

# **Petroleum Pricing in Pakistan\***

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## **INTRODUCTION**

The petroleum pricing is significant for a fuel economy like Pakistan. Where, the dependence on oil is not expected to decline in near future but increase; as the country's infrastructure continues to rely on petroleum-based products. In Pakistan, oil is the largest source of energy consumed. In FY2019, despite the decline in oil consumption, it fulfils 32 per cent of our total energy demand.

The petroleum industry is also a major contributor to government revenues. In FY 2019, petroleum taxes contribute about 51 per cent to total tax revenues. Additionally, Pakistan is dependent on imports for 81 per cent of its oil requirements. The petroleum pricing is also a sensitive issue from a consumer's perspective, given low per capita income in the country (US\$ 1284.7).

This brief provides an overview of petroleum pricing in Pakistan.

## **PETROLEUM PRODUCT PRICING IN PAKISTAN**

### **Chronology of Petroleum Pricing Deregulation**

The government used to have tight control over the petroleum sector in Pakistan. All the decisions were made solely by the government and were often based on political as opposed to economic considerations. Petroleum prices were also under tight government regulation (Malik, 2007).

In 2000, the government initiated pro-market reforms in the petroleum sector to limit the role of the government for policy making only. The government also changed the guaranteed return formula of the refineries to an Import Parity Price (IPP) formula. Prior to these reforms, refineries were working under a fixed return formula where the return was capped in the range of 10 to 40 per cent of their equity. Thus, the government was liable to meet any loss in the profitability of the refineries (Ansari, 2004).

In 2001, the government authorised the Oil Companies Advisory Committee (OCAC) to review, fix and announce the prices of petroleum products on fortnightly basis in accordance with the approved pricing formula, as a part of deregulation policy. Therefore, between July 1, 2001, and April 1, 2006, OCAC reviewed and announced the ex-depot prices of motor spirit (gasoline), kerosene, and light diesel oil fortnightly in accordance with the approved formula.

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\* It was published in PIDE Monograph Series, May 2021.

In 2002, the Oil and Gas Regulatory Authority (OGRA) was established to perform pricing and regulatory responsibilities as an independent agency. Later in 2006, the function of price fixation was transferred to OGRA.

Government of Pakistan (GOP) delegated the powers to OGRA to fix petroleum prices via Cabinet's decision No. 41/03/2006 as per Government's prescribed formula, under Section 6(2)(r) (relating to powers and functions of OGRA) and Section 21(2)(b) (regarding policy guidelines) of Oil and Gas Regulatory Authority Ordinance, 2002 (OGRA, 2019).

In 2011, the GOP further deregulated the prices of petroleum products of Motor Gasoline (MS), High Octane Blending Component (HOBC), Light Diesel Oil (LDO), JP1, JP4 and JP8. As a result, refineries and OMCs fix and announce the ex-refinery prices and ex-depot prices of the same. Later in September 2012, the GOP deregulated ex-refinery price of High-Speed Diesel (HSD); whereas ex-depot price of HSD has already been deregulated since September 2001.

### Government Approved Fuel Pricing

Price Build-up formula consists of:

- (i) Ex-refinery import parity price/PSO weighted average cost of purchases
- (ii) Federal Excise duty \_ as per FBR rates
- (iii) Inland Freight Equalisation Margin (IFEM)
- (iv) Distribution Margin
- (v) Dealer's Margin
- (vi) Petroleum Levy or surcharge (fixed and notified by Ministry of Energy, Petroleum Division)
- (vii) Sales tax (fixed and notified by FBR)\_ 17 percent

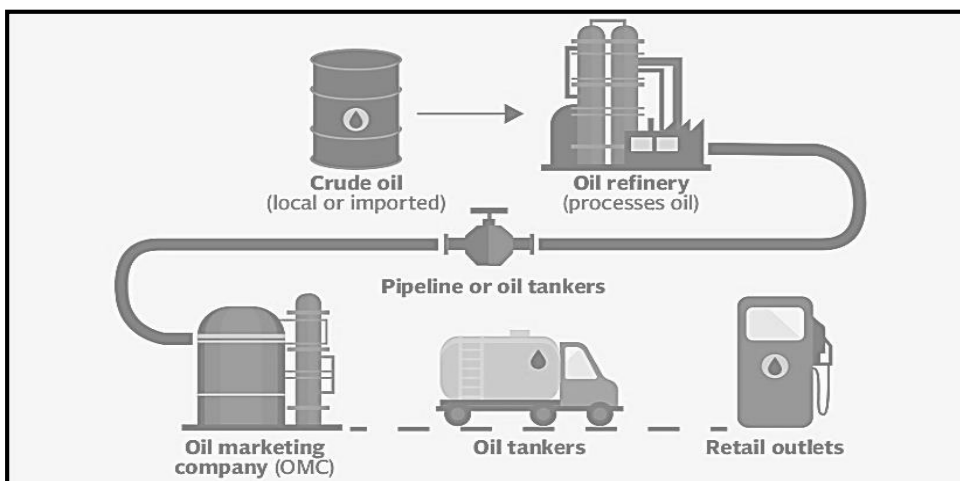
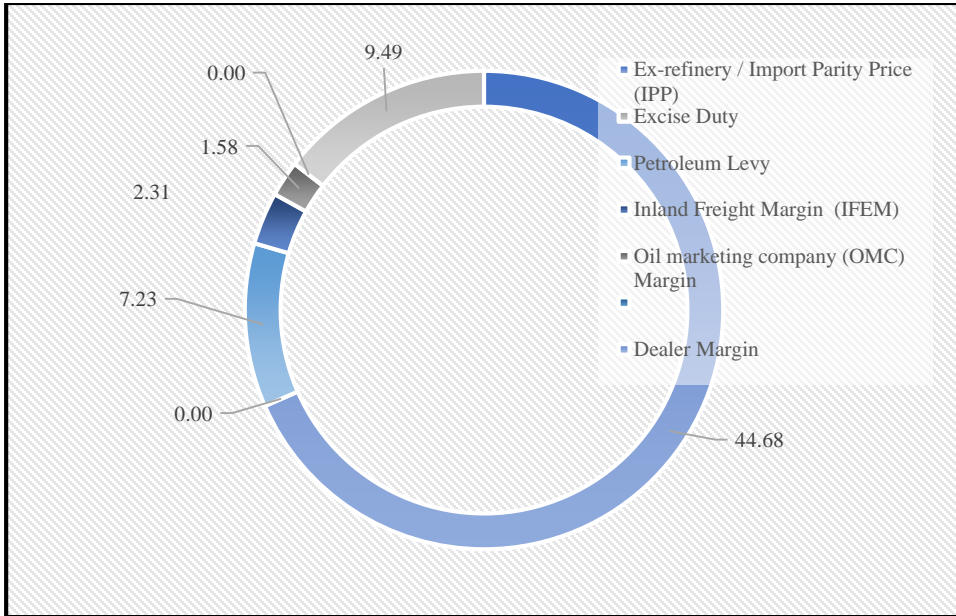


