International Journal of Management, IT & Engineering
Vol. 7 Issue 5, May 2017,
ISSN: 2249-0558 Impact Factor: 7.119
Journal Homepage: http://www.ijmra.us, Email: editorijmie@gmail.com
Double-Blind Peer Reviewed Refereed Open Access International Journal - Included in the International Serial Directories Indexed & Listed at: Ulrich's Periodicals Directory ©, U.S.A., Open J-Gage as well as in Cabell's Directories of Publishing Opportunities, U.S.A

MACRO ECONOMIC ASSESSMENT OF TAXES ON PETRO PRODUCTS IN INDIA: A CASE FOR TAX RATE RATIONALIZATION AND FISCAL CONSOLIDATION

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Abstract

Tax on Petroleum products is a significant fiscal instrument. Besides being items of revenue receipt for Government exchequer, both at States and at Centre; taxes on petroleum products become cost items to producers. Those taxes add to the selling price of the products which are passed on to the customers on products which are essential item for its users.

For every Government in the world, petroleum products are easy objects of taxation, as product in bulk is taxed at supply sources and taxes are paid by the marketers, private and public, who are always limited in number. Petroleum products have well defined supply chain, due to the nature of product being liquid or gaseous and being hazardous; therefore, products follow well structured documents, making tax avoidance not easy. Some of the milestone supply links become easily identifiable points of tax collection (on output) or availing input credit.

Being essential items to users, without having substitutes in the short run, the demand for petroleum products are less elastic to price. Therefore, it is easy to revise tax rates, without reverse variation in consumption volume, and that attaches buoyancy to revenue collection.

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From the consumer's perspective, taxes on petroleum products are unavoidable and the incidence of taxes on petroleum products pinches the housewife's monthly budget. Price sensitivity of the petroleum products therefore usually gets pronounced in the market and in media easily.

This paper is an attempt to study the taxes on petroleum products from the macroeconomic and public finance perspective. It analyses the following questions:

1. What is the structure of Petro Taxes, taking into account major products, applications and customer profile?
2. What is the extent of revenue generation role that petro-taxes have played on a historical view, including the element of subsidy?
3. What percentage are the petro-taxes on the end user's price on some select products?
4. How sensitive is the petro-prices on inflation and how the price indices of select petroleum products have behaved?
5. Is the composite incidence of tax on per unit of petroleum products justified?

Consumption of Petroleum Products

India is one amongst those countries where marketing of petroleum products has been largely regulated. There has, however, been deregulation in marketing of specific petroleum products at different times, through changes in policy regulations and institutional arrangements. Thus private companies have come to operate in the market in the entire value chain; upstream, mid stream and downstream, in different degree and proportion.

Private companies are seen to be more active in the refining segment. During 2015-16, out of 233 MMT crude oil processed in the country, private refineries processed 89 MMT (38 percent) and jointly owned refineries processed 17 MMT (7 percent).

When it comes to marketing, central public sector undertakings (PSU) together market 80% of products consumed in the country. Out of 185 MMT petro products consumed in the country during 2015-16, private companies marketed only 37 MMT (20 percent). Out of that, 15.8 MMT was Petroleum Coke and 8.5 MMT was Naphtha, adding up to 24.3 MMT (13 percent of total petro products consumed in the country). These two products are for industrial application and are supplied in bulk. Retail marketing of petro products therefore remains largely in PSU hands, in an oligopolistic structure, with oversight from Ministry of Petroleum & Natural Gas, Government of India.

Out of 227 MMT of crude oil having been processed in 23 refineries in India, 202 MMT (89 percent) was imported in 2015-16. 28 MMT finished petroleum products also was imported. Oil Industry, despite being import dependent to a large extent; have taken great strides on multiple fronts to make petro products available in all parts of country for all usages at all times.

