shocks will slow down its development of trade and exports (Afia, 2008) [2].

Latife Ghalayini (2011) [25] worked on oil price volatility and mentioned that oil price shocks would usually influence macro economic performance through a number of channels. Oil prices transfer financial reserves from oil importing countries to oil-exporting countries through its trade. Increased oil prices decrease industry productivity through higher costs of manufacture and raised inflation.

One more factor which is contributing to raise the oil demand, is the limited level of reserves in developed economies and their supply phase for reconstruction is very uncertain. There is an important factor contributing highly, to elevate the oil prices is the unanticipated and high premium of risk on oil and its products. It is continuing because of unbalanced or unstable oil supply by its core producers. Geopolitical suspicions and stretched market situations have encouraged the speculative resources to come into the market, which additionally increases the prices in the short term period (ADB 2004) [1].

2. Literature Review

Hamilton, Bruno and Sachs (1982 and 1983) [9,15] studied on the period of 1950 to 1979 that oil prices have special effects on growth, financial growth instability and inflation in United Kingdom. The outcome discovered that there is major association between the variables.

Oil prices volatility has unconstructive impact on the large economies in very large scale. An increase in oil prices shifts the aggregate oil supply increasing, resulting to increase in price altitude and a decline in economic productivity and employment (Dornbusch et al., 2001). On the other hand, aggregate oil demand increases product prices and after that it slowly decreases the oil demand. The macro-economic possessions of oil volatility are transmit through oil supply and oil demand channels and are minimized its potential by economic strategy responses.

K.Balasubramanian (2004) [6] explained that oil demand often increases very high then its output capacity. But normally oil prices increase when oil reserves reduce because OPEC brings limitations on demand. He also described that oil supply can be reduced due to shipping infrastructure, accessibility of pipes, climate, terrorist assault, promotion, etc. The local government laws also take part an important role on oil price volatility like tax rates, policies, procedures.

Siddiqui (2005) [35] explained that it is very difficult for the governments to increase oil prices every time. The increase in oil prices has also increase the inflation, reduce the profit on product and services, and reduce the

economic growth. The government should encounter these issues before taking any decision for increase in oil prices.

Nooreen et al., (2007) [30] defined in study that Pakistani economy is heavily depend on its oil imports to run its economic mechanism. Consequence, oil price volatility may have threatened the special effects on domestic and local financial markets and also create volatility in stock prices. The prices of oil effect on the earnings or the inflows of companies and also companies operation directly and indirectly. Oil being highlighted as one of the mainly significant macro economic factors, which have main and strong association with the economy and the financial markets in Pakistan.

Kilian (2009b) [24] describing that fundamentally oil demand is increases due to doubts about future oil supply deficits. He described that the recent oil price volatility is due the increase in oil demand and uncertain oil supply. Supply distress also constrains inflation and increase in manufacturing costs and in turn central banks increase their interest rates which also effect the economic growth. If oil price volatility is due to demand, it is because of supply stretch, very limited in time, inflation increases only for the short term, and there is no unexpected decline in economic growth.

Oil price volatility and its shock would visibly have a most important impact on the economies of the world. This aspect should drive significance to the policymakers around the whole world to make policies for the oil demand. They have to enhance their energy efficiency, to diminish the susceptibility of their world economies from oil price volatility. Oil price would usually influence macro-economic performance and economic growth from beginning to end through different number of channels. First, increases oil prices shift income from oil importing economies to oil exporting economies, during transfer in the conditions of trade. This aspect resulting as decrease in real income of the oil importing economies. Second, increases of oil prices decrease industry outcome throughout the mean of higher expenditure of production. Third main aspect is that, they straight away raise inflation through increases prices of imported commodities and the petroleum products. If increase in inflation guided to an increasing trend in income, then the central banks would be compulsory to lift up interest rates (Muhammad et al., 2011) [28].

2.1. Macroeconomic variables

2.1.1. Gross Domestic Production

GDP (gross domestic product) is most important and one of the primary indicators utilized to measure the condition of any country's economy. The monetary worth of all the services and finished goods produced surrounded by a country's borders in a precise time period is called GDP. It is normally measured in annually basis.