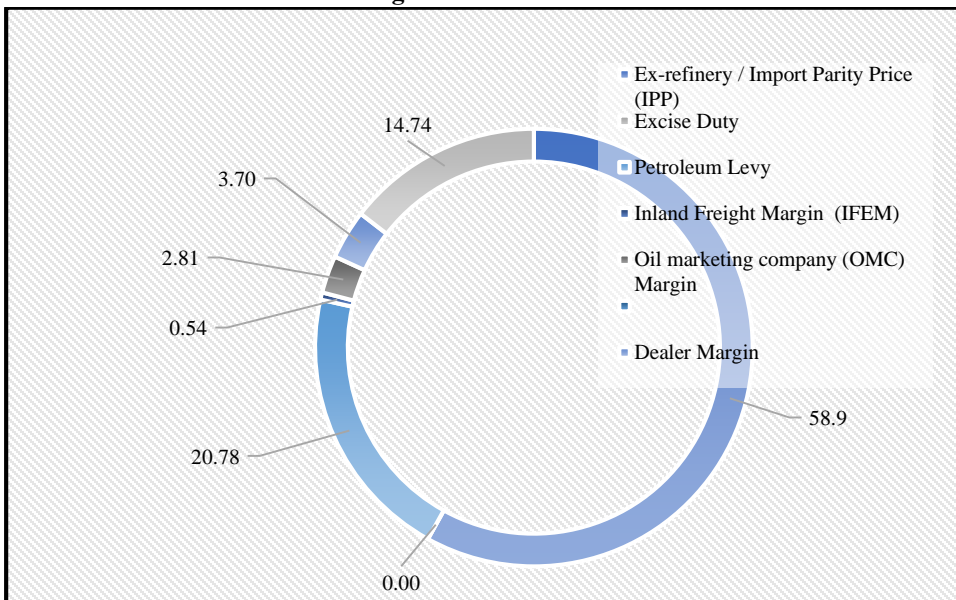
Photo Courtesy: The Express Tribune

Figure 1 to Figure 6 demonstrates the price build-up for various petroleum products for 2020, that is, the share of various components in the final price of fuel. A major portion is of ex-refinery price in all the petroleum products, followed by sales tax and petroleum levy surcharge; exception is E-10 gasoline where petroleum levy is more than 20 per cent in final fixed price (Figure 2).