Spurred by economic growth, increasing number of people are using varieties of energy intensive equipments in houses. Further, owing to growing mobility of goods and persons, there has been a consistent growth in consumption of petro products. Country consumed 185 MMT of petro products and its use has been growing at CAGR of 5.24 percent during last 35 years (1980-81 to 2015-16). Per capita consumption of petroleum products in India stands at 136.9 kg, which is an increase from the level of 93.6 kg in 2007-08. There is scope for further increase in consumption of petroleum products, as more and more people come to possess automobiles and start using clean cooking fuel in kitchens. As industrialization and particularly manufacturing activity increases, the fuel for heating and feedstock for fertilizer and petrochemical products also is going to cause increase in use of petro goods.

Table 1 provides the trend in growth of consumption of petroleum products in our country and also the trend in tax revenue earned by Central Government from the petro products (including crude oil).

Table 1: Trend in Consumption of Petro Products and Tax Realization by Government of India

	Tax Realization by Central Government from Petro Products	Consumption of all Petro Products	Incidence of Tax on per Unit of Petro Products
Unit	Rs Crores	TMT	Rs per MT
1980-81	1512	30896	0.49

1990-91	9543	55035	1.73
2000-01	35912	100075	3.59
2005-06	63143	113213	5.58
2010-11	102828	141040	7.29
2011-12	95229	148132	6.43
2012-13	98602	157057	6.28
2013-14	104163	158407	6.58
2014-15	122926	165520	7.43
2015-16	213995	184674	11.59

Source: Indian Petroleum & Natural Gas Statistics, 2015-16, Ministry of Petroleum & Natural Gas, Government of India

Table 1 helps to draw conclusion that as consumption of petro products increases, there is more than proportionate increase in tax realization by the Government of India, coming from petro products, reflecting in higher incidence of tax per unit of petro products consumed. While CAGR for petro products consumption for the period 1980-81 to 2015-16 is 5.24 percent; the same for realization of tax revenue by Government of India is 15.2 percent CAGR. The correlation coefficient between the above two variables is 0.9304, signifying that both the variables very closely moved in the same direction.

Tax revenue realized from petro products during 2015-16 contributed 15 percent to gross tax revenue realization of Government of India. Tax revenue realized from the Customs and Central Excise on petro products constituted 33 percent of gross indirect tax revenue realization of Government of India. Both these percentage indicators speak volume about the critical dependence of central exchequer on petro products. Looking historically, the tax revenue realization from petro products in proportion to gross tax realization of Government of India, including indirect taxes, have increased in 2015-16. The historical trend is placed by the side of Tax GDP ratio in table 2 that reinforces the conclusion that petro taxes are coming to support the increasing tax GDP ratio in recent years.

Table 2: Contribution of Taxes on Petro Products to Government of India's Revenue Realization (Fig in Percentage)

Years	Average of number of years	Contribution of tax revenue realization from petro products to gross tax realization of Central Government	Contribution of tax revenue realization from petro products to gross indirect tax realization of Central Government	Tax GDP ratio of Central Government
2015-16	1	15	33	10.27
2006-07 to 2015-16	10	12	26	10.4
1996-97 to 2005-06	10	18	29	8.8
1986-87 to 1995-96	10	15	19	9.7
1980-81 to 1985-86	6	10	12	9.15

1. Indian Petroleum and Natural Gas Statistics, Ministry of Petroleum & Natual Gas, Government of India, successive issues, latest 2015-16
2. Indian Public Finance Statistics, Ministry of Finance, Government of India, successive issues, latest 2015-2016

Tax Structure of Petroleum Products

Petroleum products, during marketing phase of the supply chain (ex refinery processing), are taxed at two levels, on a cascading basis. At ex-main storage point, after bulk receipt of cargo, Central Excise or Customs duty is paid to Central Government, depending upon the cargo being indigenous or imported, while cargo moves forward in bulk (either by ship, or pipeline or rail). At the secondary (retail) storage point, applicable State VAT (previously known as Sales Tax) is added to the product and tax amount is paid to State Governments. On imported petro products, besides Customs Duty, applicable Excise Duty is added as Countervailing Duty.

