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A COMPREHENSIVE LOOK AT THE EVOLUTION OF THE INDIAN PETROLEUM INDUSTRY- PAST TO PRESENT

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Abstract: Petroleum refining industry plays a key role in providing energy for all sectors of any economy. The developments and economic condition in the industry is an important matter of national interest. Economic growth is inextricably linked to energy. Energy is required for almost all economic activities. Petroleum products are the prime sources of energy in the world. Many significant changes have been taken place in India's refining industry with resultant challenges. The main problem the nation all over has been facing is the price of petroleum products. This crucial non-renewable energy resource is scarce and is concentrated in a few countries/regions of the world. In India pricing of petroleum products faced several structural changes starting with import parity basis during post independence to cost plus pricing and then back to import parity pricing in last several decades and now trade parity price. This paper is a modest attempt to highlight the various phases of pricing mechanism of petroleum products from the early days to the present days.

Key Words: History, Petroleum Products, Pricing, Problems, Challenges

1. Introduction

In India the pricing of petroleum products plays an important role in its economy as more than 75 per cent of consumption of crude oil in India is based on import, and the world market price of crude is highly volatile. The present petroleum products pricing policy of the OMCs threaten the healthy development of petroleum industry. In recent times, significant changes have taken place in India's refining industry with resultant challenges. The oil refining industry is the cornerstone of a modern economy. Refined Petroleum products remain fundamental to our economic life – in everybody's daily life and economic activities of the nation ranging from domestic cooking to transportation, employment, etc. Petroleum Industry is a process industry with Crude Oil constituting to about 90% of the product price. In the last decade, India imported 70% of its crude oil requirement from the international market. Due to the emerging demand across the globe and instability in some Middle Eastern countries, the price of crude oil price has seen a lot of fluctuation, leading to instability in petroleum product pricing. Rapid economic growth in many developing countries has led to increased demand for oil products. As such, the refining industry has grown rapidly in such countries whether or not there is crude oil production in the domestic scene. In India the pricing mechanism of petroleum products was depending on international market, therefore, any fluctuation in the international prices of oil or any policy shift by the oil exporting nations is likely to have a substantial impact on India's economy

2. Review of Literature

An increase in oil prices led to both direct and indirect impacts on the prices of other commodities. To mitigate these effects, it was suggested implementing appropriate monetary policy instruments. This research focused specifically on the influence of oil price increases on inflation and output in India (Bhattacharyya and Bhattacharyya's, 2001).
The oil sector in India played a significant role in supporting national economic reforms. Reforms in the oil sector and the broader national economy occurred simultaneously. Purposefully, the country's oil sector aimed to contribute to the nation's economic growth by ensuring affordable fuel prices, all within the framework of sustainable development. Consequently, the oil industry consistently sought innovative methods to operate in a global and expanding economy(Diwan and Patra, 2008).In an analysis, it was observed that India depends heavily on imported petroleum products, with only 30% of total consumption sourced domestically. The remaining 70% was through imports, necessitating a substantial amount of foreign currency to cover these purchases. To address this, the Indian government aimed to achieve self-sufficiency by ramping up exploration, refining capacities, and embracing advanced technologies. Additionally, research and development in the sector were deemed necessary (Khan, 2008). It was revealed in a study that to foster economic development and enhance welfare, robust transportation and service infrastructure were crucial. As India's economy continued to grow, the demand for mobility was expected to rise. The government's intervention was needed to facilitate appropriate planning, regulation, and pricing mechanisms that prioritized the welfare of its citizens, fostering a more sustainable approach to mobility (Bandopadhyay, 2009).Through research, it was illustrated how Indian oil companies faced obstacles during the implementation of the Administered Pricing Mechanism (APM), hindering their progress when compared to global counterparts. During Post-APM period, upstream companies like ONGC and Oil India experienced higher profitability, while downstream refineries and marketing companies showcased improved financial performances. The study concluded that the growth during the APM period was slow and organic (Chatterjee, 2010).