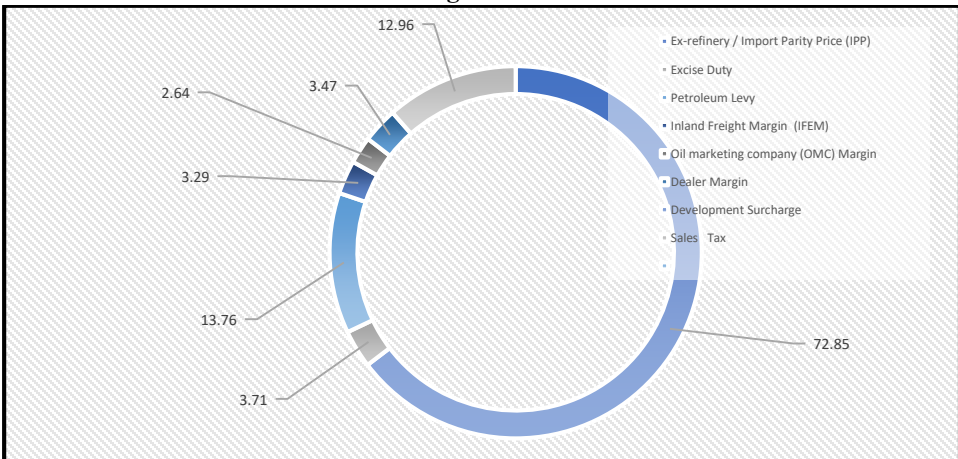
**Fig. 1. Kerosene**



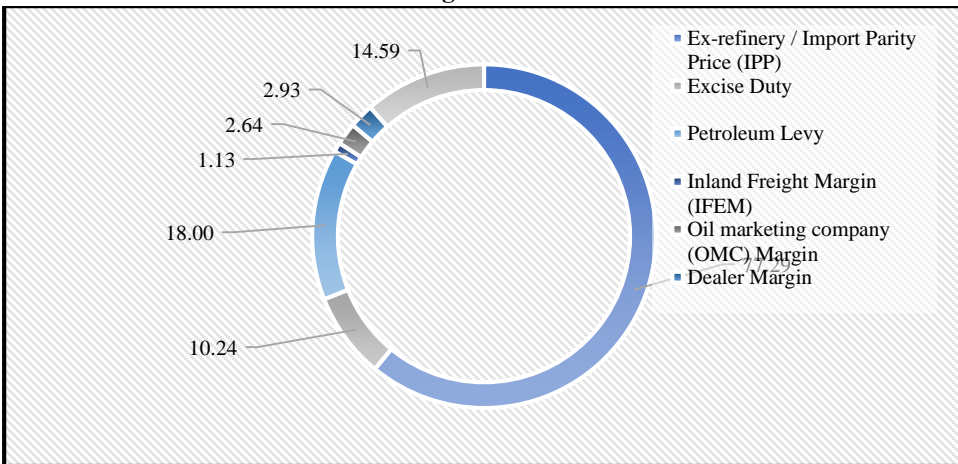
**Fig. 2. E-10 Gasoline**



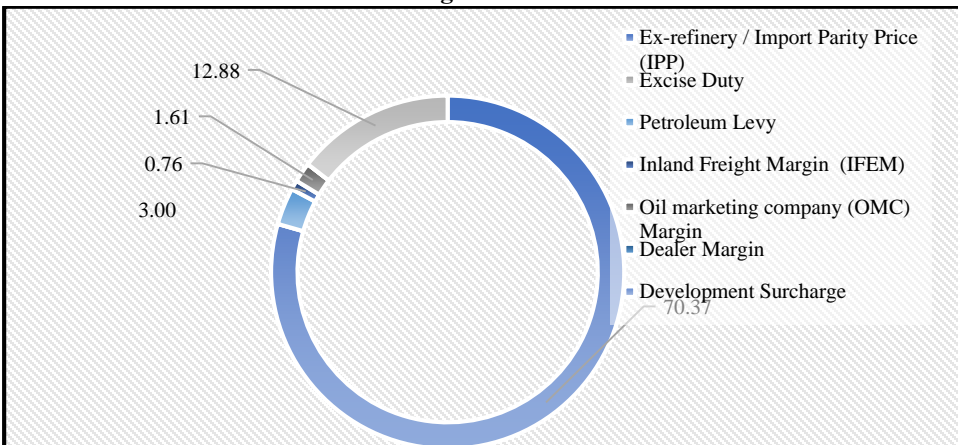
**Fig. 3. MG**



**Fig. 4. HSD**



**Fig. 5. LDO**



**Fig. 6. HOBC**

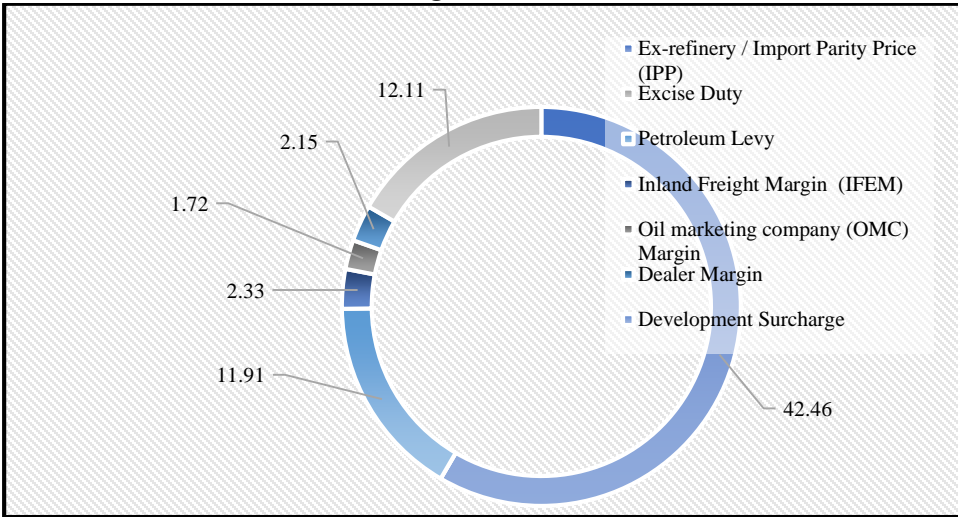
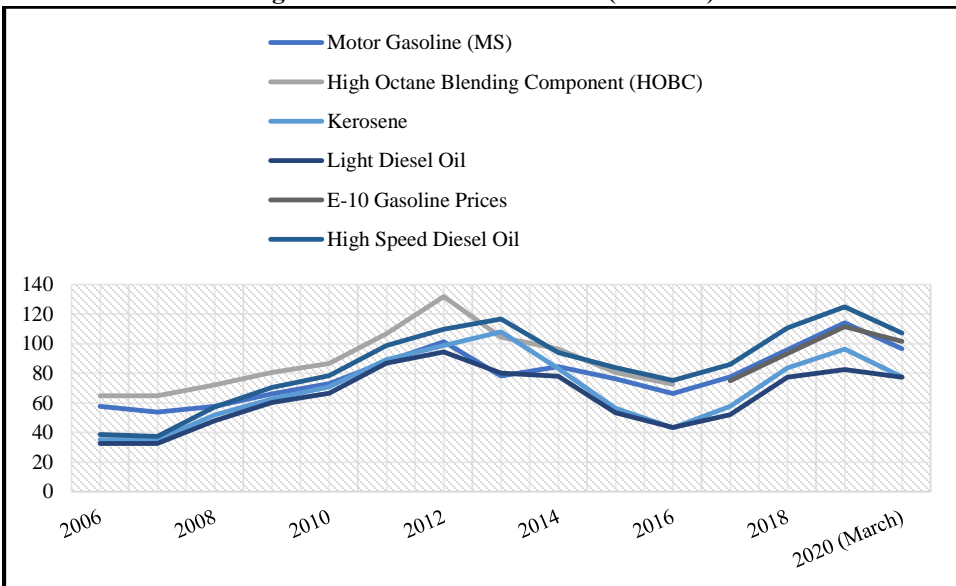


Figure 7 illustrates the fuel price trends over the years. Since 2008, all petroleum products have been following a similar pattern. Petroleum prices were capped in FY2007, later they increased. The GOP was paying subsidies on LDO, Kerosene and HSD to keep prices low prior to FY2008. Later the subsidy was removed gradually. The difference between subsidised products and HOBC and MG can easily be seen in Figure 7. It is important to highlight that about 70 per cent of HSD consumed in FY 2019 was locally produced. Similarly, the demand for LDO and Kerosene is satisfied through local refineries.

**Fig. 7. Petroleum Price Trends (Rs/ litre)**



Source: OGRA, 2020 and Pakistan Energy Yearbook, 2020.

### **(a) Ex- Refinery Price**

Ex-Refinery price of all petroleum products \_MS, HSD, LSD, JP1, JP4 and JP8 cannot be more than the PSO average actual import prices of the previous month excluding PSO import incidentals. For ex-refinery formula of HSD & MS, PSO actual import incidentals excluding ocean losses are adopted.

It is the price at which all refineries sell their finished products. In case of non-availability of PSO import prices, the refineries fix their ex-refinery price as per existing Import Parity Pricing formula. It is calculated by the Oil Companies Advisory Council (OCAC). Import Parity Price is determined after taking an average of past 30-days international prices as published in the Platt's Oil gram (a source of pricing benchmark in the physical energy markets). All other allowed expenses of refineries (including handling, bank & ocean charges, marine insurance, wharf age and surcharges as well as its factory overheads) are then adjusted to this average (Moiz, 2019).

### **(b) Inland Freight Equalisation Margin (IFEM)**

Since 2008, the responsibility of management/ computation of IFEM are with OGRA. The IFEM is charged on all petroleum products to maintain uniform rates at 22 depots spread throughout the country: irrespective of difference in transportation costs. The price of HOBC is exempted from IFEM charges since 2011.

All the country's petroleum imports, or indigenous supplies are concentrated in the South (Keamari in Karachi), while the demand for petrol is everywhere. If the freight costs or transportation charges from Karachi to any part of the country were to be part of the pricing structure, then there would have been different prices of gasoline or diesel.

Secondary transportation cost from depot to retail outlets is deregulated and the dealers have been allowed to recover it from the retail consumer by including it in the pump/retail price. Furthermore, secondary freight in special areas (Chitral, Gilgit Baltistan, AJK and some parts of Baluchistan) is also picked up through IFEM mechanism to provide relief to the consumers of special areas.

#### **Box 1: IFEM includes:**

- Costs involved in the transportation of petroleum products to 22 storage depots.
- Adjustments of extra margins earned by OMCs. Extra Margin is part of ex-depot price of HSD & MS, applicable to all OMCs except Pakistan State Oil Company Limited (PSO).
- PARCO Price Differential Claim (PDC), difference between the OGRA announced ex- refinery price and the PARCO Import Parity Price (IPP), allowed under PARCO Implementation Agreement and Petroleum Policy 1994.
- ARL is allowed to recover the crude transportation claim of Adhi and Dhurnal fields from the IFEM.
- HSD price differential surplus by refineries, except PARCO, ARL & NRL.
- Adjustment of MS RON 92 penalty/differential from local refineries not producing MS RON 92 grade.

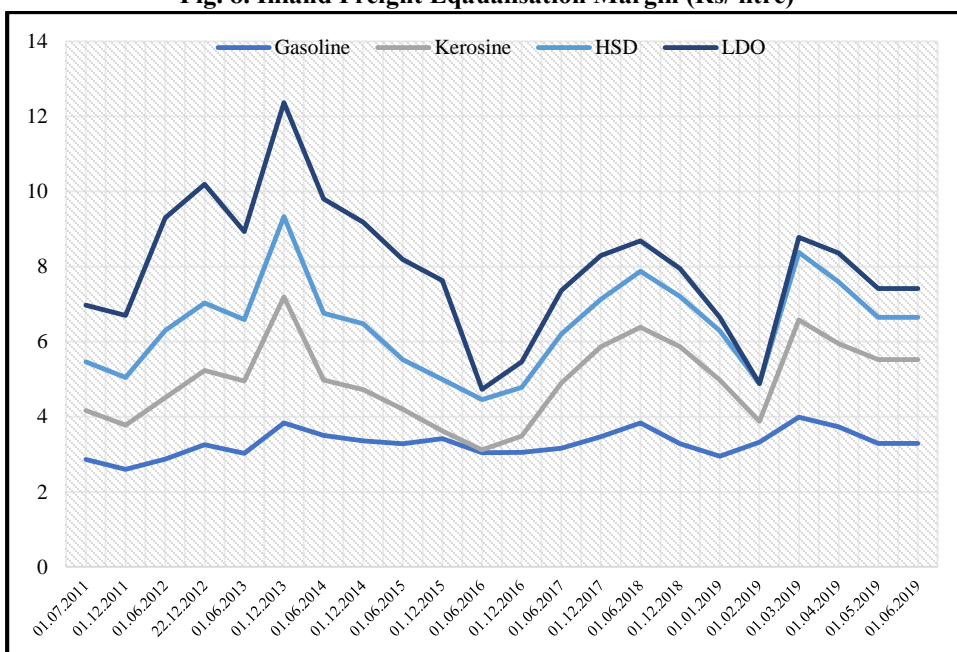
*Source: OGRA, 2020*

When we look at the price build up formula for petroleum products in the last few years, we found IFEM has been changing over time (every month) for all the products, sometimes moving up and sometimes moving down (Figure 8).