The tax rate is a combination of specific and *ad valorem*, which varies from product to product. (Exhibit 1) Customs duty is charged at 2.5% of CIF value of Petrol and Diesel and specific component of Countervailing Duty (equivalent of Excise duty) is added to that. Excise Duty on Petrol is Rs 21.48 per liter and for Diesel it is Rs 17.33 per liter. This differential in duty between Petrol and Diesel has economic impact on fuel usage and on types of vehicle engine. The differential duty rate on Petrol and Diesel provides implicit subsidy to diesel fuelled engines and to diesel users. Large part of diesel (7.7 percent; 5.7 MMT out of 74.6 MMT) is used for transportation of goods and public mobility of people. Therefore, diesel is considered to be a product with properties of public welfare goods. Secondly, tax on diesel is a tax on intermediate goods (fuel in transport vehicles), which impacts on other goods and services on cascading basis. On the other hand, tax on Petrol is considered to be a tax on consumer goods (to end users) and the higher rate is justified on grounds of progressive nature of tax on the principle of affordability to pay by high income and high consuming tax payers. Thirdly, tax on diesel gets passed on to the end-consumers through the prices of goods and services where diesel vehicles are used, where as tax on Petrol can hardly be passed on to anybody else, except when it is used in taxis.

Tax Realization from Petroleum Products

Petro products contributed 87 percent of 'Central Excise duty' of Government of India in 2015-16. The percentage contribution has been increasing over the years; the average of last ten years was 57 percent. This indicates that central excise base of Government of India is narrow and critically dependent on petroleum products.

Contrary to excise duties, Customs duties on petro products contribute 12 percent (average of last 10 years) to the Customs duty realization of Government of India and this percentage has been declining from 23 percent level at which prevailed during 1990s. That shows, as India became more integrated with rest of the world, import intensity of output has generally increased and the basket of objects of customs duty got widened and diversified.

Indian Oil Marketing Companies are selling branded Petrol and branded diesel for last 10 years. Each Oil Marketing Company has its own branded Petrol and Diesel, which serve some extra value to the customers and are kind of premium grade products and are therefore priced high. These branded fuels are taxed at higher rate, approximately Rs 2 per liter.

There are arguments not to reduce tax rate on diesel from the point of view of green fuel. Electricity is a substitute to Diesel in rail transport fuel and CNG is substitute to fuel in road transport. From the environmental pollution perspective, diesel is a polluting fuel. So it is advocated to maintain higher rate of tax on diesel comparing with its substitute fuels.

VAT rate varies from State to State. For instance, VAT on Petrol in Rajasthan is 30%, in Madhya Pradesh is 31% + Re 1 additional cess, in Haryana 25%, in Uttar Pradesh it is Rs 16.74 per liter, in Delhi 27%. VAT on Diesel in Rajasthan is 22%, in Madhya Pradesh is 27%, in Haryana it is 16.4%, in Uttar Pradesh it is Rs 9.41 per liter and in Delhi, it is 16.75%.

A study of ratio of taxes to total selling price and a comparison of rates of taxes now and two years back, gives a *prima facie* conclusion that Government has been hard in taxing the users of petroleum products. However, as we bring other relevant factors into our analysis, the rationality behind the tax rate comes to fore.

Table 3 provides the nozzle-end (retail selling) price of Petrol and Diesel in Delhi in January 2017 and their tax components. Auto Fuel constitutes 52% of total Petroleum products consumed in India during 2015-16. (96.4 MMT Petrol and Diesel to 185 MMT total petroleum products consumed) Therefore, tax components of these two products have been presented here as representative products.

