Report of the High Powered Committee on Financial Position of Oil Companies

I. Terms of Reference

The Prime Minister, Dr. Manmohan Singh, has constituted a High Powered Committee under the Chairmanship of Shri B.K. Chaturvedi. Member, Planning Commission, to examine the financial position of Oil Companies. Dr. Saumitra Chaudhuri, Member, Prime Minister's Economic Advisory Council and Dr. Arvind Virmani, Chief Economic Advisor, Government of India will be the other members of the committee.

The Terms of Reference of the Committee will be:

1. To examine the impact of the increase in oil prices between 2004-05 and 2008 on the financial position of oil companies, including upstream exploration companies, refiners and downstream Oil Marketing Companies (OMCs).
2. To analyze the cash flows and the profitability of all three groups of companies so as to get a clear picture of the changes taking place in their operating positions, particularly the impact on access to credit and cash availability for their operations
3. To revisit the concept of "under recoveries" and examine the reported deficit and the real deficit faced by OMCs as a result of price constraints imposed on them.
4. To estimate the financial needs of the refiners and OMCs in order to continue their normal business activities and to meet the energy needs of the economy and the possible sources of funds to meet their financial needs.
5. To examine the available options for burden sharing by all stakeholders, including upstream exploration companies, refiners, downstream OMCs and stand alone refiners.

II. The Background

The selling prices of petroleum products have been determined by the Government through the Administered Pricing Mechanism (APM) since the mid-seventies after the nationalisation of the foreign owned oil refining companies. The APM system followed a cost-plus basis for pricing, which had the inbuilt deficiency of passing the burden of operational and other inefficiencies to the customer and excluded the process of competition to work in providing the customer with choice and lower prices. In April 2002, the APM system was discontinued and a degree of autonomy extended to the Oil Marketing Companies (OMC) to set prices based on internationally quoted prices of petroleum products. The formula that came into use liter the removal of APM had apparently been also used during the controlled price regime and was based on the presumption of import substitution. This had fat-principle deficiencies, discussed subsequently. However, some elements of the APM regime survived such as the equalisation of freight both for crude shipped to refineries and the distribution of finished product.

Initially the post-APM mechanism was expected to work on a continuing basis in response to changes in world market prices of crude petroleum and its attendant impact on the prices of refined petroleum products. Between April 1, 2002 and January 1, 2004, there were a total of 23 (twenty three) revisions made to prices of motor spirit (MS) or gasoline and high speed diesel (HSD), of which 8 (eight) were reductions and 15 (fifteen) were increases. During this period (that is, between April 1, 2002 and January 1 2004) the world prices of crude petroleum had risen by 26 to 32 per cent, and prices of MS and HSD by between 19 and 41 per cent (see Table 2.1).[1]

[1] Averages for March 2002 and December 2003: Crude Oil: Brent (24 per cent); OPEC basket (30 per cent); WTI (32 per cent); UK Brent (26 per cent). Motor Spirit: NY Harbour (27 per cent); US Gulf Coast (19 per cent); Amsterdam (39 per cent); Singapore (41

The aggregate impact of the 23 price revisions made in India was to raise the retail selling prices of MS by 27 per cent and that of HSD by 31 per cent.[2] The regime of central and state duties remained broadly unchanged during this period and hence the increase in net sales realisation by the OMC for MS and HSD was also of the same order as that of the retail selling price.

The retail selling prices of both PDS kerosene and domestic LPG remained virtually unchanged during this period. However elimination of all central taxes on PDS kerosene and domestic LPG served to increase the net sales realisation accruing to the OMCs.

Between January 1, 2004 and June 30, 2008, the world prices of crude have increased by 306 to 358 per cent. The average value of the Indian basket of crude oil for the month of June 2008 was nearly $130 per barrel (bbl) which was 348 per cent higher than it had been in December 2003, while the price of the 13-crude OPEC basket increased by 336 per cent.

The prices of individual benchmark crudes also rose by a similar order. UK Brent increased by 344 per cent to $ 132.32/bbl, while UTI sweet crude rose by 317 per cent to $133,88/bbl. The price of Saudi Light increased by 373 per cent to $127.60/bbl. Heavy crudes such as the Oman blend increased 349 per cent to $127.13/bbl and Saudi Heavy rose by 379 per cent to $121.30/bbl.

During this period the prices of refined petroleum products at important global hubs increased by between 257 to 284 per cent for gasoline, by 333 to 364 per cent for HSD and by 339 to 370 per cent for kerosene/jet fuel. The price increase in propane was steep at 190 to 200 per cent, but less so than it was for petroleum fuels - especially diesel and jet fuel.