Despite government move towards market liberalisation, competition level on the supply side of the oil industry is almost insignificant. It is the lack of proper incentives not giving space to competition and efficient operation of companies. As a result, no benefits of market reforms have so far trickled down to consumers. Regulatory benefits are going mainly to industry (through protected profits). There is a need for a level playing field to enable competition.

However, with the deregulation of IFEM (which as reported in newspapers, GOP has decided) the prices would vary between cities, as well as between OMCs. The consumer close to ports and refineries would get products at lower rates compared to those away from ports and oil installations (Kiani, 2020).

**Fig. 8. Inland Freight Equalisation Margin (Rs/ litre)**



Source: OGRA State of Industry Report, 2020.

### (c) Distribution Margin

It is the Oil Marketing Companies (OMCs) margin per litre upon sales of petroleum products petrol and diesel both to industrial and retail distributors. It is charged on all fuels\_ gasoline, HSD, LDO and kerosene.

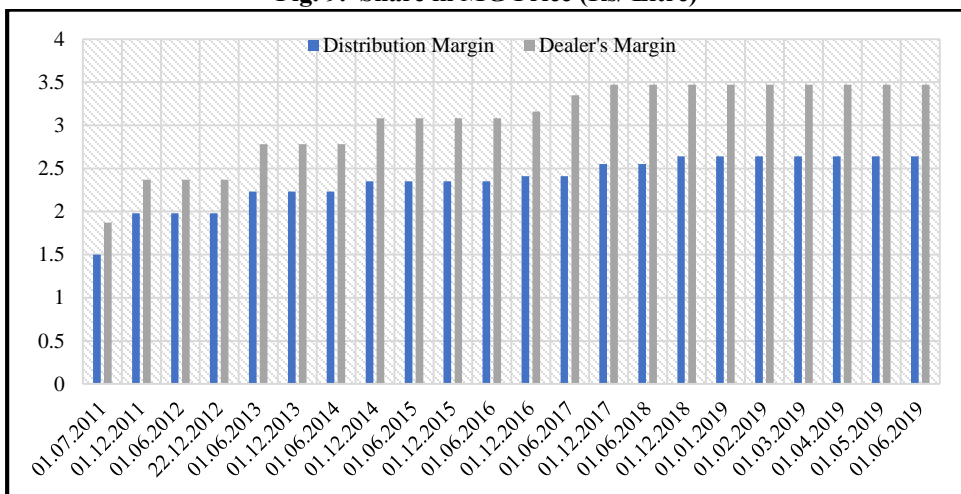
### (d) Dealer's Commission

From retail perspective, the OMCs are eligible to sell their volumes coming from storage depots to the nearest retailers or petrol pumps at price, with the addition of franchise fee and non-fuel retail charges (for facilities like tuck shop, car wash, oil & tyre change).

After market-based reforms in early 2000, the margins of oil marketing companies were capped at 3.5 percent of the retail price of the petroleum product, whereas dealer's commission was capped at 4 per cent (Malik, 2007). Later in 2014, the margins of OMCs and dealer's commission on gasoline and HSD are revised annually based on the Consumer Price Index (CPI) for doing their business.

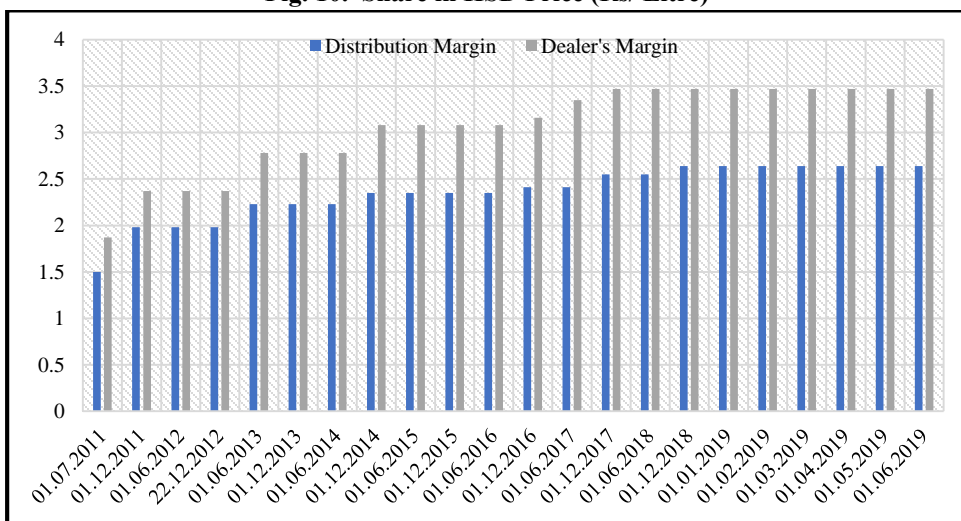
Ex-depot price is mainly dependent on the international price crude oil (more than 70 per cent for both MG and HSD); whereas distribution and dealer margin are both fixed revenue streams for the businesses. The OMC margins are fixed in terms of Pakistani Rupees for gasoline and HSD. The margin related to furnace oil remains linked with the imported price.

**Fig. 9. Share in MG Price (Rs/ Litre)**



Source: OGRA Reports (Various Years).

**Fig. 10. Share in HSD Price (Rs/ Litre)**



Source: OGRA Reports (Various Years).



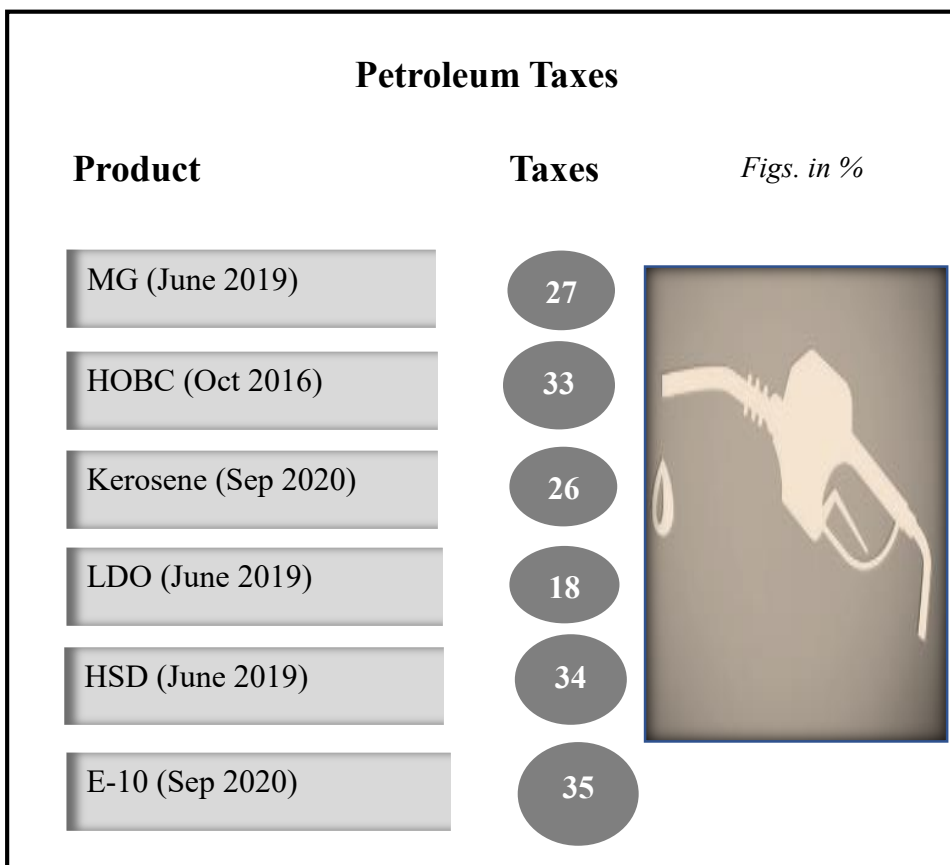
### (e) Petroleum Taxes

Fuel taxes have important revenue implications for Pakistan. Oil sector accounts for a significant share of government revenues. Taxes on petroleum products are the largest source of indirect revenues in Pakistan. Petroleum product prices are higher than the import parity price because of these taxes. Petroleum products contributed Rs 1551 billion to government revenues in the form of indirect taxes (federal excise duty, custom duty, petroleum levy and sales tax) in FY2019. It was 35 per cent of total tax revenues in the year. In FY2006, this share was only 15 per cent.

