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A STUDY ON PRICES OF PETROL AND RELATED PRODUCTS IN INDIA

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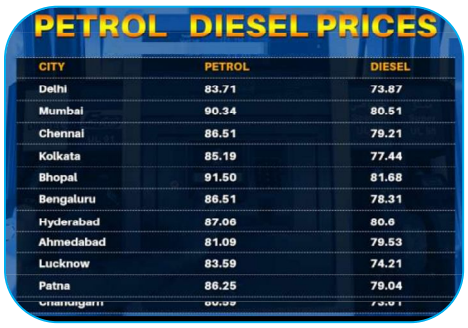
ABSTRACT:



Success of a country is depending upon it sources of revenue, it is very usual, any tax and duties levied by the government for the purpose of raising public exchequer. The public exchequer is the main financial resources of the government to provide various welfare facilities to the people. In such a way that there are some main sources of revenue created by the governments by way of levying tax and duties on the imported goods and commodities that imported from abroad. Thus, petroleum, Oil and Lubricants are the mostly imported commodity, India is diversifying the oil imports and has entered into an agreement to source two million barrels of Ural oil. In this present scenario, it is assumed that 80 percent of petrol and diesel is imported into India and 20 percent is exported. Therefore petrol and diesel prices are determined based on the prices of these fuels in the international market and not on the basis of crude oil prices. Hence this research article attempted to understand and analyze the pricing trend of petroleum products and the opportunities that can be tapped by India when crude oil prices fall.

KEYWORDS: *Petroleum, Oil and Lubricants, Balance of Trade, Tax Revenue, crude Oil.*

I. INTRODUCTION

India is the third most consumer and importer of Petroleum, Oil and Lubricants next to the USA and China with around 80 percent import content. Traditionally, India's basket of crude came from Iraq, Saudi Arabia, Iran, Nigeria and UAE. Of late India's import from USA has been on the rise and now USA is the 6th largest source of mineral oil. India is diversifying the oil imports and has entered into an agreement to source two million barrels of Ural oil.

II. PROPOSED ANALYSES

1.1. Statement of the Problem

India imports nearly 80 percent of its oil needs, but is more than self-sufficient in petrol and diesel production. The petrol and diesel pricing mechanism and trade parity are often been criticized. The petrol and diesel are the government's cash cows. During the crude crash earlier this year and COVID pandemic, cash –strapped center raised excise duty on petrol and diesel by Rs.13-16 a litre many country and states also increased their sales tax/VAT. Petrol and diesel prices hit a three-year high. At

Indian Oil's petro pumps in Chennai, petrol costs 102.98 a litre, while diesel price 94.39. Increasing the prices of petrol and diesel leads to increasing transport cost structure resulted to increasing the pricing and cost structure of all the essential and non-essential commodities and services. With this important phenomenal, this article has attempted to find the answers to following research objectives.

1.2. Objectives of the Study

This study aims to bring out the following items.

- To study about the taxes on petroleum, oil and lubricants and the revenues thereof to Centre and States.
- To find out the relationship between the relationship between Balance of trade (BOT) and imported Crude price.
- To analyze whether crude oil prices are influence on the total tax revenues of our country.
- To suggest the suitable policy measures to regulate the prices of petroleum, oil and lubricants.

1.3. Methodology and Scope of the study

The paper focuses on the tax structure on petroleum, oil and lubricants products mainly petrol and diesel prices in India over the years. And the volumes of tax revenues by both the federal and State Governments are discussed. It identifies the measures to increase reserve storage capacity of crude oil to take advantage when crude prices fall. Carl Pearson formula is used to calculate correlation coefficient. The data were collected from Ministry of petroleum, and various research institutions.

1.4. Hypotheses Tested

Following hypothesis are formulated to identify the relationship between the selected variables.

- There exist a positive correlation between Crude oil prices and mercantile trade balance.
- There exist a negative correlation between crude oil prices and tax collection by both federal and state governments of India.

III. Experiment and Result

Taxes levied on Crude oil imports are the Basic Customs Duty is Rs.1 per Tonne of imported Crude Oil. Then Rs 1 is imposed as CVD per tonne and National Calamity and Contingency Duty of Rs 50 per tonne. A social welfare surcharge at the rate of 10 percent is also levied. Generally, India does not import final products like petrol, diesel and ATF.

