International Energy Agency: Focus on Asia Pacific

PETROLEUM PRODUCT PRICING IN INDIA

Where have all the subsidies gone?

Paper
October 2006

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Petroleum Product Pricing in India – where have all the subsidies gone? [1]

Executive Summary

Petroleum product pricing in India is frequently seen as a black hole of subsidies. Economists and oil companies complain about the impacts those subsidies have on public finances, financial performance of oil companies and demand-side management. However, on closer analysis, the issue of petroleum product pricing in India is more complex than the one-way flow of subsidies reported in the press. So the question to be answered is: how high are subsidies really?[2]

Contrary to common perception, India's retail prices for petrol and diesel are relatively high despite subsidies. In fact, the total Government (central and states) taxes and surcharges on petrol products exceed by far the annual budget subsidies for these products. There is thus a certain rationale for the Government to maintain the current system though it does have negative implications on the financial health of public oil companies and acts as a deterrent to private investments in the sector. In addition, the policy rationale of providing subsidies to allow poorer segments of society access to commercial fuels, cannot be proven conclusively and irrational choices among different fuels are being made due to distorted retail prices. The Indian energy market and the economy as a whole would be better off if the Government would implement a consistent, transparent and rational fuel pricing system but with a view to political imperatives, this is unlikely to happen in the short-term.

I. From the Oil-Pool Account to Government Bonds

First, there was the APM…

On 1 April 2002[3], the Administered Pricing Mechanism (APM) for petroleum products was abolished as part of the continuing reform of the petroleum sector towards a sector based on market mechanism. In theory, India's public downstream oil companies would now be free to set retail prices of all petroleum products based on an international parity pricing formula under the supervision of a petroleum sector regulator. The Government would abstain from influencing petroleum product pricing. Up to then, prices were controlled (or "administered") for two transport fuels, petrol and high speed diesel, and two cooking fuels, kerosene and LPG.

The subsidy for the four products was not part of the Government budget but came out of the so-called oil pool account. The oil pool account was funded by surcharges on petroleum products to be dispensed in times of rapidly increasing international prices and re-filled during times of lower prices. With the beginning of the new FY on 1 April 2002, the APM and with it the oil pool account was abolished.

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[1] Extensive data research and analysis for this paper was carried out by Samuel Pape, intern in the ONMC.

[2] This paper does not attempt an econometric analysis of subsidies. The term "subsidy" is used here for amounts listed officially as subsidies in the Indian Government's annual budget. The difference between the actual retail price and the "should-be" retail price based on import-parity formula called "under-recovery" by the Indian oil companies is also considered to be a subsidy.

[3] India's FY (FY) runs from 1 April to 31 March.

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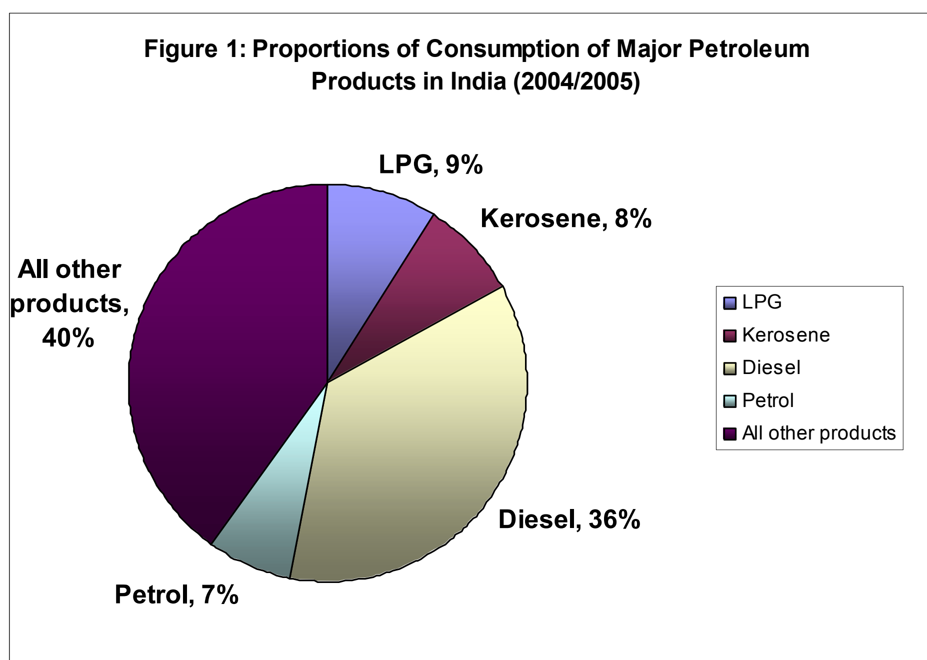
Subsidies for the two cooking fuels are considered an important social instrument to help poorer households shift from biomass to modern fuels.[4] Following the abolishment of the APM, the Government would thus provide subsidies for kerosene and LPG ex-ante in its annual budget. Subsidies would not exceed 15% of the LPG and 33% of the kerosene import parity price respectively. Within 3 to a maximum of 5 years all budget subsidies on LPG and kerosene would be abolished and market prices would be in place for all petroleum products in India. Petrol, diesel, LPG and kerosene account for about 60% of India's total petroleum product consumption. Diesel is India's single most important fuel as most of its vehicles, commercial and private, have diesel engines. Over 75% of India's crude requirement is imported.



Source: Ministry of Petroleum Basic Statistics

…then market based retail pricing (partially, at least)

The practice of retail price setting was different from the theory right from the beginning of the post-APM period. The so-called public downstream "Oil Marketing Companies" (OMC), implemented regular retail price adjustments for petrol and diesel during the first two FYs following the abolishment of the APM. Despite these regular price increases the OMC incurred minor shortfalls for the sale of petroleum and diesel. However, those shortfalls were mitigated through the refining margins which now benefited from the import-parity pricing formula.