In the final fixed sales price of MG (June 2019), federal excise duty, sales tax, and fixed development surcharge account for about 27 per cent. Similarly, in the final sales price of HSD taxes (sales tax, FED, and petroleum development levy) accounts for 34 per cent.

The share of petroleum development levy/ surcharge in FY 2019 was 14 per cent and 12 per cent for HSD and MG. From the business perspective, taking such high amount in the form of taxes is discouraging; when there is hardly any development taking place (Moiz, 2019).

On one hand the GOP is charging such hefty amount from consumers in the form of taxes. Yet, on the other hand, the government has often used petroleum development levy to keep the end user price in check, given the fluctuations in the international price of oil.



## PRICE CAPPING AND OIL PASS THROUGH

Despite deregulation in the oil sector, some elements of regulation have remained its part. To protect the consumer from the impact of high oil prices internationally government often capped the domestic sale prices of petroleum products.

### Box 2: The Pass-Through of International Prices

The pass-through from international to domestic retail fuel prices is defined as the ratio of absolute changes in the after domestic taxes retail price of fuel to the local currency price of the relevant fuel import product. World prices are converted into local currency; therefore, the pass-through ratios reflect both exchange rate and price changes. The formula is:

$$\text{Pass through} = \frac{(P_t^d - P_{t-1}^d)}{(P_t^w - P_{t-1}^w)}$$

Where  $P^d$  is domestic and  $P^w$  are the domestic and world fuel prices, and  $t$  and  $t-1$  refer to current and previous period. In case of increase in international price government decreases the tax rates to limit the impact of impact of international prices.

#### Pass through Values

	Increase in International Price	Decrease in International Price	
<b>Increase in tax</b>	>1	<1	Overburden the consumer! Does not protect the consumers! Aim to correct the fiscal deficit
<b>Decrease in tax</b>	<1	>1	Protect the consumer! May have some political interest!
<b>No change in Tax</b>	=1	=1	Complete pass through!

### Kerosene- International Oil Price Pass Through

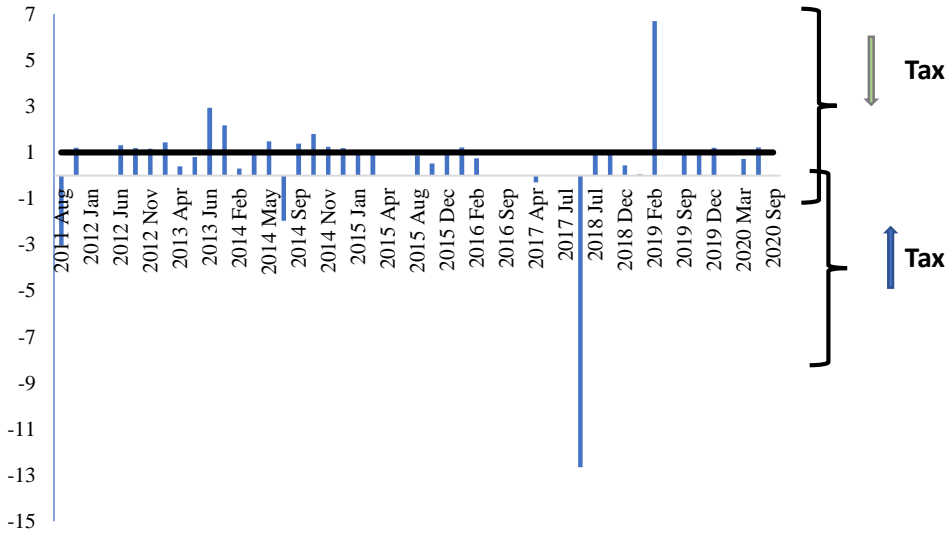
From July 2011 to September 2020, about 23 out of 56 times increase in import prices for Kerosene are more than fully passed-on the consumer. In complete sample 51 out of 105 times change in international oil price are more than fully passes on to the consumer and only 33 out of 105 times government protect the consumer from increase in international oil prices by reducing taxes.

Table 1

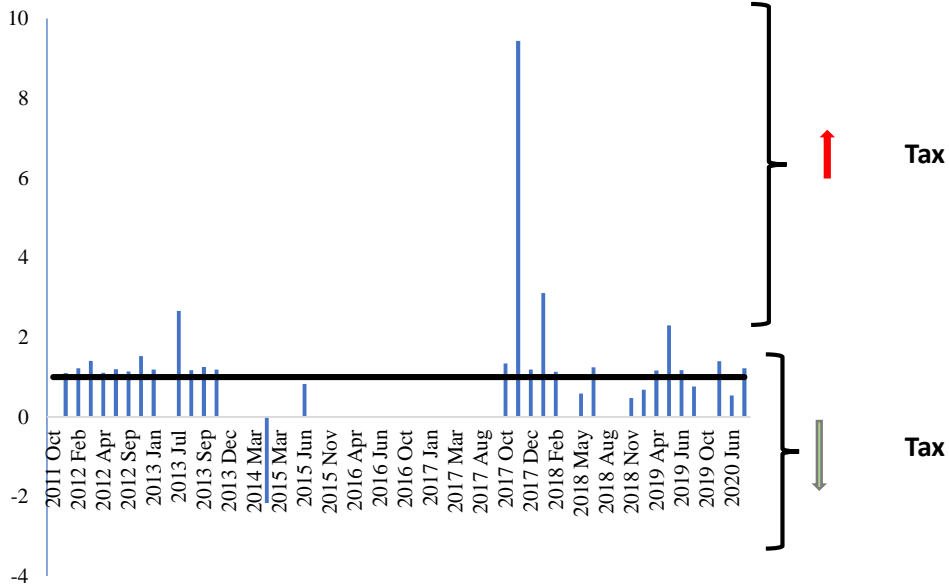
#### *Kerosene International Price Increase and Decrease*

International price Increase	Count	International price Decrease	Count	Total
Number of periods	56	Number of Periods	49	105
Increase in taxes/ Pass through >1	23	Increase in taxes/ Pass through <1	28	51
Decrease in taxes/ Pass through <1	33	Decrease in taxes/ Pass through >1	21	54
Same tax/ complete pass through =1	0	Same tax/ complete pass through =1	0	