The imported crude oil is refined in about 24 refineries set up by both private and public sectors with a total installed capacity of 256.5 MMT. India has the world's biggest refinery in Gujarat. The imported crude oil is refined in these refineries and Excise duties are applicable by the federal Government. The Centre levies at least three types of taxes on petrol, diesel and ATF. They are Basic Central Excise Duty, Special Additional Excise duty and Road and Infrastructure Cess (Additional Excise Duty).Petroleum taxes being an important source of revenue, the Centre has increased levy of Excise duties whenever international crude oil prices fell and vice versa. The ceiling limit on Special Excise Duty on petrol and diesel were increased to Rs 18 and Rs.12 from Rs 10 and Rs.04 on 23 rd March 2020 as an amendment in Finance Act 2020.

3.1. Tax by State& UTs on petrol & Diesel

State Governments levy various taxes like VAT/State Sales Tax etc on value of petroleum, oil and lubricants as advalorem taxes. These taxes range from as low as 6 percent in Andaman, 20 percent in Arunachal to 38 percent in Maharashtra.

3.2. Petroleum, oil and lubricants taxes and their share

In the overall tax basket, petroleum, oil and lubricants taxes fetched 39.2 percent of overall tax revenue in year 2014-15 and the same has increased to 52.6 percent in year 2016-17. During the same

period the share of petroleum, oil and lubricants taxes of States out of their overall tax collection was 25.7 percent and 25.1 percent respectively for said periods. During 2010-17 on average 45 percent of Union taxes (from UED and CD) was collected from petroleum sector.

During the same time, on average 26 percent of State taxes from Sales tax/ VAT (including Central Sales Tax and Entry Tax) was collected from petroleum sector. The revenue share of petroleum taxes for the Union government has gone up whereas for the state governments it has gone down since 2010-11. Being advalorem taxes which are based on value of the commodity, ability of States to raise the taxes once the Centre announces increase in Excise duty is very limited as it would have an effect of raising the price to the end customer.

Whereas, when State Government attempts to hike their respective taxes it will have an effect of rising prices. This compels and limits the ability of States' to use petroleum taxes as a means to raise revenues.

3.3. Road transport Cess as a major source of revenues to GOI

The road transport cess is pertinent to mention recent developments that have taken place with regard to cess on infrastructure levied on petroleum products. While introducing the budget in February 2018, there was a reduction of excise duty both basic and special but a corresponding increase in infrastructure cess. While there was slash of Rs 2 basic excise duty on both petrol and diesel and also slash of Rs 6 on Special Excise Duty, to make up the reduction, an increase of by Rs 8 as Infrastructure cess was introduced.

The Road cess was introduced in year 1998-99 as a non-lapsable to fund road projects including Central, State, Inter State and Rural Roads and Railway bridges. This arrangement was formalised into an act called as Central Road Fund Act (2000). The cess collection was not going into the general pool of revenues of GoI. A committee was set up to recommend the Govt on utilisation of these revenues from this cess.

Later in year 2018, there was an amendment and the 'Road Cess' was enlarged to make it a 'Road and Infrastructure Cess' which could include projects like seaport, airport and other projects from broad sectors such as Energy, Communications, Social Infrastructure, Water and Sanitation and Road and logistics. The limit of these taxes is now set at Rs 18 each for petrol and diesel. At present the cess rates have reached its ceiling of Rs 18 for both petrol and diesel.

This massive non lapsable fund will not be put to Parliament for appropriation but would be expended based on committee recommendations and over the years this fund has grown in magnitude. It was Rs. 5752 Crores in year 2004, Rs 19600 in 2014, Rs.62400 in year 2017, Rs.85000 crores in 2018 and 1.13 Lakhs in year 2019 and is utilised for improving infrastructures.

3.4. Fall on Crude oil prices and corresponding rise in Excise Collections

Table. 1.1 Fall on Crude oil prices and corresponding rise in Excise Collections

The data shows that the relationship between crude oil prices and the exercise duty.

Increase/ Year	2014	2015	2016	2017	2018	2019	2020
Increase in Central Excise tax on Petrol in Rs.	3.75	9.65	2.12	-2	-1.5	2	16
Increase in Central Excise tax on diesel Rs.	2.5	7.97	5.5	-2	-1.5	2	19

Source: M/O Petroleum, GOI, 2020.