2.1.2. Private Sector and Public Sector Investment

The investment play an important role in economic development. The investment which came from tax collection, foreign aids etc and government use for the betterment of the people is called public sector investment and the investment which came from individuals and used for earning point of view is called private sector investment. The public sector investment normally found for building infrastructure like dams, roads, colleges and universities etc. Meanwhile, the private sector investments

focus on goods and service sector like industries etc. These both investments jointly help to increase the efficiency of the economy.

2.1.3. Trade Balance

The Trade Balance (balance of trade), also called net exports, is the disparity among the monetary values of country's exports and country's imports of output over a certain period in an economy. Trade balance (Balance of trade) is the major factor of balance of payments in a country's. A country has a condition of trade deficit when its imports is more than it exports; the reverse scenario is called trade surplus.

2.2. Macroeconomic Performance and Oil Prices of Pakistan

2.2.1. Macroeconomic Performance of Pakistan

Pakistan has to need a continued long term economic growth of 7 percent to increase its general living standards and meaning full economic development. But it is observed that Pakistan's economy hardly ever grow more than 5 percent since its independence. The economic growth of Pakistan has declined since 2008 and viewed at 2.6 percent. The expected growth in 2012 is around 3 percent which is low then the targeted growth 4.2 percent and meanwhile the continental Asia is expected to grow more than 7.5 percent in that year. Low economic growth is main hurdle to decreased poverty in the country. It is viewed that from 2008 to 2010 Pakistan's poverty is increased from 22.3 percent to 37 percent. Slow macro-economic fundamentals have been the main factors of low economic growth. Pakistan's also decreased its international competitiveness by declining from 92nd position from 142 countries to 118th position reported by World Economic Forum (Amjad Bashir, 2012) [3].

Pakistan total liabilities including debts are over Rs. 12 Trillion which maximum consist of public debts. Government of Pakistan also borrowed Rs. 615 billion from private sector investment. Pakistan's external debts and liabilities increased and estimated that if that trend continued it reached at US \$ 73 billion in 2015. The average interest rate in Pakistan is around 12.75 percent but at the same time the inflation is standing at 14 percent which also effect the economic growth of Pakistan. The national saving trend is decreasing 15.4 percent to 13.8 percent due to inflation and other macro-economic factors and that saving rate is the lowest rate in the Asia (Inayat Ullah Mangla, 2011) [17].

Restoration of its economic growth and getting back its competitive position, is highly depend that how Pakistan undertake its chronic macro-economic volatility due to fiscal slippages, energy crises and low trade. Economic growth hinges on the fiscal constancy. The fiscal deficit of Pakistan increased by 6.6 percent in 2011 which enlarged inflation and debt burden. Tax recovery remains low in the last twenty years. Pakistan is known as the lowest tax to GDP ratios among all other developing economies and standing at 153rd from total 154 countries (Pakistan Economic outlook, 2010) [32].

2.2.2. Oil prices Trend in Pakistan

Pakistan have more than 190 million population, has been on the way of growing GDP escalation in the

previous couple of decades but in view of the fact that the preceding fiscal year the circumstances is not very good. The everlasting increase in the oil prices in the previous few years is considered as one of the causative reasons. Energy division has a straight association with the economic advancement of a economy. In contrast, with the increasing growth velocity of GDP, demand for oil and energy has also developed quickly. The extent through which economies are harm as a consequence of price upset relays on the contribution of price of the oil in national income of any economy, the extent of reliance on oil (imported for usage) and the potential of end-users (consumer) to decrease their utilization and change on other substitute from oil. In view of energy mix for the 2005-06 year, oil accommodate for 32 percent of the entirety energy consumed in Pakistan. Even though the concentration through which oil is consumed in entire energy utilization has diminished in the previous few years but even though still it is the subsequent major resource of energy consumption following by the natural gas, which accommodate for 39 percent. As far as the energy concentration is concerned it has viewed almost stable since 1990-91 (i.e., 1%). Diminish in energy concentration is measured as the mainly capable way for dropping susceptibility to oil volatility (Bacon 2005) [4].