**Fig. 11a. Pass Through in Case of Decrease in International Price**



**Fig. 11b. Pass Through in Case of Increase in International Price**



**HOBC—International Oil Price Pass Through**

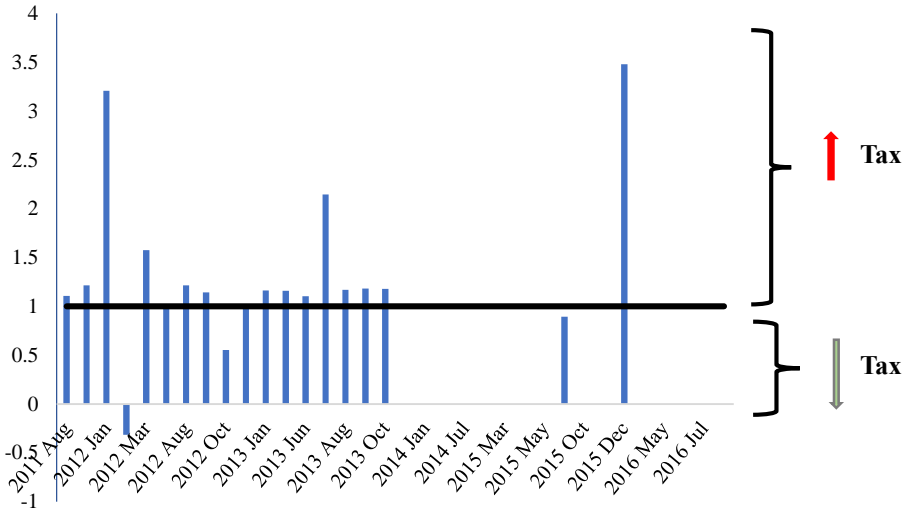
From July 2011 to October 2020, about 16 out of 34 times increase in import prices for HOBC are more than fully passed-on the consumers. In complete sample 32 out of 61 times change in international oil price are more than fully passes on to the consumer and only 18 out of 61 times government protect the consumer from increase in international oil prices by reducing taxes.

Table 2

*HOBC International Price Increase/ Decrease*

HOBC International price Decreases	Count	HOBC International price Increase	Count	Total
Number of Periods	27	Number of Periods	34	61
Increase in taxes/ Pass through <1	16	Increase in taxes/ Pass through >1	16	32
Decrease in taxes/ Pass through >1	11	Decrease in taxes/ Pass through <1	18	29
Same tax/ complete pass through =1	0	Same tax/ complete pass through =1	0	0

**Fig. 12a. Pass Through in Case of Increase in International HOBC Price**



### Gasoline—International Oil Price Pass Through

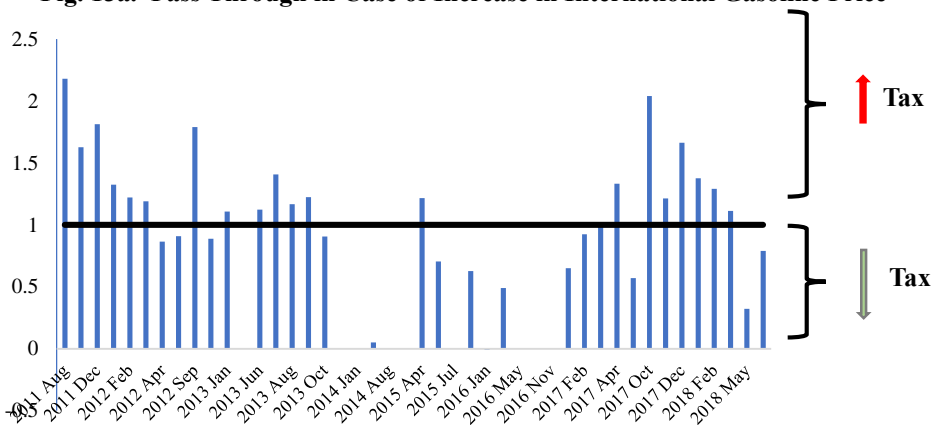
From July 2011 to July 2019, about 23 out of 45 times increase in import prices for gasoline are more than fully passed-on the. In complete sample 51 out of 86 times change in international oil price are more than fully passes on to the consumer and only 13 out of 86 times government protect the consumer from increase in international oil prices by reducing taxes.

Table 3

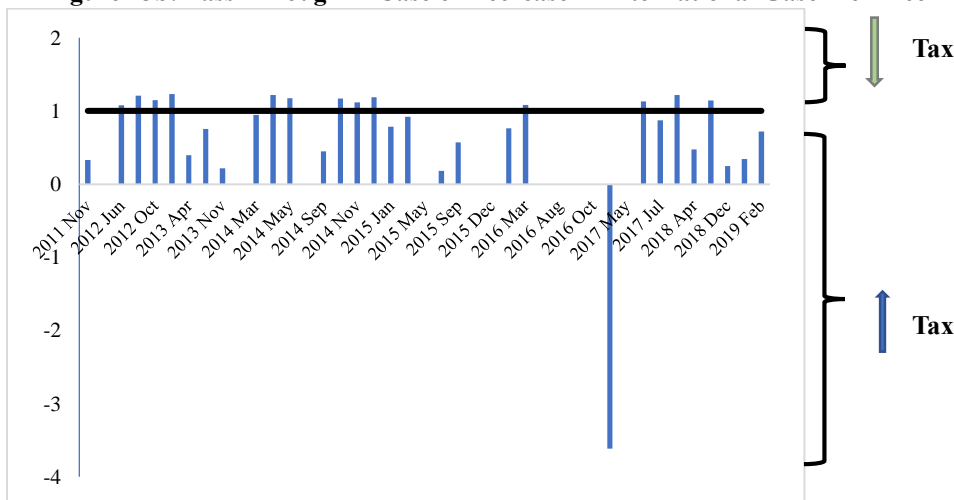
*Gasoline International Oil Price Increase/ Decrease*

Gasoline International price Decreases	Count	Gasoline International price Increase	Count	Total
Number of Periods	41	Number of Periods	45	86
Increase in taxes/ Pass through <1	28	Increase in taxes/ Pass through >1	23	51
Decrease in taxes/ Pass through >1	13	Decrease in taxes/ Pass through <1	29	42
Same tax/ complete pass through =1	0	Same tax/ complete pass through =1	0	0

**Fig. 13a. Pass Through in Case of Increase in International Gasoline Price**



**Figure 13b: Pass Through in Case of Decrease in International Gasoline Price**



### Light Diesel—International Oil Price Pass Through

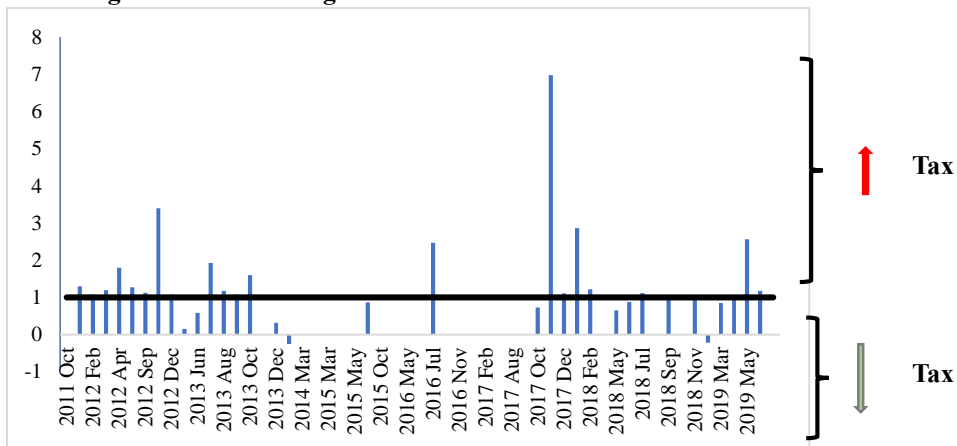
From July 2011 to June 2019, about 21 out of 54 times increase in import prices for light diesel are more than fully passed-on the consumers. In complete sample 33 out of 92 times change in international oil pass are more than fully passes on to the consumer and only 25 out of 92 times government protect the consumer from increase in international oil prices by reducing taxes.