In the period after January 2004 to June 2008. the domestic prices of automotive fuels were changed 12 (twelve) times, of which on two occasions there were reductions and prices were raised in the balance 10 occasions. In addition, prices were changed in Delhi on three occasions (twice downward and once upward) due to changes in VAT rates, once due to introduction of a pollution cess on HSD and once due to revision in dealer commission rates. On the whole, the retail selling price of motor spirit in Delhi was increased by 50 per cent from Rs. 33.70 to Rs. 50.56 per litre, while the price of HSD was raised by 60 per cent from Rs. 21.73 to Rs. 34.80 per litre.

While the price of PDS kerosene remained virtually unchanged during this period, the price of domestic LPG was raised by 44 per cent over a course of four charges from Rs. 261.60 per cylinder to Rs. 346.30 per cylinder.

Details of price movements of crude oil and refined petroleum products and the domestic retail selling price are presented at Table 2.1.

The Indian rupee had appreciated during this period vis-à-vis the US dollar by 7.0 per cent between March 2002 and December 2003 and by 6.6 per cent between December 2003 and June 2008. In order to compare the changes in the US dollar price of crude and products and the domestic selling prices of refined products, this needs to be added to the increase in the domestic selling price. In Table-2.1 therefore an additional item has been added with the domestic selling price recomputed in terms of US dollars.

In February 2006, the High Powered Committee chaired by Dr. C. Rangarajan, Chairman of the Economic Advisory Council to the Prime Minister, submitted its report. A summary of the report is placed at Annex-I. The report recommended the passing on of the impact of crude oil price increases through the

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per cent). High Speed Diesel low Sulphur: NY Harbour (38 per cent); US Gulf Coast (35 per cent); Amsterdam (39 per cent); Singapore (41 per cent)

[2] At Delhi: for MS from Rs. 26.54 to Rs. 33.70 per litre; and for HSD from Rs. 16.49 to Rs. 21.73 per litre.

consumer price, demand management of highly subsidised items such as PDS kerosene and domestic LPG, sharing the burden of incomplete cost recovery with upstream (E&P) companies, change to fixed central tax rates, lowering of import duties on finished products and limiting the subsidy burden to the extent that government chose to limit the upward revision in selling pricess.

Vide notifications made in June 2008, Government has reduced the import duty on crude petroleum to nil and that of refined products to 2.5 per cent.

Table 2.1 Change in Crude Oil and Prices of Refined Petroleum Products

	Mar-02	Dec-03	Change	June-08	Change
Crude Oil	**US $ per barrel**				
Indian Basket	23.31	28.97	24%	129.72	348%
OPEC Basket	22.64	29.44	30%	128.33	336%
UK Brent	23.70	29.81	24%	132.32	344%
US WTI	24.44	32.14	32%	133.88	317%
Oman Blend	22.99	28.33	23%	127.13	349%
Saudi Light Crude	21.26	27.00	27%	127.60	373%
Saudi Heavy Crude	20.56	25.30	23%	121.30	379%
Petro Products	**US $ per barrel**				
Motor Spirit					
New York Harbour	29.31	37.17	27%	138.27	272%
US Gulf Coast	29.99	35.83	19%	137.92	285%
Amsterdam	25.52	33.78	32%	129.73	284%
Singapore	27.97	39.32	41%	140.46	257%
High Speed Diesel					
New York Harbour	27.07	37.50	39%	162.26	333%
US Gulf Coast	26.41	35.77	35%	160.52	349%
Amsterdam	25.75	35.76	39%	164.73	361%
Singapore	24.90	35.07	41%	162.88	364%
A T F / Kerosene					
New York Harbour	27.23	38.53	42%	162.73	339%
Amsterdam	27.07	37.37	38%	166.41	365%
Singapore	25.29	39.61	57%	164.85	370%
LPG/Propane					
US Mont Belviue Texas	15.96	26.38	65%	76.15	189%
North West Europe -Amsterdam/Rotterdam	15.88	25.03	58%	74.89	199%

Table 12 Domestic Selling Prices of Refined Petroleum Products

	Mar-02	Dec-03	Change	June-08	Change
Domestic Retail prices*	**Rs per Litre**				
Motor Spirit	26.54	33.70	27%	50.56	50%
High Speed Diesel	16.59	21.73	31%	34.80	60%
PDS Kerosene	8.98	9.01	0.3%	9.09	0.9%
Domestic Retail Prices**	**US cents per Litre**				
Motor Spirit	54.42	73.95	36%	118.24	60%
High Speed Diesel	34.02	47.68	40%	81.38	71%
PDS Kerosene	18.41	19.77	7.4%	21.26	7.5%
LPG (domestic)*^	**Per 14.2 Kg cylinder**				
Rupees	240.45	240.45	0.0%	304.70	27%
US cents	493.03	527.42	6.9%	723.31	37%

Note:

* At Delhi - last column subsequent to revisions on June 4, 2008.