The oil being the second major resource of power utilized along by means of approximately a stable velocity of its production. Pakistan is seriously reliant on the oil imports from the Middle East exporters (Saudi Arab have a significant role). Approximately 82 percent of the oil and petroleum products demand in the country is cater through imports. Pakistan expenditure almost 44 percent of its export income on oil imports in the year 2006 to 2007. This proportion was barely 27 percent in the year 2004 to 2005. For that reason, the global oil price fluctuations and volatility have a straight effect on the macro-economy of the country, particularly on the oil price GDP association (Malik 2007) [27].

2.2.3. Comparative oil Prices in Pakistan and World

It is observed that oil prices in its market place went down but meanwhile, in the context of Saudi its income went upward due to oil extraction and domestic low price. OPEC had set a oil price at 18 dollar per container in December, 1986 but that price was not continued for a long period and decreased in the start of 1987. After that Iraqi and Kuwait war pay an important role to increased oil prices due to instability of oil supply in 1990. But after Gulf war (Kuwait and Iraqi war) the oil price was noticed a considerable decreased till 1994 and reached at the same price which was in 1973. Later then in 1998, the price increased and goes toward revival due to reduced oil supply by OPEC and maintained at the level of 1.72 million containers in April, 1999. This policy made oil price at 25 dollar per container (Edward Morse and James Richard, 2002) [13].

In 1982 to 1985, Oil producing and exporting countries (OPEC) has try to allocate a quota among its member countries to maintained the oil supply in the world but they are failed due to not serious action by its members and specially Saudi Arabia, which decreased its oil supply because of decline in oil prices. In the mid 1986, they tried to correlate the oil prices with blemish oil market to maintain the oil prices less the 10 dollar per container (Afia, 2007) [27].

Pakistan's GDP growth has increased in year 2004 to 2005 and reached at the level of 8 percent approximately. But this increasing effect does not sustain for long run and the GDP decline and reached at 6.5 percent in 2006 to 2007 and that the decreasing trend continued. The demand of oil is increased due to the GDP growth. It is observed that increased in oil demand in Pakistan by 4.4 percent due to economic growth from 1990-1991 to 2006-2007. (Afia, 2008) [2].

Pakistan's energy formation is approximately 19500 Mega watts. There are two main sectors, government and private, jointly produced the energy. The Nuclear and Hydro power generation positions are in the custody of government. Meanwhile, thermal power stations are jointly owned by government and private sector. More the 70 percent of the energy is produced by the thermal power generation which is the main source of energy in Pakistan. Thermal energy is produced through oil and gas which is the expensive of energy production. Left behind 30 percent of the energy is produced by hydro power generation which is the cheapest way of energy production. It is observed that Pakistan is produced the expensive energy which increased the production cost and also have a great impact on macro economic variables and economic growth. It is main requirement of energy generation to shift from expensive Thermal power generation to cheapest Hydral power generation and for that prospects, have to build more dams (Noor ul haq and Khalid Hussain, 2008) [29].

Pakistan population is round about 190 million and it is the world 6th largest country described in 2008-09 Financial survey of Pakistan. But at the same time, Pakistan is the minimum user of energy, 0.5 TOE per capita approximately. There was not much exploration by Pakistan, so its heavily relay on imports. The oil consumption in different sectors are, industrial sector used approximately 43.1 percent of the total oil, transportation sector utilized 21.1 percent of the total oil, house hold and domestic sector used only 3.8 percent of the total oil, commercial sector consumed 2.1 percent of the total oil used, 2.1 percent is utilized by the agriculture sector from the whole oil consumed and the remaining continued consumption by the government sectors. It is also viewed that Pakistan only fulfilled 20 percent oil requirement from the local oil extraction and remaining 80 percent from the imported oil. Pakistan imports round about 16.5 Metric ton of oil (petroleum and petroleum goods) in 2006 to 2007 (*Pakistan Economic Survey* 2010-2011) [31].