As of 1 April 2004 the intervals between price revisions grew larger and the OMCs started to incur substantial under-recoveries for these two products in line with the drastic increase in international crude prices. This was the case despite a new semi-monthly automatic price adjustment formula put in place by the Government on 1 August 2004. The formula gave the public the impression that prices were indeed set by the market while in reality OMCs were still required to seek approval from the Ministry of Petroleum and Natural Gas for each price adjustment.

[4] The World Energy Outlook 2006 includes a discussion on the health hazards of and pre-mature deaths resulting from cooking with biomass.

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According to this formula the OMCs could increase prices on the basis of a rolling average CIF[5] price of the last three months within a +/- 10% band. However, when international prices continued to climb the formula was quietly abandoned as more often than not the OMCs were requested by the Government to keep prices constant for social (and political) reasons. This resulted in mounting losses on account of sales of petrol and diesel to the OMCs. Those losses could first still be partly mitigated through refining margins making it difficult to ascertain the net position. However, as of the beginning of FY 2005/06 the losses incurred by OMCs on sale of petrol and diesel became substantial. Total losses reached US$3.3 billion[6] for the entire FY. The trend of increasing under-recoveries on petrol and diesel sales continues into the current FY. Despite a price increase of 9% for petrol and 6% for diesel in June 2006 OMCs are expected to loose over $10 billion for the entire FY if no further prices increases are effectuated.

For cooking fuels, OMCs were not given any honeymoon period of market based retail pricing. Right after abolishment of the APM, they were "advised" by the Government, who is their majority owner and the de-factor sector regulator, to consider the social implications of adjusting retail prices for kerosene and LPG in line with the import parity principal.

Consequently, LPG prices have only been increased six times between 1 April 2002 and 1 April 2005. Since then no further price revision has been carried out. Even accounting for the Government subsidy of Rs. 100 per cylinder, OMCs lost the same amount per cylinder in the first FY after moving to the new, market-based pricing regime. For the current FY, the under-recoveries per cylinder are over Rs.150 resulting in estimated total under-recoveries of $1.7 billion for the entire year.

The situation is even more pronounced for kerosene. Prices have not changed since 1 April 2002. The only changes in retail prices resulted from a minor increase in dealer commissions in June 2003 and the introduction of a Value Added Tax (VAT) in June 2005. No other price adjustment has been made. The total price increase for kerosene since 1 April 2002 has been a paltry 0.8%. Under-recovery on the sale of kerosene is expected to hurt the OMCs to the extent of $4.3 billion for the ongoing FY – despite kerosene accounting for only 8% of India's total petroleum product consumption. Total gross under-recoveries after accounting for budgeted subsidies are roughly doubling in each FY.

[5] CIF: Cost, Insurance, Freight
[6] The Rs:$ exchange rate used in this document is 45:1

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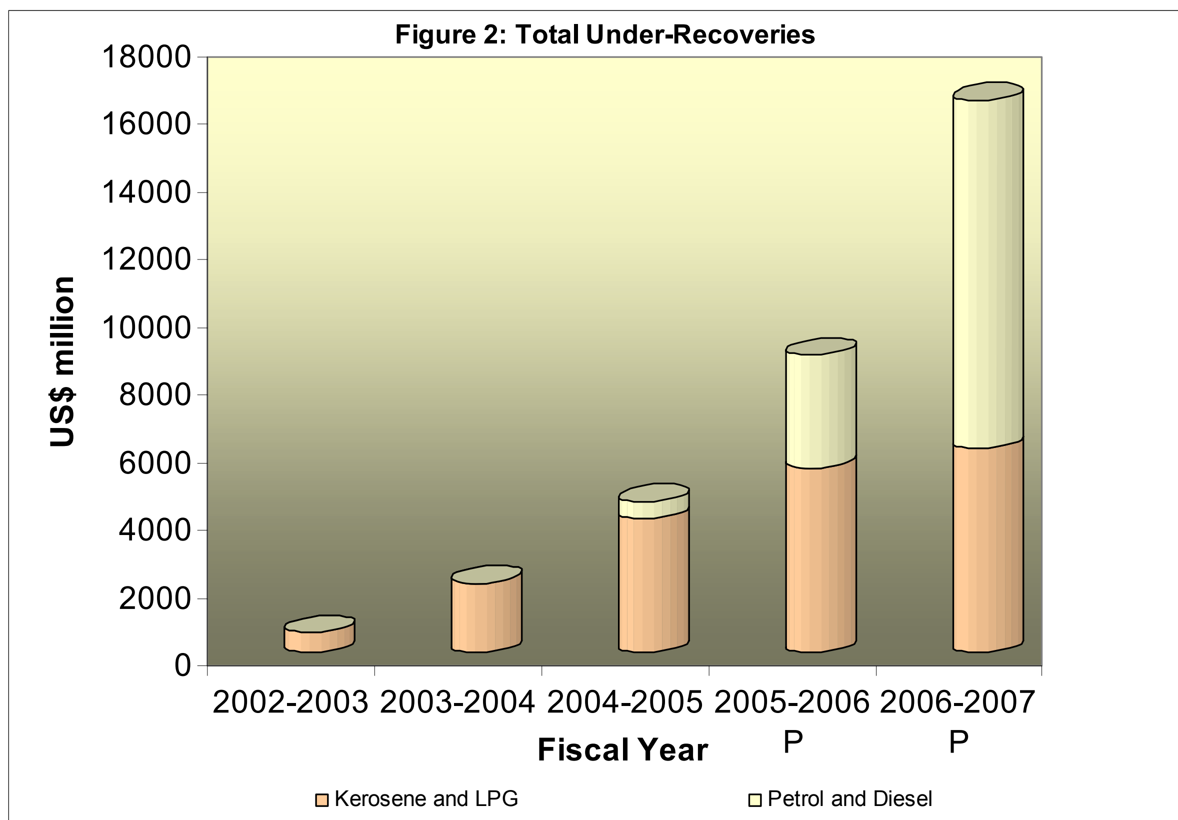

Source: Indian Oil & Gas; PPAC, www.indianpetro.com

India's crude basket increases sharply

While international prices for petrol increased by about 140% between 1 April 2002 and 31 March 2005, Indian retail prices [7] for petrol increased by only 64%. For diesel the Indian retail prices increased by 83% while the international price increase was 175%. Over the same period LPG prices increased by about 23% whereas international LPG prices rose by almost 150% in the same period. Most drastic is the comparison for kerosene, where retail prices increased by less than 1% while international prices increased by almost 200%. The Indian crude basket[8] almost tripled between 1 April 2002 and June 2006.