** Average exchange rate (INR per US$): 48.77 for March 2002; 45.57 for December 2003 and 42.76 for June 2008.

^ Selling prices of LPG cylinder at Delhi with effect from June 4, 2008 is inclusive of Rs 40 per cylinder provided by the Delhi State government. This is, the domestic selling prices of LPG cylinder in other parts of the count- have gone up by 43 (in rupees) and 52 per cent (in US dollars) between December 2003 and June 2008 in other parts of the country.

Table 2.3
Net Sales Realization (NSR) on Domestic Sales of Refined Petroleum Products

	Unit Rs	Mar-02	Dec-03	Change	June-08	Change
Motor Spirit	per litre	10.90	14.61	34%	28.43	95%
H.S. Diesel	-do-	11.44	14.45	26%	27.03	87%
PDS Kerosene	-do-	6.88	6.90	0.3%	8.74	27%
LPG (domestic)	per cylinder	197.90	197.90	0%	332.95	68%

Note: For sales at Delhi. The NSR for LPG includes subsidy of Rs 40 per cylinder extended by -.he State government.

It may be observed that in the period between March 2002 and December 2003, when the increase in international prices of crude oil and refined petroleum products were modest in comparison to what has happened more recently, with both crude and refined products rising by between 25 and 40 per cent, the increase in domestic net sales realisation on automotive fuels was 26 and 34 per cent respectively, though there was no change in the net sales realisation on PDS kerosene and domestic LPG. That is, the domestic price movement for automotive fuels were more-or-less in line with world prices far both crude and refined products.

In the period after December 2003 and up to June 2008, international prices of crude oil rose by 317 to 379 per cent, while that of automotive and jet fuels and kerosene were higher by 257 to 370 per cent, and that of propane was higher by nearly 200 per cent. The increase in the domestic net sales realisation to oil companies on these products however lagged far behind. Motor spirit was up by 95 per cent, diesel by 87 per cent and LPG by 68 per cent (Table 2.3) and 27 per cent for PDS kerosene. It may be noted that the increase in net sales realisation was significantly greater than that of the domestic selling price (Table

2,2) since taxes -both central and state - were adjusted downward in this period. This is most marked in the case of domestic LPG and PDS kerosene.

Historically, the pricing mechanism used to have a built-in cross subsidy burden on motor spirit which was used to keep the price of HSD lower. Apparently, this was later substituted by having a much higher excise duty on motor spirit. This price differential has had the unintended consequence of creating a price incentive for motorists to opt for diesel rather than for gasoline cars. As a result although the number of cars has increased on the road relative to commercial vehicles, the proportion of HSD continues to be preponderant in our automotive fuel basket at about 82 per cent (see Table 2.4).

Table 2.4
Composition of Automotive Fad Consumption in India

	1970-71	1980-81	1990-91	1997-98	2006-07	2007-08
Conventional Automotive Fuels (million tonnes)	5.39	11.87	24.68	41.25	52.18	57.96
Motor Spirit	27%	13%	14%	13%	18%	18%
HS diesel	73%	87%	86%	87%	82%	82%

It is therefore necessary to reduce the price differentials between gasoline and HSD - for not only does the production of HSD require more capital investment in plant & equipment at the refinery end, but it also provides more work energy and therefore where appropriate engines are available, more mileage kilometres per litre) than a similar gasoline driven car.

The offsetting factor favouring gasoline is the faster acceleration and easier operations especially in cold weather, but from the use value side there is little logic n selling diesel to motorists at prices that are lower than gasoline. The only consideration for having maintained a significant price discrimination in favour of diesel is that it creates positive externalities in the case of public transport and the trucking industry that carry people and goods, creating an extensive transportation network, across the length and the breadth of the country.

But this consideration does not obtain for passenger cars and sports utility vehicles. Nor, does it obtain for the significant consumption of HSD by industrial units. Therefore, the issue of, and the extent to which, diesel prices should be maintained below that of gasoline, and the amount of burden it places on government finance and upstream oil companies needs careful consideration from he utility side - asides from the cost or more precisely the opportunity cost side.

It may be observed from Table 2.5. that automotive diesel retails at a price that is not much lower than gasoline in most of the developed world, even though in most such countries taxes on diesel are significantly lower than that en gasoline. The exception is the USA where taxes on automotive fuels are generally much lower than that in other OECD nations. As a result the retail selling price of automotive diesel in the USA has been close to or higher than gasoline.