Table 3: Retail Selling Price and Tax Component of Petrol and Diesel in Delhi (as on 1st January 2017)

Auto Fuel	Nozzle-End Retail Selling price (Rs / Liter)	Union Excise Duty Component	State level VAT component	Total Tax Component (Rs / Liter)	Percentage of tax element to the retail selling price (%)
Petrol	Rs 70.60	Rs 21.48	Rs 15.01	Rs 36.49	51.6%
Diesel	Rs 57.82	Rs 17.33	Rs 8.51	Rs 25.84	44.7%

Source: Industry Data

There has been significant escalation in tax rates during last two years as can be seen in the table 4:

Table 4: Tax Rate of Petrol and Diesel in Delhi

	Tax rate in November 2014	Tax rate in Dec '16 / Jan '17
Excise duty in Petrol	Rs 9.20 per liter	Rs 21.48 per liter
Excise duty in Diesel	Rs 3.46 per liter	Rs 17.33 per liter
VAT on Basic Price on Petrol in Delhi	20% on Basic Price	27% on Basic Price
VAT on Basic Price on Diesel in Delhi	12.5% on Basic Price	16.75% on Diesel + 25 p cess

Source: Industry Data

Economic justifications for Government of India escalating the rates of tax on Petrol and Diesel, prices of which are linked to Crude Oil price in international market, are to maintain neutrality of: (a) retail selling price in the market (to the end-user) and (b) revenue to the Government, as can be seen table 4 and 5.

Table 5: Comparative Retail Selling Price of Petrol and Diesel in Delhi – 2014 & 2016

	November 2014	December 2016
Crude price (Indian Basket)	77.58 $ / bbl in Nov. '14	44.46 $ / bbl in Nov. '16
Retail selling Price of Petrol in Delhi	Rs 64.24 per liter-1st Nov '14	Rs 66.29 per liter-1st Dec '16
Retail selling Price of Diesel in Delhi	Rs 53.35 per liter-1st Nov '14	Rs 54.65 per liter-1st Dec '16

Source: Industry Data

Table 6 shows that there has been a remarkable leveling of realization of excise duty for Petrol and Diesel during last 7 years:

Table 6: Excise Duty Realization of Petrol and Diesel

(Fig in Rupees Crores)

	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 (P)
Petrol	24809	26771	28795	23710	22424	30826	53413
Diesel	188	240	247	297	189	289	261

Source: Indian Petroleum & Natural Gas Statistics, 2015-16, Ministry of Petroleum & Natural

Gas, Government of India

There of course has been some variation in volume consumed in Petrol and Diesel, as presented in table 7, which has led to variation in revenue realization:

Table 7: Consumption of Petrol and Diesel in India

(Fig in Thousand Tones)

	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 (P)
Petrol	12818	14194	14992	15744	17128	19075	21847
Diesel	56242	60071	64750	69080	68364	69416	74647

Source: Indian Petroleum & Natural Gas Statistics, 2015-16, Ministry of Petroleum & Natural Gas, Government of India

Two more relevant facts with regard to the above analysis have been made here. The softening of Crude Oil price from very high level above 100 $ / bbl that prevailed during February 2011 to August 2014 provided the Government elbow room to decontrol of pricing process of Diesel (effective 18th October 2014). Secondly, that also enabled public sector Oil Marketing Companies (OMCs) to part neutralize their accumulated under recovery incurred during last 7 years, as is presented in the table 8:

Table 8: Under Recoveries by Oil Marketing Companies

(Fig in Rupees Crores)

	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 (P)
PDS Kerosene	17364	19484	27352	29410	30574	24799	11496
Domestic LPG	14257	21772	29997	39558	50327	40551	16074
Petrol	5151	2227	-	-	-	-	-
Diesel	9279	34706	81192	92061	62837	10935	-
Total	46051	78189	138541	161029	143738	76285	27570

Source: Indian Petroleum & Natural Gas Statistics, 2015-16, Ministry of Petroleum & Natural Gas, Government of India

Impact on Government Revenue

Petroleum products earn tax revenue for Government of India by way of proceeds from Central Excise and Customs Duties. During 2015-16, Rs. 214 thousand crores was received into Central

Government's exchequer. It is natural to expect that by sheer buoyancy, this accrual would increase over the years, with growth in consumption of Petroleum products year after year. Consumption of Petroleum Products in the country recorded growth of 5.24 percent CAGR over a period of last 35 years.