[7] All retail prices referred to in this paper are those of New Delhi if not specified otherwise. Retail prices differ in India's 28 states due to state and local taxes and other charges.
[8] The Indian crude based consists of the price of Brent and Oman/Dubai average in the proportion 43:57 up to 31 March 2005 and of the ratio 42:58 since then.

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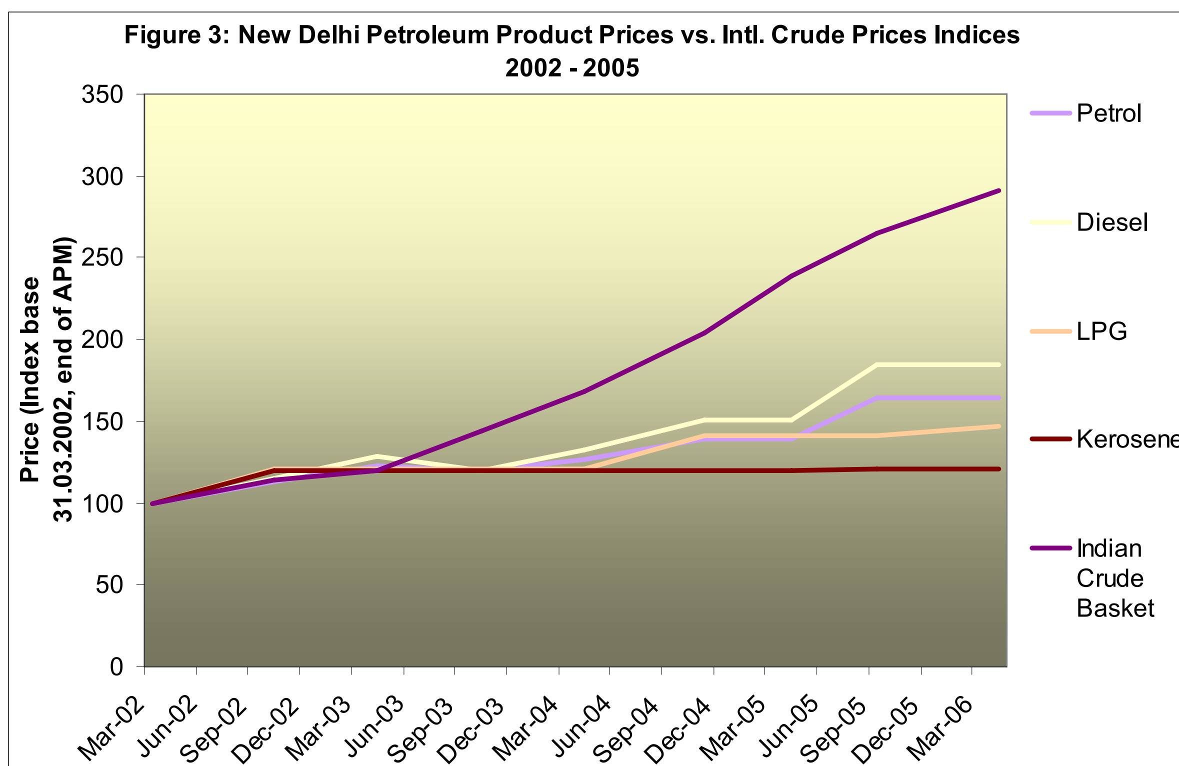

Figure 3: New Delhi Petroleum Product Prices vs. Intl. Crude Prices Indices 2002 - 2005

Source: PPAC, ONMC calculations

…..and so does consumption

Consumption of the four petroleum products increased strongly over the first few years after the end of the APM. Kerosene consumption declined in FY 2003/04 following a clamp down by authorities on illegal cross-border smuggling into neighboring countries. However, much of the highly subsidized products were diverted from their originally intended usage: instead of supporting poor families to move up the fuel ladder and to slowly integrate into the modern fuel economy, subsidized LPG and kerosene found their way into restaurants, cars and tricycles and was smuggled across the border into neighboring countries. A recent Government study found that only 20% of LPG and 62% of kerosene is actually consumed by the intended population group: families living below the poverty line and primarily in the rural areas.