3. **Objectives:** The objectives of this paper include:
   - To have an insight towards the different modification in the Pricing system of petroleum products in early days.
   - To find out the problems and challenges faced by Indian Petroleum Industry in the past days.

4. **Methodology**

This paper is an attempt of exploratory research-based study on the information or data collected from the reports of the Expert Group to advise on Pricing Methodology, Government of India, published report of Government, research papers, articles, Journals, websites etc. and also from the officials of Numaligarh Refinery Limited (NRL),Numaligarh to get deep knowledge about different terminologies used in Pricing Mechanism of Petroleum Products in India. Based on the objectives of the study the research design used in this paper is descriptive in nature.

4. **Statement of The Problem**

In recent times significant changes have been taken place in India's petroleum industry with resultant challenges. This paper seeks to evaluate the history and the challenges faced by India's petroleum refining industry in view of its recent performance and discuss the industry's future outlook. Pricing is identified as a most important challenge which if addressed and combined with other complementary remedies could help maximizing the industry's potentials. By considering the affordability, many pricing regime have been taken by the ministry to fulfil the expectation of the consumers and also to encourage the Oil Marketing Companies, refiners and producers of oil. But at different point of time they have been changing it for different reasons since 1974 and its impact has been seen on the consumption pattern of the products. So knowing that India has got lots of potentiality and opportunity for the development of this industry, it strengthens the ground for undertaking a research work on this area.

5. Significance of The Study

Considering all the challenges that the Indian Petroleum Industry is facing it is evident that India needs a viable long term strategy for pricing major petroleum products. Such oil policy should promote efficient and competitive oil economy in the country by efficiently using petroleum products by the consumers. One of the key issues of Petroleum Industry is under recovery of oil companies for which they could not collect surplus for their development projects. The present pricing policy of petroleum products daily change according to international prices is a progressive step from which transparency can be expected. To have a better pricing policy, problems or challenges faced in early days from different pricing mechanism should be understood. And based on the prospects and prevailed opportunities beneficial to all the stakeholders i.e. oil companies, government and customers, should be formed. Therefore this present study expected to highlight the reasons for changes in pricing mechanism of petroleum products at different point of time by analysing and observing the history and challenges of petroleum industry.

6. Discussion

1920 (No artificial control on pries)

The history of oil pricing can be traced back to the late 1920s. During this period, the private companies were marketing imported product - mainly kerosene. No authority, either the Government or the companies, enforced any artificial controls on the prices, which were allowed to float. This situation continued till the advent of the Second World War. During the war and post war periods the oil companies maintained price pools for major products.

1948 (Valued Stock Account)

In 1948 the realisation to oil companies was linked to the import parity price of products known as Valued Stock Account (VSA) agreed to between Government of India and Burmah Shell. formula. According to this system, the basic selling prices of all the major petroleum products were determined as the sum of Free on Board (FOB, ocean freight, insurance, ocean loss, import duty, interest and other charges, as well as 10% remuneration. Burmah Shell as market price leader maintained separate VSA's for each product. Other companies followed the prices fixed by Burmah Shell. At the end of each year, collections at provisional basic selling price were set off against actual costs. The resultant surplus/ deficit were certified by Auditors and advised to Government. The selling prices were adjusted accordingly to keep the account in balance.

1958 (Ad-hoc arrangement)

VSA was terminated and new ad-hoc arrangement was entered into following the examination of the price structure of the petroleum products by the Chief Cost-Accounts Officer, Government of India. It was replaced with actual (not assumed) costs with some reasonable profit based on price structure of petroleum products.