The Centre increased the taxes on Petrol and diesel on 02 occasions in year 2014, on 06 occasions during year 2015, and on 03 occasions during 2016. During 2017 and 2018 there was a

reduction on the rising Indian basket of crude oil prices. Thereafter there was one increase in year 2019 followed by 03 increases during year 2020.

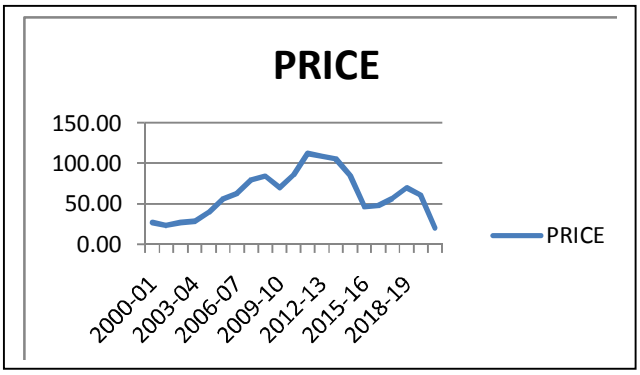
Table 1.2 prices of imported cured oil from 2000 to 2021.

The following table depicts the yearly average price of imported crude oil for years spanning from 2000-01 to 2020-21.

YEAR	PRICE In USD
2000-01	26.92
2001-02	22.55
2002-03	26.60
2003-04	27.98
2004-05	39.21
2005-06	55.72
2006-07	62.46
2007-08	79.25
2008-09	83.57
2009-10	69.76
2010-11	85.09
2011-12	111.89
2012-13	107.97
2013-14	105.52
2014-15	84.16
2015-16	46.17
2016-17	47.56
2017-18	56.43
2018-19	69.88
2019-20	60.47
2020-21	19.90

Source: M/O Petroleum, GOI, 20-21.

The international crude prices (Indian basket) prices has come down less than to historic level prevailed in 2001-02. Indian basket of crude prices is calculated with a weight age of around 75% for Sour crude (Oman/UAE) and 25% for Sweet crude (Brent).



The prices of crude oil was low during 2001-02 at USD 22.5 and with increasing trend thereafter touched a peak rate of 2011-12 and thereafter has been on a declining trend with the floor prices as low USD 19.90 during April 2020. To amplify the recent trends, there was a fall of USD 21 in 2014-15 followed by a fall of USD 38 in year 2015-16 and a marginal rise during year 2016-17. The price rose by USD 9 in 2015-16 and again rose by USD 13 in 2018-19.

Thereafter it fell by USD 9 in 2019-20 followed by a drastic fall in 2020-21. The latest fall in prices were attributed to competitions among petroleum producing countries and accentuated by a reduction in demand for petroleum, oil and lubricants products all over the world attributable to Covid-19 lockdowns. It is said that the current prices of crude oil is not oven covering the production cost and since there was no capacity to store oil, supply outwitted demand.

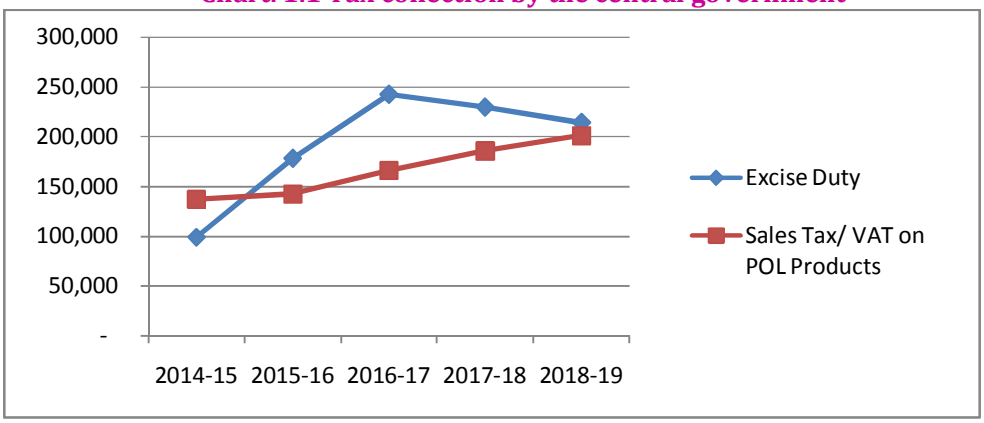
Table 1.3 sales taxes on POL in India.