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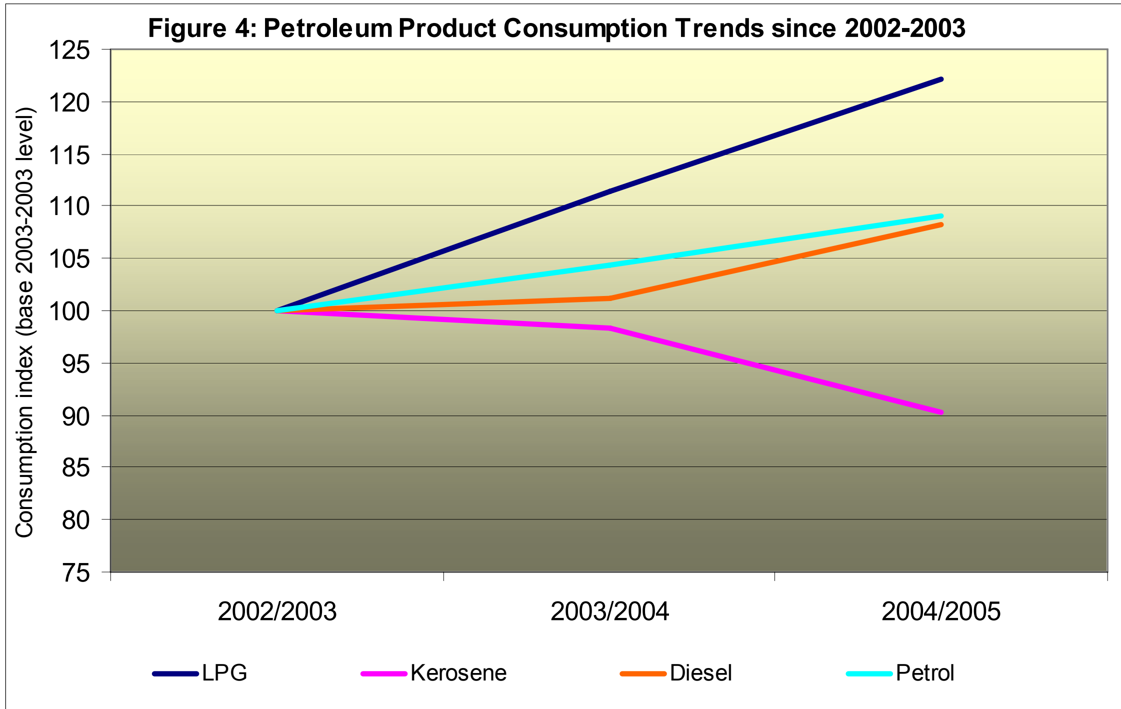
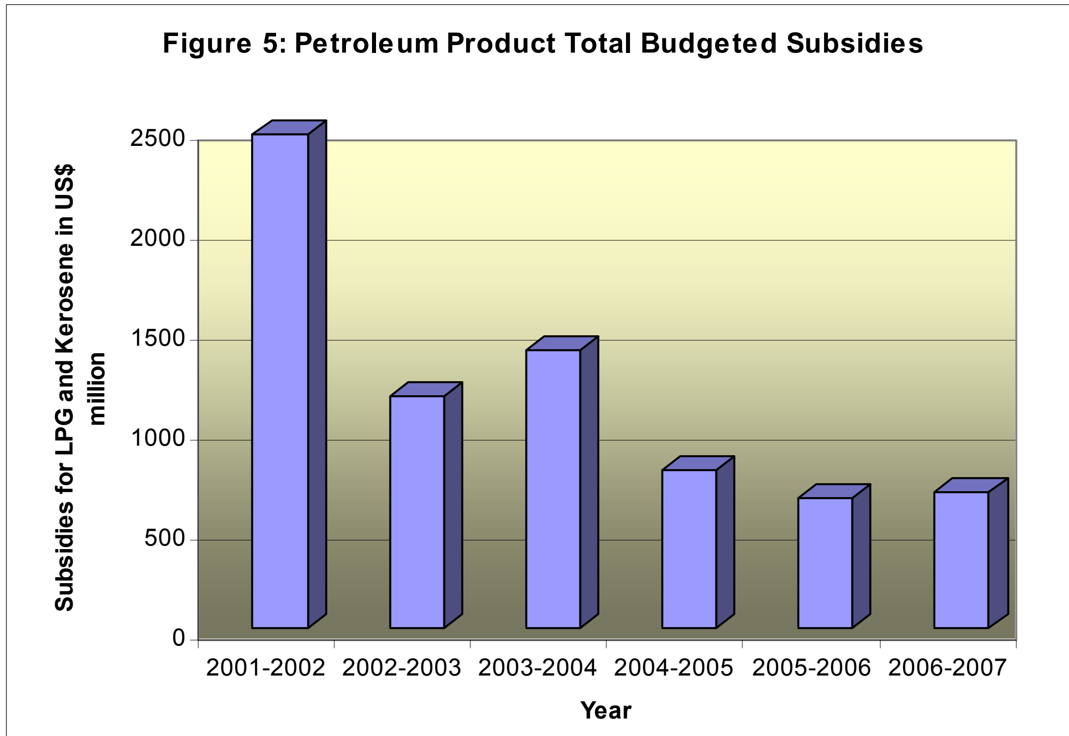


Source: Ministry of Petroleum Basic Statistics

As per its policy, the Government sharply reduced its budget subsidies in the post-APM period. However, the commitment to further reduction and final termination of subsidies by 1 April 2007 has been put on hold in light of increasing consumption, rising international prices and sky rocketing under-recoveries of the OMCs. Given the increasing consumption of the highly subsidized LPG, the officially budgeted subsidy per unit is decreasing each year, further shifting the financial burden to the OMCs.



Source: Indian Expenditure Budgets, various years

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…. *Sharing the burden among oil companies*

Already in FY 2003-04, the Government realised that the financial burden imposed on the OMCs was getting critical and was potentially undermining their long-term financial health. Since the most obvious action, a sufficient increase in retail prices, was not considered politically feasible, the Government came up with an innovative solution: let the upstream oil companies share the burden of under-recovery! Under this stop-gap measure ONGC, India's largest upstream company, covered about one-third of under-recoveries. One-third was supposed to be cross-subsidized from profits made on sale of other petroleum products and the last third to be covered by the OMCs.

But already in the following FY under-recoveries grew so large that GAIL, India's downstream natural gas company, and OIL, ONGC's much smaller upstream cousin, were requested by the Government to also contribute towards meeting the one-third of under-recovery so far carried by ONGC alone. In FY 2005-06 India's stand-alone public refineries were also taking into task to cover the under-recoveries. The Government even contemplated to extent the burden sharing to private sector refiners. However, this latter consideration resulted in private sector petrol product retailers requesting Government subsidies and burden-sharing to compensate for their losses in the same way as provided to the public OMCs.

OMCs encountered sharp reductions in their profits during the last FY. In fact, during the first nine months of the last FY all OMCs registered operating losses. Indian Oil Corporation, India's largest company, only prevented itself from sliding into losses by selling-off their shares in India's upstream major, ONGC. Clearly, this one-off non-operational profit cannot be repeated.