Table 4

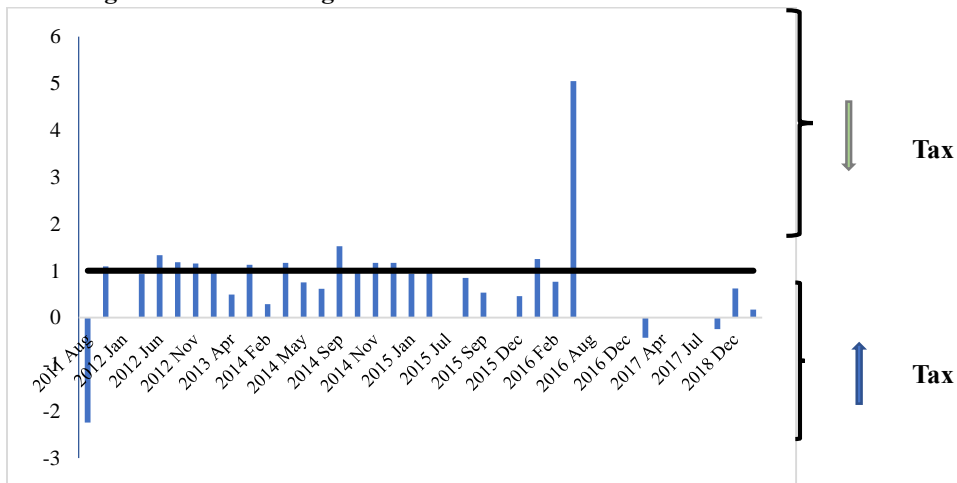
*LDO International Price Increase/ Decrease*

LDO International price Decreases	Count	LDO International price Increase	Count	Total
Number of Periods	38	Number of Periods	54	92
Increase in taxes/ Pass through <1	12	Increase in taxes/ Pass through >1	21	33
Decrease in taxes/ Pass through >1	25	Decrease in taxes/ Pass through <1	33	58
Same tax/ complete pass through =1	1	Same tax/ complete pass through =1	0	0

**Fig. 14a. Pass Through in Case of Increase in International LDO Price**



**Fig. 14b. Pass Through in Case of Decrease in International LDO Price**



## High Speed Diesel—International Oil Price Pass Through

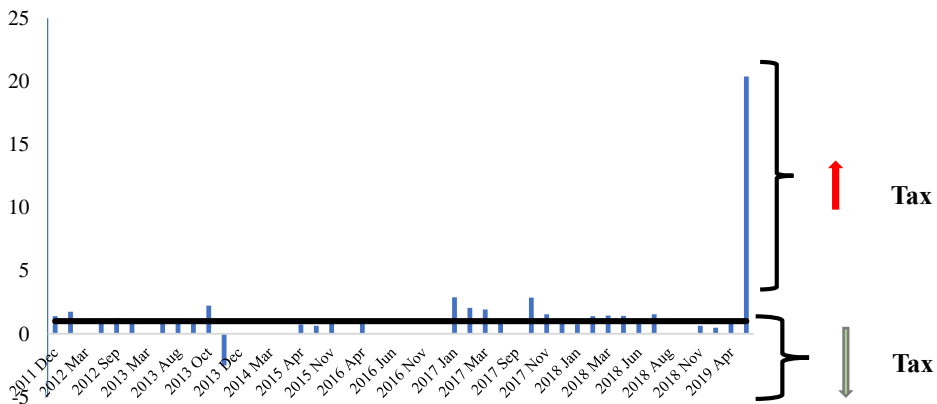
From July 2011 to June 2019, about 21 out of 46 times increase in import prices for high-speed diesel oil are more than fully passed-on the consumers. In complete sample 33 out of 91 times change in international oil pass are more than fully passes on to the consumer and only 32 out of 92 times government protect the consumer from increase in international oil prices by reducing taxes.

Table 5

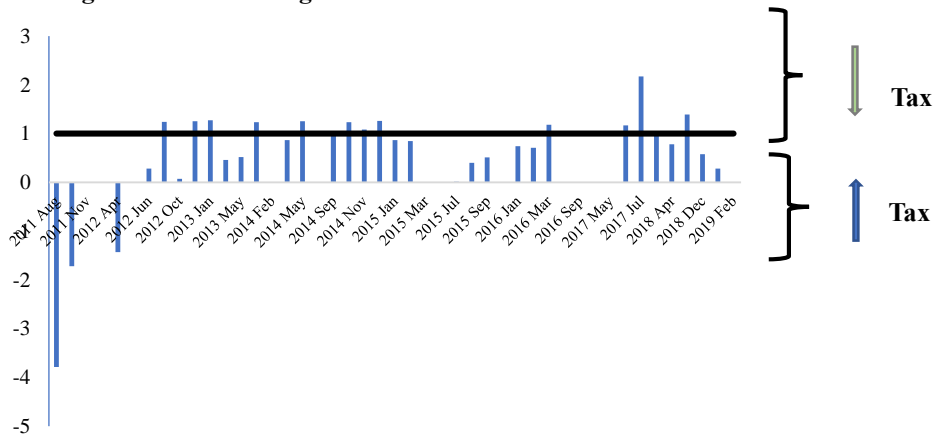
*HSD International Price Increase/ Decrease*

High Speed Diesel International Price Decreases	Count	High Speed Diesel Oil International Price Increase	Count	Total
Number of Periods	45	Number of Periods	46	91
Increase in taxes/ Pass through <1	12	Increase in taxes/ Pass through >1	21	33
Decrease in taxes/ Pass through >1	32	Decrease in taxes/ Pass through <1	25	57
Same tax/ complete pass through =1	1	Same tax/ complete pass through =1	0	0

**Fig. 15a. Pass Through in Case of Increase in International HSD Price**



**Fig. 15b. Pass Through in Case of Decrease in International HSD Price**



Pakistan over the years has followed a cautious policy for the pass-through of the decline in international oil prices. It made more decrease in domestic oil prices compared with a number of other regional countries, yet also retain some of the ‘potential consumer surpluses with itself. Not only did the government made tax revenues, this policy rather helped in demand management also (SBP, 2016).

### Oil Price Mechanism Across Countries

In many oil importing countries, petroleum prices are determined according to world crude oil prices and exchange rate movements. However, the government intervention in the energy market varies across countries depending upon the characteristics of energy market.

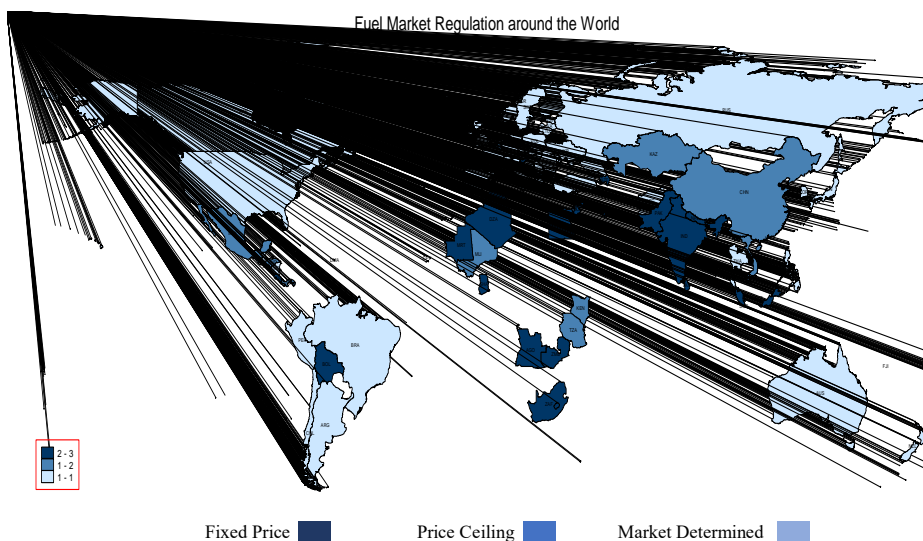
#### Box 3. Methods—Retail Fuel Price Determination

Market-determined retail fuel prices. State intervention is limited. Fuel retailers set their selling prices freely without major restrictions. Therefore, the fuel prices at different stations and in different regions of the country could vary.