1961-1965 (Import Parity basis)

First systematic attempt to regulate the prices of petroleum products was based on the recommendations of the Dalme Committee in 1961.Various pricing committees were appointed by the Government during this phase. As the bulk of the crude oil and major petroleum products were being imported into the country from West Asia therefore prices of petroleum products were fixed on import parity basis. The Dalme Committee focused on the foreign exchange conservation and proposed incentives for the oil companies to increase gross profits by lowering their operating and other costs and recommended that the discounts should be reduced from the FOB prices. Import parity was conceded by the committee in principle but it disapproved the manner in which it was reckoned. Hitherto the import parity prices of products had been determined on the basis of landed cost of products from West Asia. To fix the FOB prices, Platt's oil gram was taken as a reference. Platts-- Oilgram Price Report is the daily market report that covers marketfundamentals, changes and factors driving prices within the crude oil and related products markets. The proposed pricing formula was applied to bulk products only, as the petroleum products were used for different usages and hence lubes and greases were kept out of the pricing formula.

1976-2002 (Administered Pricing Mechanism)

On 16th March, 1974, the Government appointed Oil Prices Committee (OPC) under the stewardship of Dr. K.S. Krishnaswamy, the then Executive Director, Reserve Bank of India. The committee recommended discontinuance of import parity pricing principle and suggested Administered Pricing Mechanism (APM) based on domestic cost of production for pricing of petroleum products, both ex-refinery gates as well as to consumers.

The objective of the government is to shield the Indian consumers from the high and volatile oil prices generated by the first Oil Shock in 1973-74. The salient features of the Administered Pricing Mechanism which continued till late 90's were as under:-

1) The pricing of petroleum products for the refining and marketing units are based on the retention concept where under oil refineries, oil marketing companies and the pipelines were compensated operating costs and return @ 12% post tax net worth.

2) The ex-storage ceiling selling prices were uniform at all the refineries.
3) For consumers, the selling price of a product was arrived at by adding the applicable freight from the oil refinery to the Depot and from Depot to the Retail Outlets or direct consumers. Dealers commission wherever applicable was also added.
4) The prices of certain petroleum products like kerosene, LPG and feed stocks for fertilizer units are subsidized for socio economic reasons. Similarly, fuels like petrol, ATF, LPG for industrial use were priced above the cost of production to discourage their inessential use.
5) The prices of petroleum products are reviewed and revised from time to time to see that oil pool accounts were balanced.
In 1998 the APM was dismantled for the upstream and refining sector and a partial deregulation took place for the marketing sector. Subsequently, effective 1.4.2002, the Government announced complete dismantling of APM.

Post-administered pricing mechanism (2002 onwards)

The process of dismantling of APM and operationalisation of market determined pricing mechanism was notified in two successive Government resolutions in 1997 and in 2002. The 1997 resolution provided the four year phasing out of APM and the 2002 resolution completed the process. The approach to pricing in this new policy framework was proposed to be based on four distinct considerations.

- The price of indigenous crude oil would be market determined.
- The prices of petroleum products produced by the refineries will be based on Import Parity Price.
- The consumer prices of all other products except domestic LPG and PDS kerosene will be market determined.
- There would be flat rate subsidies on PDS kerosene and domestic LPG.

Import Parity Price (IPP) was introduced in 1998 to calculate refinery gate prices. Since complete dismantling of APM in April 2002, prices of four sensitive petroleum products (Petrol, Diesel, PDS Kerosene and Domestic LPG) for sale by refineries to the oil marketing companies continued to be governed by IPP. Import parity price (IPP) basically means the price that the actual importer would pay for the product in case he would have actually imported the same at the respective ports in India.Even after Dismantling of Administered Pricing Mechanism (APM), the government continued to control the price of four key products, Petrol, Diesel, PDS, Kerosene & Domestic LPG. Government announced the PDS kerosene and domestic LPG subsidy scheme 2002 in January 2003. As per then plan, subsidy was to continue for 3-5 years beginning 2002-03

2006 (Trade Parity Pricing)