Government bonds to the rescue?

Still even the burden sharing among all oil and gas companies and refiners did not close the gap between retail prices and import parity pricing formula. The Government thus started to issue government bonds to the OMCs covering also about one-third of the expected under-recoveries. The Government issued bonds worth US$. 2.6 billion for FY 05-06 and was planning to issue bonds for US$ 3.1 billion in September 2006, half of total bonds to be issued this year under the subsidy sharing scheme.

However, while the government bonds might contribute to maintain financial solvency in the short-term, they are only postponing the problem into the future as eventually the bonds will be called upon. Moreover, OMCs are finding it difficult to find buyers for the new government bonds, even at discounted prices, and so their actual cash situation is not improving as intended by the Government. Clearly, none of the current Government actions in the area of petroleum product pricing reflects a long-term, sustainable policy solution.

Finally a new pricing formula?

In recognition of this, the Government constituted the "Committee on Pricing and Taxation of Petroleum Products", the so-called Rangarajan Committee, named after its chairman, to advice on a petroleum product pricing system. The Rangarajan Committee presented its report in February 2006. It includes several suggestions, including an increase in retail prices of LPG and kerosene, restructuring of taxes and prices of petroleum products and better targeting of subsidies to reach their intended beneficiaries. The main recommendation of the report is to change the pricing formula from import parity to trade parity.

The proposed trade parity principal reflects the fact that petroleum product exports have increased strongly since 2002. Refinery gate prices and retail prices would then be determined on a weighted average of the import parity price (80%) and the export parity

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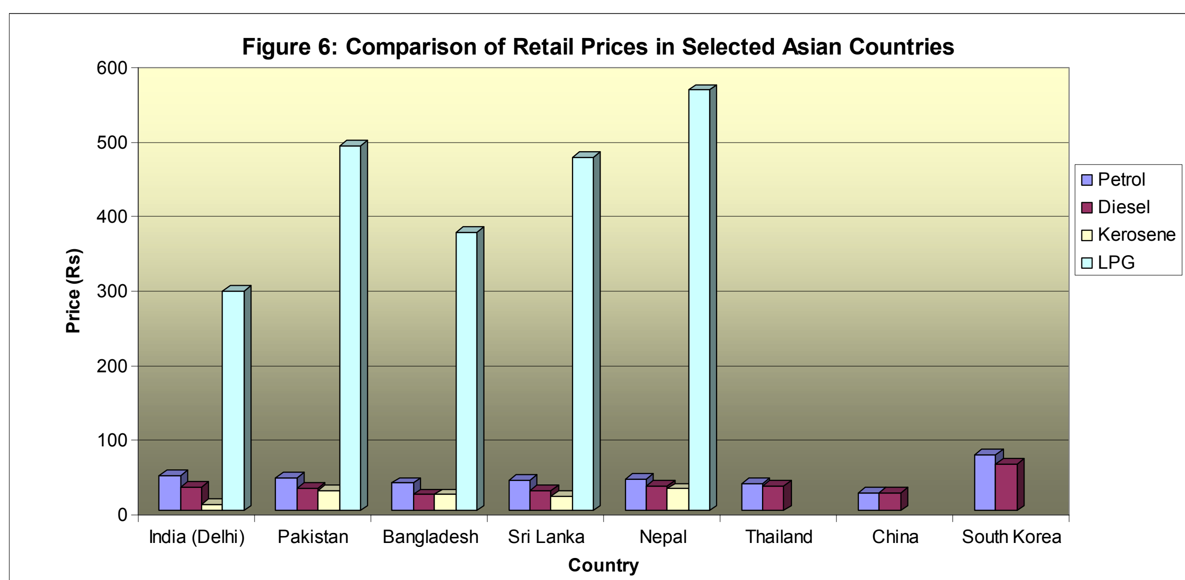
price (20%). The formula would be adjusted annually. The adoption of the trade parity principle would primarily hurt the stand-alone refiners while the marketing cum refining companies would be benefiting. In total though, the impact on the petroleum industry would be neutral. However, concerns have been expressed that the new formula could undermine the attractiveness for new investments in India's refining sector that has aspirations to become a regional export hub.

So how does India differ from the rest of developing Asia?

Up to this point, the story of India's petroleum product pricing appears a typical reflection of fuel subsidies throughout developing Asia and many other countries. Governments force public sector companies to indirectly subsidize consumption while simultaneously insolating the fiscal position of the government to the extent possible. However, conventional wisdom and economic theory show that consumption subsidies that keep commodity prices artificially low distort economic decision making. Subsidies result in higher consumption and distort the choice between fuel alternatives that might have positive social and economic externalities but are not subsidized. So how does India compare with its neighbors on petroleum product pricing?



Source: Rangarajan Committee Report

Indian retail prices for petrol and diesel are surprisingly among the highest in South-Asia and other developing Asian regions – even exceeding prices of more developed economies. Still Indian companies are incurring huge under-recoveries on the sale of products. How can that be?

The answer lies in the build up of Indian retail prices. It is enlightening to analyze the range of taxes and duties levied on each of the four petroleum products discussed here. The complex and opaque system of taxes, charges, duties etc makes it difficult to arrive at a net position of the actual subsidies in the system.

II. Taxes, taxes everywhere….

Whenever under-recoveries of the OMCs reach new heights, calls are made in the media and among industry officials to reduce taxes and duties on petroleum products. In total, since 1 April 2002, the central government has reduced custom and excise duties on the four products four times. Since March 2005, custom and excise duties on kerosene and LPG are nil. For petrol and diesel excise duties were reduced from 30% and 14% respectively to

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8% plus Rs. 13/liter and to 8% and Rs. 3.25/liter while custom duties were reduced from 20% to 10% for both products. At the same time custom duty on crude oil was reduced from 10% to 5%. In addition to custom and excise duties, two types of additional levies (oil industry development board and education) and a central sales tax are levied on crude oil and petroleum products. The reduction in custom duties and other taxes did contribute towards reducing the burden of under-recovery for the OMCs but it is not a long-term solution to the overall issue of petroleum product pricing.