Tax/year	2014-15	2015-16	2016-17	2017-18	2018-19
Excise Duty (in crores)	99,068	1,78,477	2,42,691	2,29,716	2,14,369
Sales Tax/ VAT on POL Products (in crores)	137157	142807	166414	185850	201265

Source: M/O Finance, GOI, 2019

The Centre's collection of taxes has risen by 116 percent between year 2014-15 and 2018-19 when the prices of imported crude fell. The rise wart to States' tax was 46 percent during the same period. This is explained by the fact that whenever Crude prices fell, the Centre has increased Excise Duty/Road Cess on 15 occasions after October 2014 to till date and reduced the taxes on two occasions in October 2017 and October 2018 when the crude prices increased. Though states raised the respective SST/VAT, it could not match with the level of rise in former.

Chart. 1.1 Tax collection by the central government



The graph1.1 explains the rapid rise in increase in tax collection by the federal government during the falling phase of crude oil prices between 2014 and 2016. The rise in states' taxes was gradual and subdued.

3.5. Strategic Reserves

International Energy Agency stipulated that all net oil importing country members must have a strategic petroleum reserve equal to 90 days of the previous year's net oil imports for their respective countries and the. USA has the world's largest reserve storage capacity of 797 MMT followed by Japan and China. China has total reserves of 684,340,000 barrels to cater to 90 days of net imports. South Korea's oil stocks in terms of days of net imports have consistently been above 160 days since January 2009, hitting the country's historical record of 240 days (124 days of government stocks and 117 days of industry stocks) in March 2014. Japan has large stockpile reserves and is in a position to cater to New Zealand from its stockpile.

Many more countries have agreements to oil from reserves during emergency. Even a producing country can set up a reserve in a buying country. Such practise is there in order to safeguard countries' from oil shocks and to cater to during emergencies when supply disruption takes place. It is imperative that we analyse India's present position. India is a member and is having 45 days of refinery storage and 10 days of state controlled storage.

India has built reserve storage capacity at Vizag, Mangalore and Padur to cater to 10 days to store up to 5.3 million barrels. These storage facilities were created during the period between 2015 to

2018. If India has to partake the benefit of fall in international crude prices, then there is an immediate need to increase the strategic storage capacity. The strategic storage position is indicated in this table.

Table 1.4 POL reserves in India.

Name of Reserve	Capacity Million Metric Tonnes(MMT)	Commissioned in	Number of days coverage
Phase I			
Vizag(AP)	1.33	June 2015	10 days
Mangalore(KA)	1.5	October 2016	
Padur(KA)	2.5	December 2018	
Phase II			
Chandikol(Orissa)	4		12 days
Padur(KA)	2.5		

Source: M/O Finance, GOI, 2019

3.6. Correlation between BOT and imported crude prices

India's Overall Balance of Payments		
Year	**Balance of Trade (BOT)**	**Crude Price (In US$ Million)**
2001-2002	7,587	22.55
2022-2003	8,693	26.60
2003-2004	14,307	27.98
2004-2005	27,981	39.21
2005-2006	46,075	55.72
2006-2007	59,321	62.46
2007-2008	91,467	79.57
2008-2009	1,19,521	83.76
2009-2010	1,18,203	69.76
2010-2011	1,27,322	85.09
2011-2012	1,89,759	111.89
2012-2013	1,95,656	107.97
2013-2014	1,47,609	105.52
2014-2015	1,44,940	84.16
2015-2016	1,30,079	46.17
2016-2017	1,12,442	47.56
2017-2018	1,60,036	56.43
2018-2019	1,80,283	69.88

Source: M/O Finance, GOI, 2019

Government of India decided to build a strategic crude oil reserve of 5 MMT through a Special Purpose Vehicle (SPV). The SPV is named Indian Strategic Petroleum Reserves Limited (ISPRL) which was initially a subsidiary of Indian Oil Corporation Limited, which i.e. 09.05.2006 has became a wholly owned subsidiary of Oil Industry Development Board (OIDB). Once completed, these reserves will store crude oil equivalent to India's net import requirement of 10 days. Capital cost for constructing these strategic storage facilities was originally estimated to be Rs.2397 crore at September, 2005 prices,

which had undergone upward revision to Rs.4098.35 crores. Now Phase II is under consideration and once completed, that would add to another 12 days of net import.