In October 2005, the Government constituted the Rangarajan Committee to examine the pricing and taxation of petroleum products with a view to stabilizing their prices and establishing transparent mechanism for autonomous adjustment of prices by the oil companies. The Rangarajan Committee Report (2006) recommended a formula of Trade Parity Pricing (TPP) for petrol and diesel at refinery level as well as at retail level. The formula was a weighted average of import parity and export parity prices, in which the percentage share of import/export of these products provided the weights. The Committee suggested that these TPP prices should serve as indicative ceilings within which the marketing companies would have flexibility to fix the actual retail prices of petrol and diesel. As regards subsidies, the Committee recommended elimination of subsidy on LPG and its restriction of kerosene subsidy to BPL families' only and later on TPP was confined to the refinery level and the retail prices of petrol, diesel, domestic LPG and PDS Kerosene continued to be fixed by government at subsidies rates. As PSU oil marketing companies (OMCs) kept reporting "Under Recoveries" which is the difference between import parity price and realised price, the Government devised a burden sharing mechanism to meet OMCs under recoveries. This mechanism involved PSU upstream oil companies (ONGC, OIL) which extended hefty price discounts on their sale of crude oil to the OMCs, and the government which issued bonds every year. Continuance of such an arrangement, year after year, became unsustainable. It lacked transparency and thereby gave rise to financial uncertainty. With the changes in te pricing policy implemented during 1998 to 2002, there was rapid growth in refining capacity, growing from about 62 million metric tons per year in 1998 to146.5 (MOPNG Report) million metric tonnes by 2007.

Post deregulation price movements (2010 onwards)

Another Committee Formed headed by Kirit Parikh Inthisparticular phase tax factor had been considered in pricing of petroleum products. In case of petrol, taxes are close to 50% of the retail price. This price was market determined both at the refinery gate and at the retail level.

The Recommendations made by Kirit Parikh Committee report (2010), The Government advocated that there is a need to deregulate the price of petroleum products. The base of their argument was that these products, in particular diesel, LPG and kerosene are heavily subsidized and, hence, put tremendous pressure on the Indian Budgetary. If the prices instead are deregulated, they will be brought in tandem with the international prices which can be beneficial to both the fiscal policy and the consumers in general. On 26 June 2010, the prices of petrol are market determined both at the refinery gate and retail level and partial deregulation on diesel prices. The growing burden of under-recoveries, which reached an all-time high of Rs. 1, 38,541 Crore in 2011–12. The total loss of OMCs from selling petroleum products for the year 2011-12 was claimed to bea colossal Rs 1,32,541 crore. After taking the subsidy of Rs 1,38,718 crore paid by thegovernment and upstream oil and gas companies, the profit-loss account of OMCs for the sameyear shows a cumulative net profit of Rs 6,177 crore. It is possible that unleashing the forces ofpetro-retail forces would bring domestic prices even below the export parity prices (Ghosh &Prasad, 2012).

2017 (Present policy on Pricing of Petroleum Products)

Present pricing policy is unfavourable to the customer as well as to the market which leads to various challenges. Presently the government has rolled out the daily fuel price change model to the rest of the nation. Beginning 16th June 2017, all petrol pumps across the nation (58,000 in number) have been changing their petrol and diesel prices each day based on international market prices of crude oil and foreign exchange rates. Earlier the prices were changed fortnightly i.e. on the 1st and 16th of each month based on the average price of crude oil and foreign exchange rate of the preceding 15 days. With a shift to this mechanism, it is critical to understand how petrol prices are decided and the need for such a shift to daily fuel price change model. the price of petrol depend on international crude oil prices and foreign exchange rates which are highly volatile, depending on demand and supply, and change on day to day basis. There have been many instances when the prices have failed to change proportionally with the rise or fall in international crude oil prices because of government intervention. Moreover, the Indian government continues its manipulation of prices through changes in duties and taxes, which comprises of a major proportion of the retail price that the consumers pay for petrol. The state government also has the authority to scale up the sales tax whenever retail prices come down. For instance, the Government of Maharashtra increased the sales tax in Mumbai by a whopping 400%, which is the highest in the country (S. Sharma 2014). This change will help align fuel prices to international crude oil prices and enhance transparency in the pricing mechanism by reducing political overtures in price setting. Also, this move will be beneficial to consumers, as the volatility in prices due to fortnightly revisions would be reduced since the daily change is expected to happen only to a limit of few paisas. The prices are revised at 6 AM every morning at petrol pumps. For petrol pumps, which are automated, the prices will be changed centrally, with no additional manpower requirements. However, such petrol pumps form only 20% of the total of 58,000 petrol pumps across the nation. For the remaining non-automated petrol pumps, prices will have to be changed manually each day. The non-automated stations can access the information via four distinct means i.e. customized SMS service, Emails, Mobile App & Web Portal for dealers. Updated prices will be immediately exhibited at all petrol pumps for the information of the public. Customers would also be able to fetch daily updated prices of petrol and diesel at all cities through Indian Oil's mobile app or through SMS.