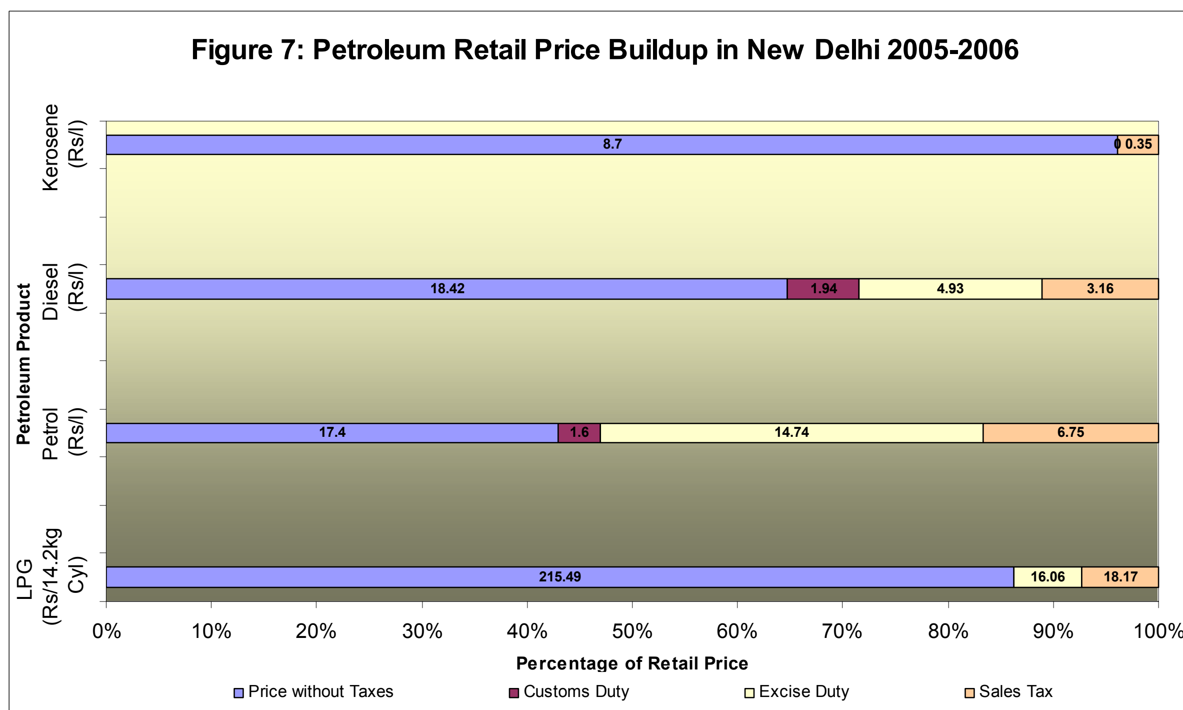

Figure 7: Petroleum Retail Price Buildup in New Delhi 2005-2006

Source: www.indianpetro.com

….India – a common market?

As a result of India's federal structure, the state governments are authorized to levy certain taxes and surcharges on petroleum products. The most frequently comprise VAT and/or sales tax, entry tax, transit charges and other levies. The charges consist of flat rates and ad valorem taxes and sometimes a combination of both. The number of levies and their magnitude vary widely among states. For example, the state of Maharashtra, the richest within India, has a 30% VAT on diesel while the state of Punjab imposes only an 8% VAT. However, Punjab's VAT on petrol is 27.5% compared to Maharashtra's 27%. Also, within the states local government units and municipalities cities can levy extra charges on petroleum products. The city of Mumbai for example levies an extra 1% on VAT. The state of Tamil Nadu levies a total of eight different charges on kerosene and LPG plus an additional purchase tax within its capital Chennai. The central government has frequently requested the states to follow its example to reduce taxes and other charges on petroleum products. However, mostly these requests were not granted.

Taxes and duties on petroleum products and crude oil constitute major revenues for the central and state governments. Revenues from customs duty on petroleum products accounted for 24% of total customs duty in FY 2004-05, up from 16% in 2001-2002, the last year of the APM regime. Even in absolute terms they more than doubled over the same period. However, for FY 2005-06 the share of revenues from petroleum products had declined to about 16% due to the sharp reduction of custom duty.