Should a country possess larger reserve storage capacity, it could buy petroleum, oil and lubricants at cheaper cost for future use. The only obverse consideration will be the carrying cost. It is imperative that India looks at increasing storage capacity in both commercial sector as well as state owned strategic reserves. It can also plan price forward agreements with supplier countries to store crude at the reserves built inside India but the crude would be owned by the exporting countries. This would reduce the carrying cost.

3.7. Correlation between BOT and imported crude prices

The difference between exports and import of goods is mercantile balance of Trade. India imports 80 percent of its domestic requirement. Out of the total imports, petroleum products alone account for around 24 percent of overall imports. The proposed hypothesis is, there exist a positive correlation between Crude oil prices and mercantile trade balance.

The relationship between these two variables were evaluated using Carl Pearson's

Correlation coefficient formula works out to 0.81.

$$r = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{\sqrt{[\, n\Sigma x^2 - (\Sigma x)^2 \,][\, n\Sigma y^2 - (\Sigma y)^2 \,]}}$$

$$\frac{18(147600355) - (1881281)\,(1{,}181.75)}{289287924382547000.00}$$

On evaluation of data using above formula, the resultant coefficient is 0.81 which depicts a high positive correlation between the variables of balance of trade and imported crude prices for the years of data from 2001-02 to 2018-19.

This is an indicator for policy formulations and during this Covid-19 pandemic. It is expected that net petroleum, oil and lubricants importing country like India stands to gain by way of reduced import bill whenever international crude oil prices fall. The lesser prices would generally mean reduced outgo on foreign exchange and also reduction in mercantile trade deficit and corresponding reduction in current account deficit thereof. This reduced expenditure on import bill would help finance import of other goods and services during such pandemics.

3.8. Correlation between Tax revenues on petroleum, oil and lubricants products and imported crude prices

Excise revenues of federal government and sales tax/VAT of State Governments were added.

Hypothesis: There exist a negative correlation between crude oil prices and combined tax revenues of both federal and the state Governments of petroleum, oil and lubricants.

year	Average Crude prices	Combined tax revenues
2014-15	84	3,32,620
2015-16	46	4,14,506
2016-17	48	5,24,945
2017-18	56	5,43,026
2018-19	70	5,75,632

When the relationship of above two variables were evaluated using the same Carl Pearson Correlation Coefficient formulae, the result obtained showed that there is a mild negative correlation of -0.38 indicating that both variables were negatively correlated i.e. when crude prices fell, it resulted in increased tax revenues to both federal and State tax revenues. It has been observed from underlying feeder data that when crude oil prices rose in the international market, not always the tax rates were reduced. The idea is to protect Government's revenue as petroleum, oil and lubricants taxes are an important source of revenues for both federal and State Governments.

3.9. Summary and Findings

The contraction of CAD has emanated from easing of crude prices. Petroleum, oil and lubricants imports share was at 32.1 during 2009-14 when the crude prices were on the rise. The share came down to 25.2 percent during 2014-19 when the crude prices were on falling spree.

It has also been proved through the hypothesis that there is a direct relationship between crude prices and mercantile trade deficits. This depicts that falling crude prices on one hand helps reduce the trade deficit and on the other hand it also helps in increasing the tax revenues. During such pandemic, it would be prudent to import more and more crude oil. But this is not feasible unless we increase the stockpile capacity. As we have seen the stockpile capacity at present is 55 days capacity from strategic storage as well as storage of all refineries put together is available.

There is a proposal to build 12 days of net imports in phase II of strategic storage. Building strategic reserves separately results in higher cost of managing the same and it is prescribed that instead of building strategic reserves separately, Govt may plan to double the storage capacity of Indian refiners. It is imperative that Govt directs oil refineries to increase the storage by ploughing their own profits.

Such increase in storage capacity will help reap the benefit of lower crude oil prices whenever it occurs. Assuming that the commercial refiner's storage capacity is doubled, it would increase the reserves to 90 days over and above the strategic storage of 10 days. Such increase in storage capacity would help import oil when it is cheaper. By such measures, it will not only comply with the requirement of International Energy Agency but also help save import bill Ceterus Paribus. While doing so there will be fiscal benefit in the form of increased tax revenues from petroleum taxes as validated by the second hypothesis.

IV.CONCLUSION

Increasing the storage capacity of refiners and increasing imports of crude oil when prices fall, will help achieve twin objective of reducing mercantile deficits as well as increasing the overall tax revenues from petroleum, oil and lubricants.

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