Price ceiling. Fuel retailers are free to determine their selling prices as long as they do not exceed the specified ceiling set by the government to protect consumers from sudden upward increase in prices.

Fixed price. The most extreme form of price control is when the government or another authorised

Following map classifies fuel market regulation in 90 countries depending on which of the three main retail fuel pricing methods they apply.



Source: Data for map is taken from [www.globalpetrolprices.com](http://www.globalpetrolprices.com).

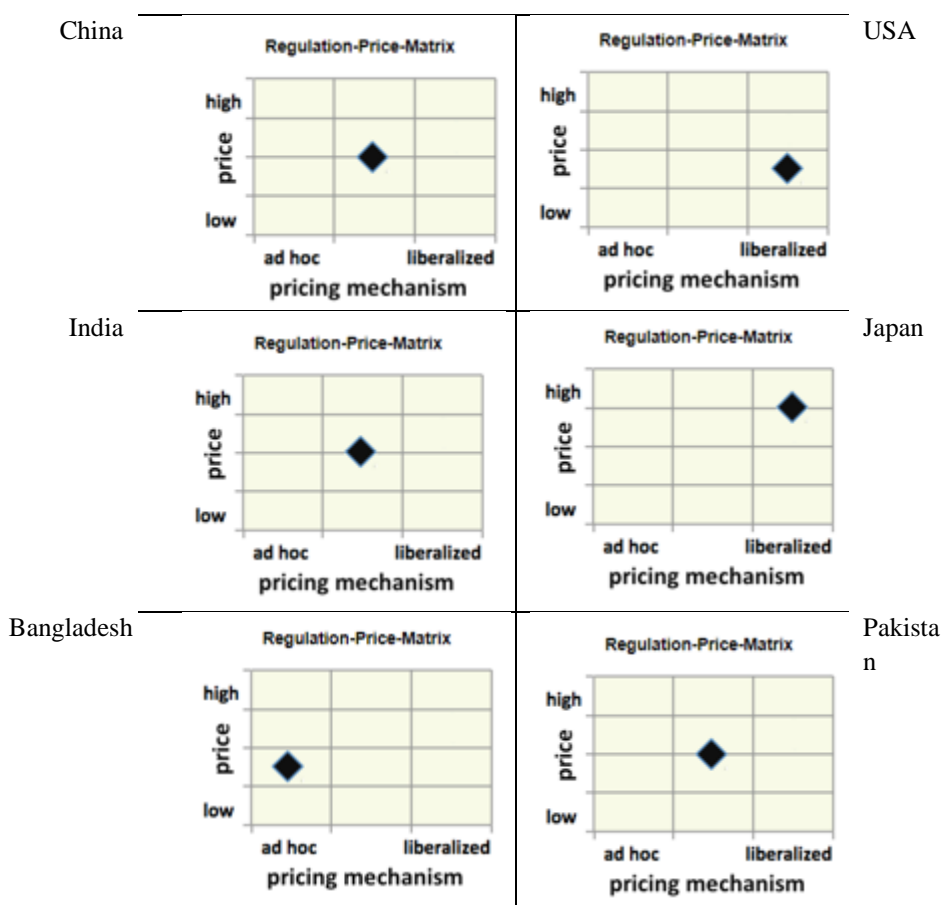


In 60 per cent of the reviewed countries fuel markets are liberalised and the retail fuel prices are market-determined. Except for few (like Afghanistan, Uganda, and Kyrgyzstan), these are highly developed countries\_ USA, Japan, Australia, New Zealand, and most European countries.

Pakistan is among the remaining 40 per cent, where government is involved in the retail fuel pricing with a price ceiling or a fixed price. In this category, apart from developing countries, some of the developed countries (like for example, Belgium, Luxembourg, and Malta) also falls in this category.

### Regulation Price Matrix in Selected Countries

The following regulation price matrix also explains that in Pakistan despite being liberalised, some sort of government check is in place unlike developed countries like USA and Japan, and similar to India and China.



However, in terms of transparency Pakistan is better than countries like India and China (Table 6a and Table 6b).

Table 6a













<i>Transparency of Price Composition</i>			
Country	No information available	Only partial information / available or poor / unclear / hard to find information	Full information available
China			
USA			
India			
Japan			
Bangladesh			
Pakistan			

Table 6b

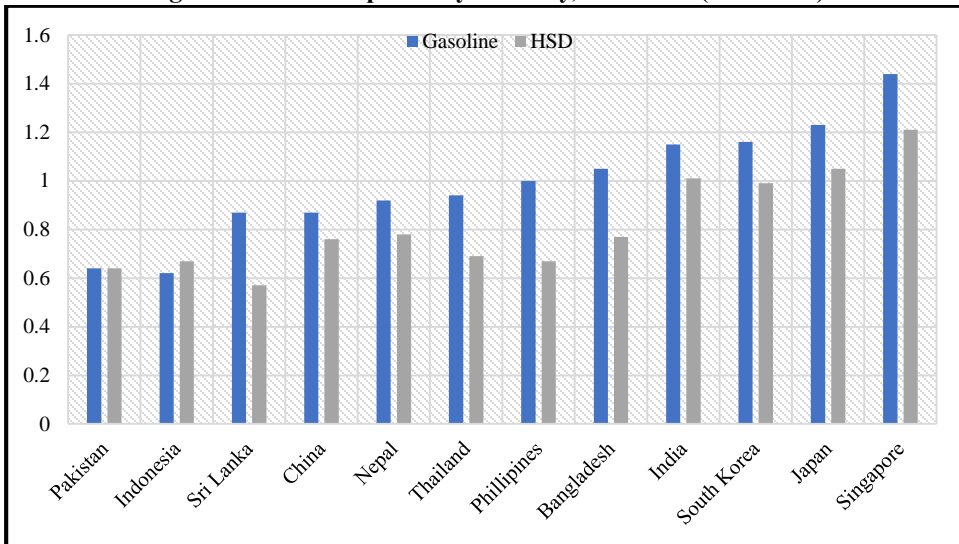
<i>Transparency of Price Mechanism/ Monitoring</i>			
Country	No information available	Only partial information / available or poor / unclear / hard to find information	Full information available
China			
USA			
India			
Japan			
Bangladesh			
Pakistan			

Source: www.energypedia.com.

### International Price Comparison

It is obvious in Figure 16, that petroleum prices despite the increase (Figure 7) and despite taxation (Section 2.2.4) are still lower in the region.

**Fig. 16. Petroleum prices by Country, Oct. 2020 (US\$/ litre)**



Source: [www.globalpetrolprices.com](http://www.globalpetrolprices.com).

### KEY TAKEAWAYS

- Fuel price mechanism has transformed significantly in the last two decades.
- Despite liberalisation some sort of government regulation is still in place to keep prices affordable for the consumers.
- The dependence on fuel taxation as a source of government revenue has increased over the years.
- Given Pakistan's significant dependence on imports, there is a need for market-based mechanism for the determination of prices.
- Complete deregulation is the way forward.

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