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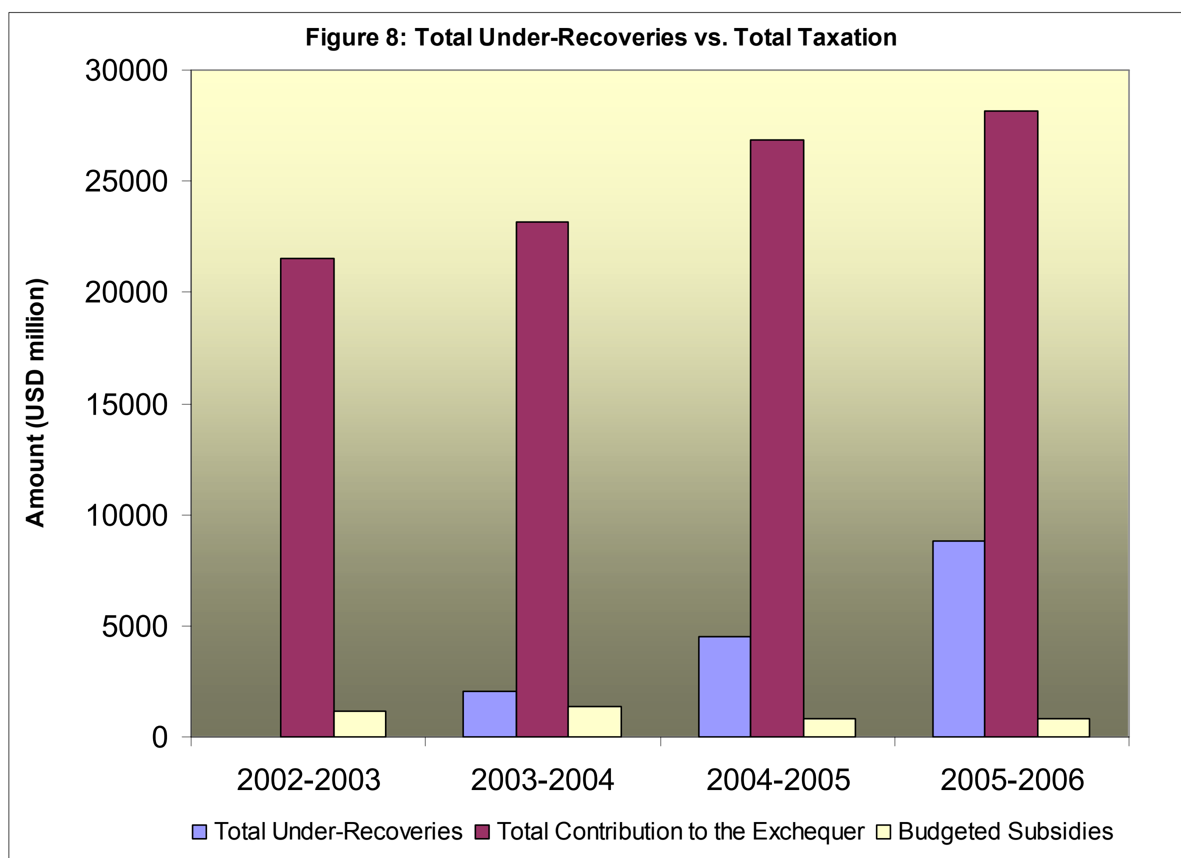
A similar picture emerges for excise duty. Here the share of petroleum products within total revenues from excise duty increased from 39% in the last year of the APM to 43% in FY 2003-2004. For FY 2005-06, the share is expected to increase to 43% as a result of the ad valorem component. In absolute terms, excise duty contributions increased by over one-third in the period since the end of the APM. These revenues point towards a rather high dependence of the central government on revenues from the petrol sector. Moreover, the central government also receives revenues from the petroleum sector in form of royalties, corporate tax, dividends and others. Overall, the central government revenues from total taxation of petroleum products and crude oil is substantially above the total under-recoveries plus budgeted subsides.



Source: www.indianpetro.com, Indian Expenditure Budget, India Basic Statistics[9]

The situation in the states is similar. State taxes are predominantly ad valorem and thus, absolute revenues from the petroleum sector have increased substantially over the last few years. The share of sales tax revenue for all states is 34% of total sales tax. The state governments also obtain revenues from royalties, corporate tax, dividends and the state specific levies as well as a share of the excise duty collected by the center.

The flexibility of the central Government to reduce taxes and levies points towards an important observation: the government's take on the final retail price of petroleum products is sufficiently high to offer room for maneuver! In particular the ad valorem taxes and levies have the paradox effect of benefiting the Government from increasing international oil prices.

[9] Tax revenues here are only for the central government, excluding royalty, corporate tax, dividend and other revenues.

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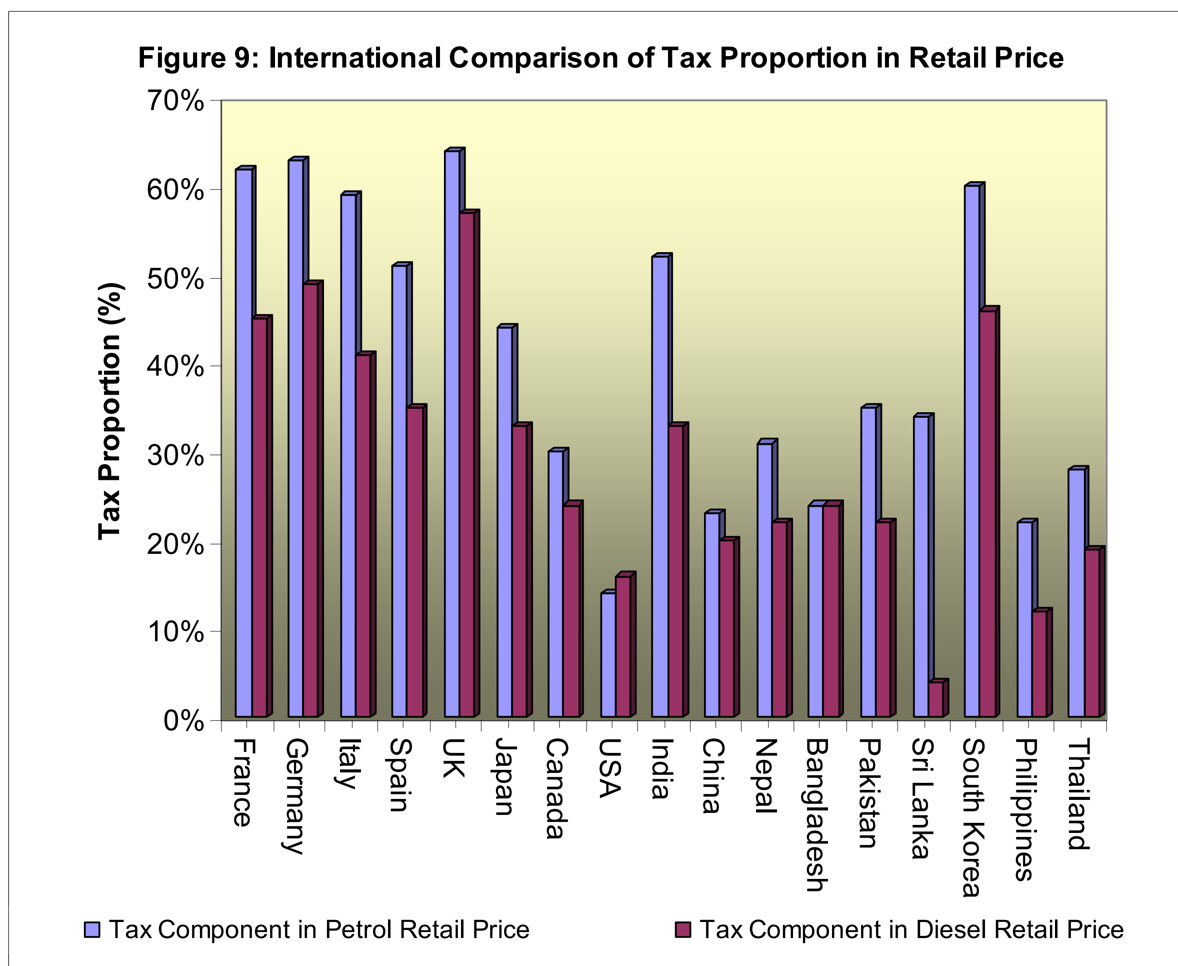
Given India's social and economic status such an un-elastic revenue source is crucial to allow the Government financing its policy objectives. How high then is the Government's take in international comparison?