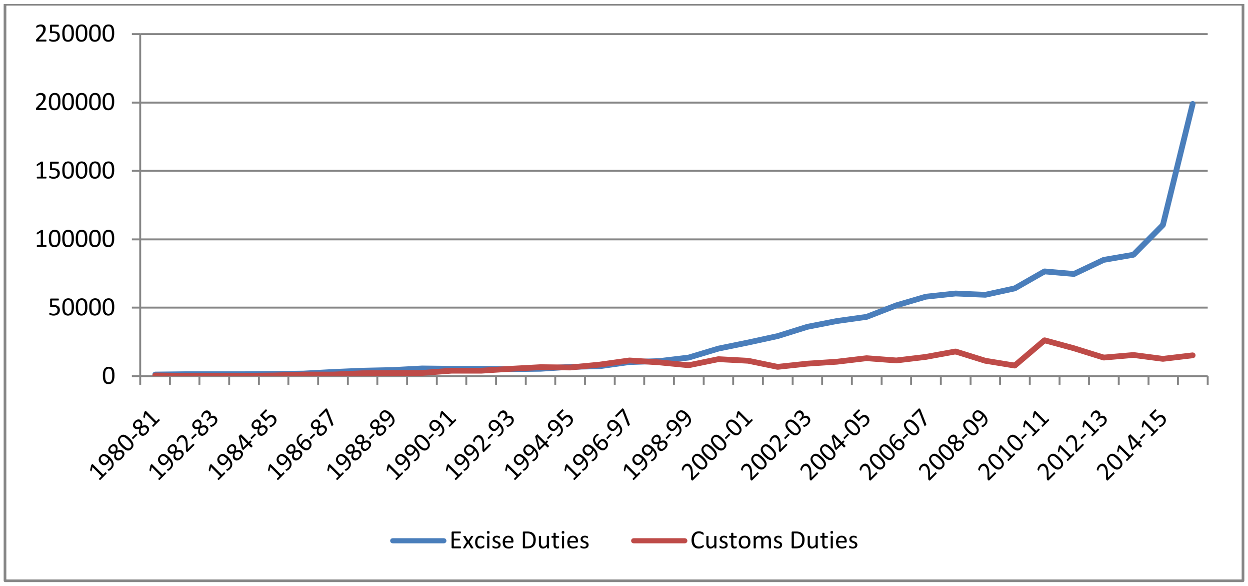

Figure 1 – Revenue Realization from Central Excise & Customs Duty on Petroleum Products (Rs Crores)

Revenue realization to Government of India on account of Petroleum Products has recorded growth of CAGR 15.20 percent over a period of 35 years, on nominal basis. During the same period Government of India's gross tax revenue also recorded CAGR growth of 14.37 percent. However, share of Petro tax revenue to total tax revenue of Government of India exhibited increase till 2002-03 (21 percent) and from that year onward the share consistently was reduced to an average level of 14 percent during last 5 years.