Many geologists and policy makers have a common point of view that current assets are finished after some time. The described that if technology does not improve, it decrease oil supply and increase oil demand which may cause to increase the oil prices very sharply. In the start of 1970 decade, it is viewed that the oil supply demand is increased due to economic growth but there was no advancement of technology found which increased the oil prices. At this movement, oil extraction and exploration is found every where in the world but the demand of oil always more then the oil of supply. The world is now used round about 84 million containers per day to meet the oil requirement. That thing indicate that there is a high risk in oil supply and demand which also effect the macro-economic variables (Jiménez et. al., 2012) [22].

2.2.4. Increases in International Oil Demand

Increasing and decreasing oil demand is being fueled by tough economic expansion, mainly in non-OECD nations. The U.S. Energy Information Administration plans that total world utilization of marketed energy is anticipated to increase by 44 percent from 2006 to 2030. Determined spare oil production capability leaves very small room to compensate for unexpected oil supply disruptions or fluctuation in oil demand. Unstable balance among oil supply and oil demand is creating more anxiety. Supply interruption, whether actual, can have spectacular effects on the price of oil.

Global economic development is driving what the U.S. International Energy Agency (IEA) says is the major raised in oil demand in 24 years. In exacting, energy utilization in the emerging economies of non-OECD countries is anticipated to increase by 73 percent among 2006 and 2030. The increase in oil demand is due to development in energy sector and also increasing of economic growth.

Tetsuya Nakanishi & Ryoichi Komiyama (2006) [36] The oil demands in the countries of Asia Pacific carry on increasing, mainly in the great people republic of China (PRC) by means of its considerable economic progress /development and in Pakistan and India where a demographic aspect is also at work. In the consequences, the world oil (petroleum) supply and demand equilibrium is becoming gradually tighter day by day, and being refer as one of the aspects which are main reason of the current elevated oil prices.

The global oil demand is predictable to enhance by 7.77 million barrel per day or by means of an average yearly rate of 1.4% over the period of 2003 to 2010, while the oil demand in Asia (together with Pakistan, India, Japan) is projected to increase by 4.43 million barrel per day (2.7% yearly) and in the East Asia (exclusive of Japan) by 3.80 million barrel per day. That's why, Asia is anticipate to the account for almost 57% of the quantity of enhance in the world oil demand, in the company of East Asia (exclusive of Japan) claiming 49% described in above figure. This movement would carry on as unaffected over the period of 2010 to 2015 period, along Asia accounting the figure of 45% of the world-wide oil demand enhance, or else 35% in the scenario of East Asia, which would determined Asia into the hub stage of the global oil demand (Tetsuya Nakanishi & Ryoichi Komiyama, 2006) [36].

C.-Y. Cynthia Lin (2011) [10] define the oil on top of the list in most significant worldwide resources. He described that is not only powerful due to importance is resources but due to the oil reserves possession itself is a basis of geo-political power. Determined from the outcome, global demand of oil is inelastic with respect to price. Consequently, in the further scenarios, the abridge assumptions of a stagnant and entirely aggressive oil market are impracticable. The author conclusion is that the theoretical statement of a stagnant and entirely competitive market possibly will be un-realistic, principally in representation the supply of oil. In reality, the constant but incompetent 2SLS approximation for the monthly oil demand all demonstrate the suitable negative indication; the indication for OPEC (Organization of the Petroleum Exporting Countries) oil demand barely turn over when OPEC oil demand was predictable together with OPEC oil supply in attempt to gain estimations that were not barely constant but also competent. The supply part been extra

pragmatically represented and then combined evaluation of oil demand and oil supply may not barely have enlarged the effectiveness and significance of the previously negative and constant price coefficients for the demand, but in addition yielded considerable positive price coefficients for supply at the same time. In consequence, attempting to consistently and efficiently approximation of comprehensive oil supply and oil demand market in the situation of a stagnant and entirely competitive oil market possibly will, definitely, be the dry hole. The dry hole not due to the non-existence of either the econometric methods / models or tools to facilitate consistent and efficient estimation but to a certain extent because of the no plausibility of the stagnant ideal competition statement in the initial place. The econometric model which integrates either the vibrant or oligo-polistic features of the oil market, or else together, become visible to be a extra capable prospect for investigation and expansion, and from which more affluent and more reasonable outcomes are probably to be take out (C.-Y. Cynthia Lin, 2011) [10].