Problems and Challenges faced by Indian Petroleum Industry

The pricing of petroleum products is important because more than 75 per cent of India's consumption of crude oil is based on imported products, and the world market price of crude is highly volatile. The consumers of petroleum products and oil marketing companies, even government have been facing a lot difficulties or challenges for the prices fixed at different point of time. Various pricing committees have been formed by government time to time for advocating the fixing of prices. The present petroleum products pricing policy of the government threatens the healthy development of oil companies. The growing burden of under-recoveries, which reached an all time high of Rs.1,38,541 crore in 2011-12. They put stress on government finance. Under-recovery is not equal to loss for the oil companies. It is important to have rational prices for all the petroleum products. Maintaining a level playing field between the public and private sector firms as well as public sector firms is desirable to promote healthy competition (Parikh, 2013).

During APM also oil companies faced many difficulties as they could not generate surplus financial resources for project development and capacity addition in this crucial sector. The major weakness of APM was that, due to government's control on prices of petroleum, it did not induce competition in the market place, so it did not fulfil the consumer's interest for better products and services. After dismantling of APM continuance of different arrangement, year after year, became unsustainable. It lacked transparency and thereby gave rise to financial uncertainty. It was fraught with administrative delays and thereby did not help the oil companies either. Moreover, it only facilitated transferring the present problem to the future. After the Dismantling of Administered Pricing Mechanism, the government has formed several committees' to analyze and recommend petroleum pricing in India. These Government policies have come under heavy criticism from industry experts. The analysis and the policies, the claims of the government with regard to the policies are as follows:

1. The Taxation of Petroleum Products
2. Government claim to subsides On Petroleum Products & OMC's "Under Recoveries"
3. The International Pricing of Petroleum Products

The Government Claims to provide four key petroleum products at subsidized rates, due to which the Oil Marketing Companies recurs Under Recoveries. The formulation of petroleum price with respect to taxations levied up by the central and state governments is the retail price of petroleum products (like petrol, diesel, kerosene and LPG) equals the sum of the price of crude oil, refining cost plus profit, marketing & storage cost plus profit, distribution cost plus dealer profit, and taxes & duties. The Government claims to provide subsidies on four key petroleum products, although it continues to tax it heavily. So much so, that almost 50% of what we pay for petrol is tax.

The tax structure on petroleum products is much skewed in India. It can be seen that for petrol and diesel the taxes are quite high. In the case of petrol, taxes are close to 50% of the retail price. In other words, half of the price we pay is the actual cost of petrol, which itself is higher than the international prices, and the other half goes to the government as indirect taxes. And within taxes, more than half comes from the excise duty alone. In the case of diesel, which the government claims to be heavily subsidized, it is 30%. Due to these heavy taxes, the Indian consumer has to pay more than the cost of petroleum in international market. It is as if government is giving less with one hand and taking away more from another hand. The oil companies adopt a strange pricing policy that is linked neither to their costs nor to the competition in the market. The collusive pricing policy of the oil companies is an anti-competitive practice and has come under the radar of the Competition Commission in the past. India needs a strong dose of reform in the form of freeing of pricing of petroleum products while simultaneously encouraging competition.