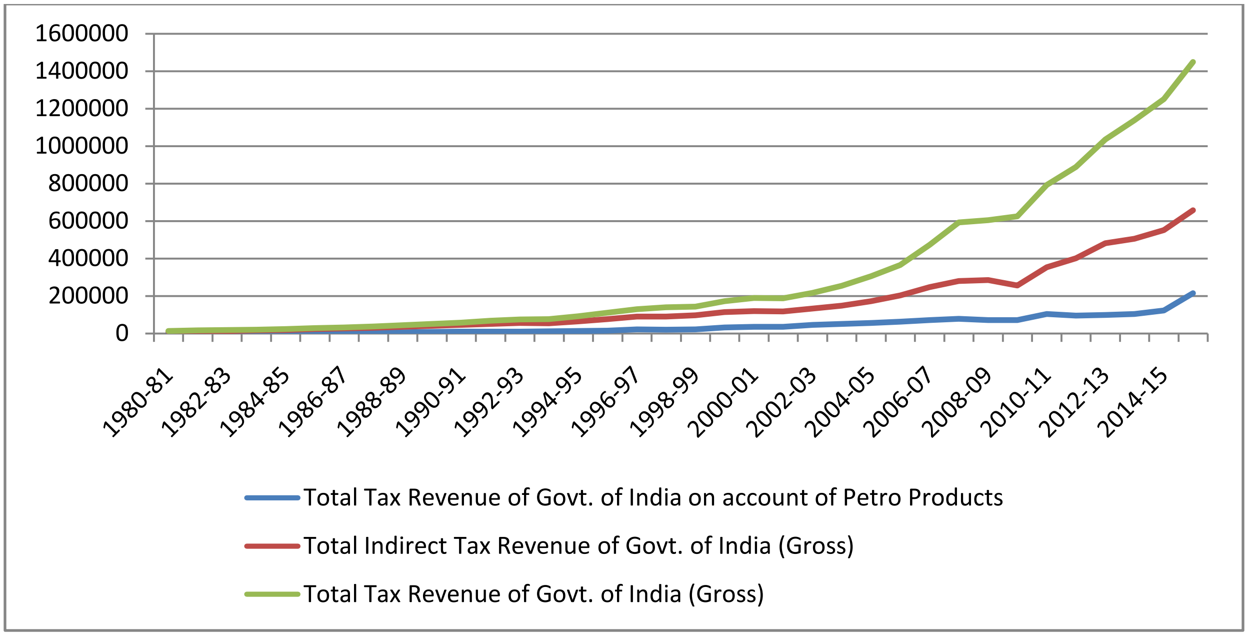

Figure 2 – Relations of Revenue realization from Petroleum Products with Total Indirect Tax and Total Tax Revenue of Government of India (Rs Crores)

One reason for the decline in share of contribution of Petroleum Products to total tax revenue of Government of India could be that there was less scope for Government to build large chunk of tax component in the retail selling price of Petroleum Products.

The basic price of Petrol and Diesel linked to prevailing crude oil prices in international market (Import Parity Price) was high during the period beginning with 2005-06 onwards. Annual average price of Indian Basket Crude Oil was at 55.72 $/bbl in 2005-06. That was steep jump from the level of 39.21 $/bbl prevailing in 2004-05. The prices of crude oil (Indian Basket) remained in ascending trend till it reached a peak at 111.89 $/bbl in 2011-12. This order of high level of basic price forced the Government to relook at the pricing policy and taxation structure by appointing a committee in February, 2006 (Rangarajan Committee) and one more committee in 2010 (Kirit Parikh Committee). Ranagrajan Committee recommended two significant changes with regard to taxation structure of petroleum products: (a) Shift from Import Parity Price to Trade Parity Price; and (b) Shift from ad-valorem to specific tax rate.

Significant to note that with the commissioning of world's largest refinery at Jamnagar by Reliance in 1999, there has been a significant jump in excise duty realization on petroleum product in the year 2002-03 (Rs.35961 crores, higher from the previous year's level of Rs 29337 crores). Excise duty from Petroleum Products in the year 2015-16 was Rs.199 thousand crores constituting 87 percent of Government of India's gross collection of revenue from excise duty; averaging at 57 percent during the last ten years.

Subsidy on petroleum products borne by the Government is a negative tax. Due to high crude oil prices in international market, as mentioned above and Government's desire to maintain a relatively stable market (retail selling) price, Government of India compensated under-recovery incurred by the public sector Oil Marketing Companies. Share of tax revenue on Petroleum products, net of subsidy, to the total tax revenue of Government of India saw a drastic decline from 2011-12 onwards. On a decadal basis (2006-07 to 2015-16), the impact of high subsidy reduced the share of revenue realization from Petroleum Products to total tax revenue from 12 percent to 8 percent. However, 2015-16 witnessed reduction in subsidy outgo from Rs 60296 to Rs 30000; left the share of net (of subsidy) tax realization from petro products to total tax realization as high as 13 percent , going back to the level of 2007-08.