2.2.5. Supply Side Channel

Hamilton (1996) [14] contribute the similar point of view and pressure that oil prices volatility and the oil supply disturbance could be a reason of rescheduling of investment opinion in the economies which also effect the economic growth.

Specified a industry's source limitations, the enhance in the oil prices as an major and important input of production diminishing the magnitude which it can easily produce. (Hunt, Isard and Laxton, 2001) [16] include that an enhance in oil input expenditure can constrain down by non-oil probable productivity supplied in the short run period specified obtainable capital collection and economies. Furthermore, human resources and industries will contradict and oppose to decline their real earnings and revenue margins, enhancing upward pressure on increase unit labor costs and also increases in the prices of finished goods and services.

Oil is sophisticated to produce petrol and diesel and the price of oil is conventionally the greatest solitary factor distressing fuel prices over time. Supply remains unpredictable. A number of additional factors also enhance uncertainty of supply and with increasing demand; as a result of increasing oil pricing. Political instability in oil producing regions has impacted on oil cost that's why the political condition in the Middle East is of worldwide anxiety. In view of the fact that oil is an important aspect of production in the majority divisions and industries, a increase in oil prices enhance the corporations production expenditures and accordingly, arouses reduction in productivity (Jimenez-Rodriguez and Sanchez 2005) [34].

In accumulation, the oil price volatility minimize investment behavior in oil and gas production (Verleger 1994 as cited from Raguindin & Reyes, 2005). They also described that a "permanent increase in volatility might lead to a situation where future capacity will always be a little lower than in a world of zero price volatility and prices a little higher".

2.2.6. Demand Side Channel

It is already described that oil price enhancement interpret to increases production costs, leading toward the

products price enhances at which industries trade their merchandizes in the market. Increases product prices then interpret to inferior demand for services and goods, which are the reason of reduction aggregate productivity. In addition, increases the oil prices influence aggregate consumption and demand in the economies. The transmit of returns and resources from the oil importing economies to oil exporting economies is predictable to diminish international demand as demand in the previous is probable to turn down more than it will increase in the latter (Hunt, Isard and Laxton 2001) [16]. The consequential inferior acquisition power of the oil importing economies interprets to a inferior demand. Moreover, oil price volatility pretense economic ambiguities on expectations performance of the macro economies. People may reschedule their utilization and investment decisions in anticipation of they predict a progress and improvement in the economic conditions. In conclusion, an enhance in the oil prices have an impact a left side transfer in both demand curve and supply curve, consequential to increases prices and inferior the productivity.

2.3. Statement of the Problem

Oil price volatility has become a massive problem for the developed and developing economies. It has a significant impact on balance of payment and economist pays special attention in future anticipation to minimize the loss due to oil price volatility. The aim of the present study is to analyze the oil Price volatility and macroeconomic variables impact on GDP of Pakistan.

3. Data Collection Procedure

Annual data are collected from IEA, IFS and World Bank from 1973 to 2011 for estimation of coefficient.

3.1. Linear Regression Model

The Linear Regression is an econometric technique which correlates the changes in the variable (the series data that reappear again at permanent intervals) to other variable or variables. The demonstration of the association is described as linear regression model. It is identify linear because the association is linearly preservative. The following Linear Regression model is used for analysis:

$$\begin{aligned} & \text{Gross Domestic Pr oduction} \\ & = \beta_0 + \beta_1OPV + \beta_2PRS + \beta_3PS + \beta_4TB + \varepsilon \end{aligned}$$

- OPV = Oil Price Volatility
- PRS = Private Sector Investment
- PS = Public sector Investment
- TB = Trade Balance

4. Results and Discussion

4.1. Unit Roots Results

Unit root test is used to check the stationary of the data. The seven variables of time series data is stationary on the levels, at first difference and at second difference. The econometrics test Augmented Dickey-Fuller (ADF) unit

root test is used for analysis of stationary The ADF test contains three type of situation for every time series. First, random selection process includes intercept (c) and trend (t). Second, random selection process includes intercept (c) but no trend (0). Third, random selection process includes lag length.

There is a trend in oil demand, oil supply and oil price. Meanwhile, it is also anticipate a trend in trade balance, public sector investment, private sector investment and GDP of Pakistan.