Source: Rangajaran Committee Report

III: Where have all the subsidies gone?

The Indian system of petroleum product and crude oil pricing is opaque. While this paper has shown that public talk about the huge subsidies in the petroleum sector has another side, even this is not yet the entire story. The Government appears to be the net beneficiary from the current tax system while oil companies appear to be loosing out. The net position of the consumer, and tax payer, is not clearly determined. There a several implications from the current situation that should be considered in future policy decisions.

Discouraging private investments in the petroleum sector

As part of the petroleum sector reforms the private sector was finally allowed to retail petrol products. Several domestic private companies invested heavily in setting up retail stations. Reliance, India's largest private company, currently operates over 1,000 retail outlets and had plans to build over 5,000. Given that private retailers are faced with the option to continuously encounter losses if they price products on par with subsidized public retailers, or to increase prices and to loose market share, several private sector companies have put further expansion plans on hold and are even discussing to exit from the retail sector all

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together. Moreover, several private players have also deferred investments in the refinery sector other than those destined for export.

The uncertainty about the Government's long-term sector policies and the experiences several foreign and domestic private investors have already made in the natural gas sector, which suffers from a very similar set of problems, have made international companies cautious about entering India's downstream petroleum sector. For a country that aims to grow by over 8% annually over the next 20 years this is not reassuring.

Financial health of the public oil companies

The ultimate looser in the current picture are the public oil sector companies. They do incur heavy losses on the sale of the four products which have been doubling annually since the APM years. While the companies are still making profits, those are reducing sharply. This will impact on their capital investment plans, especially in the refining sector which has the potential to jeopardize the long-term security in the petroleum sector. Increasing R&D investments might also become more difficult. India's upstream companies need to make heavy investments to prevent, or at least, delay the continuous decline of domestic production. Moreover, India has substantial unexplored acreage of potential oil and gas deposits, mainly in difficult geological terrain. However, major foreign oil companies treat cautiously due to the uncertainty of the sector's long term policy.

Ineffective demand-side management

The central as well as the state exchequers depend substantially on the total revenues from the petroleum sector. However, the government does incur indirect losses as for example LPG is converted for other uses and thus, the Government does not only pay subsidies but looses revenues from higher taxed alternative products. It is not unusual for Governments worldwide to heavily tax the petroleum sector due to its low price elasticity which makes it a relatively steady and reliable revenue source. However, high taxation is generally also seen an instrument of demand side management. Increasingly, Government's are concerned with the externalities of consumption of petroleum products. Taxation is seen as straight forward instrument to induce behavioral changes in consumers and foster the development of advanced technologies. However, in the case of India, despite the high tax portion in final retail prices, the existing gap between retail price and import or trade parity price remains thereby undermining the Government's ability for effective demand side management that is crucial with a view to India's oil security.

(Ir-)Rational economic fuel choices

India's current pricing system is not conducive to economic decision making by consumers. Relative prices between alternative fuels are distorted. Price disparities on account of unequal taxation between petrol and diesel and with other petroleum products result in inefficient substitution of one fuel with the other. Alteration of petroleum products, primarily kerosene with diesel, is major problem and caused substantial leakage of subsidies. Thus, the need to introduce a rational and transparent energy pricing system is compelling in the broader context of India's energy security.

The real poor are still left behind

Empirical research has consistently shown that subsidies for LPG and kerosene do not reach the intended beneficiaries. LPG is an urban middle-class fuel. The poor are typically too poor to be able to afford the purchase cost of a cylinder, which represents a considerable lump-sum investment to them. Moreover, LPG customers are required to make a large deposit for the actual cylinder and to pay connection charges. And, ultimately, they need o owe or buy a purpose-build LPG stove. Several pilot projects to assist poor families in financing the initial LPG connecting costs are being implemented, frequently by NGOs. Also, smaller cylinder sizes of 5kg instead of the typical 14.2kg have been issued by the OMCs to address the problems of the poor and to make LPG more affordable. Still, it is correct to say

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that current LPG subsidies are primarily benefiting a politically well-organized and vocal middle class.

It is easier for the poor to benefit from subsidized kerosene although there are quantitative restrictions on the availability of kerosene. Still, as kerosene is often diverted for other uses or is being adulated, poor consumers, especially in remote rural areas, can not always claim their allocation. Moreover, there is a question as to how much kerosene the poor actually consumer per months and whether the subsidized quantities are not much too large.

Creating a common market in India?

There are public voices in India that claim that their country's tax structure is even more diverse than that of the EU. The introduction of the VAT in 2005 and its gradual adoption by all 28 states and territories is a major step towards a single Indian market. However, petroleum products are not officially covered under the VAT and the regional differences in petroleum product retail prices are huge. Thus, there is currently no common market for petroleum products in India. As long as the states depend heavily on revenues from the petroleum industry the political progress towards a harmonized Indian tax system will be limited if the states are not assured to retain their financial revenues.

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