Impact on Prices

Prices of most of the Petroleum Products are now free from the control of Government. At present, prices of LPG used in households and PDS Kerosene is regulated by Ministry of petroleum and Natural Gas, due to their application in household essential purpose like cooking and lighting. Control on prices of auto fuels were maintained for long time due to its impact on the mobility of people and goods. However, Petrol prices were decontrolled in June 2010, as under recovery on account of Petrol in the previous year (2009-10) touched Rs 5151 crores, became unsustainable for Government. Diesel prices were still held under administrative control of Government, even at the cost of incurring huge under-recovery of Rs 56000 crores a year (average of 5 years: from 2009-10 to 2013-14), peak of Rs 92061 crores in 2012-13. However, with crude oil prices sliding down and becoming less than 100 $/bbl from September 2014 onwards, Petrol prices also were decontrolled since October 2014.

As it is now, Petrol and Diesel prices are fixed on Trade Parity Price basis. Other petroleum products (except domestic LPG and PDS kerosene) are market driven. Petroleum Products together carry weight of 9.36439 in the wholesale price index. Looking at individual product, out of 10 products, 60 percent weightage is carried by two products; namely Diesel carries weight of 4.67020 and Petrol carries weight of 1.09015. Price index of select Petroleum Products is provided in table 9, with 2004-05 being the base year.

Table 9: Comparative Price Index of Petroleum Products with other Fuels and Minerals

Base year = 2004-05

	2005-06	2010-11	2012-13	2013-14	2014-15	2015-16
All Petroleum Products	116.73	157.47	202.45	225.95	219.64	179.45
LPG	106.10	125.90	158.52	167.97	169.07	162.13
Petrol	113.63	143.02	186.26	192.58	182.11	163.45
Kerosene	99.90	127.19	162.87	166.48	155.17	145.44
Aviation Turbine Fuel	131.97	164.92	257.89	274.04	241.02	158.54
High Speed Diesel	119.70	151.72	183.56	217.84	223.27	186.92
Naphtha	121.90	204.02	283.57	302.25	267.63	181.39
Bitumen	107.76	249.42	319.68	389.96	370.66	263.83
Furnace Oil	131.17	223.68	337.82	351.07	299.09	176.32
Lubricants	101.85	192.56	244.57	259.48	271.77	277.50
Other Comparable Items						
Crude Oil	109.77	202.81	318.21	344.28	279.55	180.04
Coal	117.60	165.33	208.58	190.78	189.80	189.90
Other Minerals	104.78	153.37	204.72	213.20	211.77	203.80

Source: WPI downloaded from www.eaindustry.nic.in; accessed on 19.12.2016

Conclusion

This study is only confined to central taxes on Petroleum Products and revenue realization of Central Government. The impact of prices of Petroleum Products, viewed in indices, gives rise to conclusion that prices of major Petroleum Products have been maintained at moderate level. As far as tax rate and tax realization is concerned, there is enough economic justification at the current level of Crude Oil price. The justification draws its merit from the following sound canons of taxation: (i) Revenue receipt to the Government (maintaining fiscal stability) , (ii) progressive nature of taxation, in the sense that persons with higher income and expenditure should pay higher rate; (iii) objects with negative externality (environmental pollution in case of fossil fuel) should be taxed, promoting cleaner fuel; and (iv) keeping the end-price to the consumer at affordable level for goods like petro products which have some properties of public welfare goods. These bear particular significance for auto and cooking fuels, where markets are not that mature to take care of basic provisions of people who are vulnerable to wild play of market forces.

However, 2015-16 has witnessed features where despite moderate international price of crude and finished petro products, the benefits of low price has not been passed on to the end consumer. Government has retained the tax rates and earned high level of revenue realization, comparing preceding years. That gives rise to room for Government to review the tax rates and reduce its dependence on petro products for revenue. The basket of taxable commodity (other than petro products), both in direct and indirect taxes, will have to be widened, and tax administration has to be cleaned up; move that is visible in the budget of 2017-18. Reduction in the rate of taxation (and lower incidence of tax on unit of products) will help boost private consumption expenditure and also will have sobering effect on wholesale price index.

Government of India over, last 35 years, have managed the fiscal and monetary fallout of Petroleum Product prices well. Any further reduction of rate may benefit the end consumer and may be salubrious for the cost structure of the economy; without impairing the fiscal balance of the Government.

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