Table 1. Augmented Dickey-Fuller Test Results

Variables	ADF test Statistics	Probability	Results
Oil Demand	-1.699589	0.7319	I(0)
Δ Oil Demand	-3.596155	0.0439	I(1)
Oil Supply	-2.074755	0.5428	I(0)
Δ Oil Supply	-5.183937	0.0008	I(1)
Oil price	-2.125841	0.5155	I(0)
Δ Oil price	-7.802852	0.0000	I(1)
Trade balance	-1.498032	0.8128	I(0)
Δ Trade balance	-7.447361	0.0000	I(1)
Public sector investment	-5.361190	0.0005	I(0)
Δ Public sector investment	-4.217483	0.0102	I(1)
Private sector investment	-2.336803	0.4051	I(0)
Δ Private sector investment	-6.692131	0.0000	I(1)
GDP	1.074254	0.9999	I(0)
Δ GDP	-4.472106	0.0054	I(1)

The test result indicates that the all variables Oil demand, Oil supply, Oil price, Trade Balance, Public sector investment, and Private sector investment have a unit root in their levels and are stationary in their first differences as Table 1 demonstrate the results.

4.2. Linear Regression

The linear Regression analysis is run on the dependent variable Gross Domestic Production and the independent variables Trade Balance, Public sector investment, Private sector investment and the Oil price volatility (defined through standard deviation) to find out the impact of oil price volatility and other macro economic variables on the economic growth of Pakistan. The results are described by the following equation

$$\begin{aligned} GDP = & 10.4 + 0.163OPV + 0.206PRS \\ & + 0.165PS - 0.000026TB \end{aligned}$$

Table 2. Linear Regression Model Result

Predictor	Coef	StDev	T	P
Constant	10.3812	0.7180	14.46	0.000
OPV	0.1628	0.2474	0.66	0.515
PRS	0.2059	0.1210	1.70	0.098
PS	0.1651	0.1780	0.93	0.360
TB	-0.00002622	0.0000	-2.04	0.049

$$R - Sq = 90.1\% \quad R - Sq(adj) = 88.9\%$$

The equation illustrates the constant value of 10.4 units which mean without any change in other independent variables, the constant independently change the GDP by 10.4 units. After that the oil price volatility have the coefficient value of 0.163 which is positively impacted and also depict that one positive change in oil price volatility have positively change GDP of Pakistan by 0.163 unit. The regression equation also denominate that private sector investment (which is represented through PRS) has also a positive impact on GDP of Pakistan and one unit change in private sector investment would change GDP of Pakistan by 0.206 unit. Consequently, the analysis about public sector investment, it has positive impact on GDP of Pakistan and one unit change in public sector investment may change the GDP of Pakistan by 0.165 units. In contrast with other independent variable Trade balance have a negative impact on GDP of Pakistan and if one unit change in Trade Balance would change GDP of Pakistan by negatively 0.000026 units. The regression table describes that oil price value and public sector investment value is not even significant at 10 % level of significance but at the same time private sector investment value is significance at 10 % level of significant. The table illustrates that trade balance value is significant at 5 % level of significance.

The R square value in the Linear Regression equation described that the independent variables Trade Balance, private sector investment, public sector investment and oil price volatility describe the dependent variable Gross Domestic Production of Pakistan by almost 90 %. The remaining portion of GDP of Pakistan is impact through other macro-economic variables which is only 10 %.

5. Conclusion

It is observed that the time series data of independent variable and dependant variable (Oil price, Oil supply, oil demand, Gross Domestic production of Pakistan, Public sector investment, private sector investment and Trade balance) have a trend and also not stationary. After using unit root test (ADF) it is found that all variables are stationary at first difference and no variable is found stationary at level.

The linear regression model is used to find out the effect of oil price volatility and the other macro economic variables on the GDP. Trade Balance has significant effect on Gross domestic production at 5% level of significance. Meanwhile, the private sector investment has a minor effect on Gross domestic production of at 10% level of significance but oil price volatility and public investment is not significant effect on the Gross domestic production. The Linear Regression Model describe that these independent variable define 90% about the dependent variable.

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