7. Conclusion

A viable long-term strategy for pricing major petroleum products is required. The move to make fuel prices more aligned to market such that they reflect daily changes in international prices is a progressive step towards ensuring transparency in fuel pricing and enhancing competitiveness in the sector. However, the government as well as oil companies need to ensure that proper infrastructure and mechanisms are established at the earliest for successful implementation and continuity of the scheme. A market-determined pricing system for petrol and diesel can be sustained in the long-run by providing level playing field and promoting competition among all players, public and private, in the oil and gas sector.

References:

1. Bhattacharya, K. and Bhattacharya, I. (2001). Impact of Increase in Oil Priceson Inflation and Output in India. Economic & Political Weekly. pp. 4735-4741.
2. Diwan, P. and Patra, D. C. (2008). Where is oil in National Reforms?. ExcelPublishing House. New Delhi.pp.45-50.
3. Khan, P.V. (2008). Marketing of Petroleum Products: A Micro Study ofDistribution Channels in Marathwada Region. Ph.D. Thesis. Dr. BamUniversity. Aurangabad. pp. 95-100. Retrieved via www.shodhganga.inflibnet.ac.in.
4. Bandyopadhyay, K.R. (2009). Impact of Dismantling of Administered Pricing Mechanism of the Oil Sector on Transport, Energy and Environment in India.Ph.D. Thesis. Jawaharlal Nehru University. New Delhi.pp.262-263. Retrievedvia online access from the website www.shodhganga.inflibnet.ac.in.
5. Chatterjee, I. N. (2010). Assessing Financial Performance of Indian Public Sector CompaniesEngaged in the Business of Petroleum and Natural Gas during Pre and Post AdministeredPricing Mechanism System. Ph.D. Thesis. Symbiosis International University. Pune. pp.338-344. Retrieved via online access from the website www.shodhganga.inflibnet.ac.in.
6. Ready Reckoner Reports (2010-2021). Snapshot of India's Oil & Gas Data. PetroleumPlanning and Analysis Cell. Ministry of Petroleum & Natural Gas. Government of India.pp.53-54. Available at www.ppac.gov.in.
7. Report of the Committee on Pricing and Taxation of Petroleum Products, (2006).

Governmentof India. New Delhi. pp.12-15. Available at www.ppac.gov.in.

8. Ibrahim, A. & Shimin, S (2018). Why India Demands Inclusion of PetroleumProducts Under GST?. International Journal of Management, IT &ampEngineering. 8(1). pp.109-118.
9. Krichene, N. (2002). World crude oil and Natural Gas: A demand and supplyModel. Energy Economics. 24(6). pp. 557-576.
10. Memon, A. (2015). Petroleum Prices- Trend and Its Impact on Common Manwith Reference to Mumbai. Interdisciplinary, Multidisciplinary & Multi-Cultural Journal, 4(1). pp. 114-128.
11. Mukhopadhyay, K. and Chakraborty, D. (2000). Economic Reforms andChanges in Energy Consumption in India: A Structural DecompositionAnalysis. ArthaVijnana. 42(4). pp. 324-350.
12. Muller, R. (2007). Shifting Global Products Specs push more RefineryInvestment. Oil and Gas Journal. pp. 44-48.

13. Anand, M. K. (2012). Diesel Pricing in India: Entangled in Policy Maze.Research Paper. National Institute of Public Finance and Policy. New Delhi.Retrieved from http://www.nipfp.org.in.
14. Petroleum Planning and Analysis Cell. Ministry of Petroleum&Natural Gas.Government of India. Available at www.ppac.gov.in.
15. www.ukessays.com
16. Upstream, Midstream and Downstream – Understanding the Three PetroleumMarkets. Available at www.petro-online.com .
17. Commissionerate of Taxes. Government of Assam. Available atwww.tax.assam.gov.in.