Table 2.5
Retail selling price, taxes and retail selling prices excluding taxes
Select OECD countries over the past one year

Unit: In Rupees Per Litre

	June-07			Dec.-07			May-08		
	Retail Price	**Tax**	**Price ex-tax**	**Retail Price**	**Tax**	**Price ex-tax**	**Retail Price**	**Tax**	**Price ex-tax**
France	72.00	44.75	27.25	76.19	47.09	29.10	93.51	55.05	38.47
Germany	76.21	47.98	28.23	77.51	50.03	27.49	95.74	58.19	37.55
Italy	73.75	43.17	30.58	78.26	45.48	32.78	98.69	56.16	42.53
Spain	59.03	29.82	29.22	62.45	31.40	31.05	77.26	36.63	40.63
UK	78.23	50.86	27.37	81.93	52.41	29.52	92.19	55.45	36.74
Japan	46.22	20.08	26.14	54.84	21.51	33.32	64.65	24.81	39.84
USA	32.94	4.28	28.66	31.35	4.14	27.21	41.54	4.42	37.11
India	**43.52**	**23.49**	**20.03**	**43.52**	**23.49**	**20.03**	**50.56**	**22.13**	**28.43**
Automotive Diesel									
France	49.46	23.31	26.15	57.96	24.50	33.47	75.03	28.05	46.99
Germany	53.12	25.71	27.41	61.87	27.03	34.85	77.85	30.80	47.05
Italy	52.52	23.14	29.38	61.64	24.32	37 32	79.16	28.05	51.11
Spain	45.08	16.52	28.56	52.50	17.37	35.13	69.27	19.79	49.48
UK	67.05	39.20	27.86	72.99	40.21	32.79	85.99	41.71	44.28
Japan	39.24	12.54	26.70	47.10	13.53	33.57	56.57	15.68	40.89
USA	30.25	4.97	25.28	34.79	4.85	29.93	48.70	5.18	43.52
India	**30.48**	**9.63**	**20.83**	**30.48**	**10.00**	**20.48**	**34.80**	**7.77**	**27.03**

Note: World prices have been converted from local currencies (euros, pounds, yen and cents) and local volume units (litres, gallons) to Rupees per litre using the average exchange rate in the given period.

Prices reported for India are at Delhi and are those with effect from June 4, 2008

Retail selling prices of motor spin: in the three Euro-zone countries in Table 2.5 (France, Germany and Spain) were 40 per cent higher than that of diesel in June 2007 while taxes were higher by 86 per cent In May 2008 the price difference had decline to 21 per cent (as world diesel prices rose) and the tax component was 93 per cent higher. In the UK and Japan, gasoline retail prices were 17 to 18 per cent higher in June 2007, which has dropped to 7 to 14 per cent in May 2008. Taxes were about 30 per cent higher on gasoline in the UK and about 60 per cent higher in Japan. In the USA, diesel prices in June 2007 were only 9 per cent less than gasoline, which changed to diesel being more expensive in December 2007 and May 2008 by a factor of 10 and 15 per cent respectively. US taxes on diesel were lower than that on gasoline by about 15 per cent in all the three periods.

At Table 2.5. the comparable prices and taxes are also reported for India (or more precisely at Delhi) which show that first, retail prices of motor spirit were 43 per cent higher than diesel in June 2007, which was comparable to the price differential obtaining in the France, Germany and Italy. However, first, our price differential was maintained at the same level (45 per cent) following on revisions on June 4, 2008, whereas in these three Euro-zone countries the differential had reduced to about 25 per cent. Second, the relative tax burden on diesel is much lower than that in any other country listed at Table 2.5 above, even though the absolute burden on motor spirit in India is actually lower than that in every other country

listed above except for the USA. Third, both the absolute price of diesel and its relative price vis-à-vis gasoline in India is much lower than that of the developed nations listed above.

III. Increase in International Crude Oil Prices

Impact of on the financial position of Oil Companies Between 2004/05 and 2007/08

The impact of the large and continuous increase in the world price of crude oil has been very substantive on the finances of the oil companies. The Exploration & Production (E&P) companies, namely ONGC and OIL, stand to gain from the pricing up of their production assets, namely the oil & gas reserves that they are in a position to deplete. The Refining-cum-Oil Marketing Companies (OMC), namely IOC, BPCL, HPCL stand to lose to the extent that the are unable to pass on to the customer the increase in cost on account of more expensive crude oil due to restraints on the retail selling prices of refined products imposed by Government. The standalone PSU refiners, CPCL, MRPL, KPL and BRPL and the private sector refiners, Reliance and Essar Oil, to the extent that they are either able to export at international prices or charge the OMC a price based on international prices, are in a position to earn profit provided they are cost competitive in the global price scenario.

In practice, the public sector E&P companies have passed on significant discounts to the OMCs and have thus supplied crude oil at prices that are significantly lower than the prevailing international price. The stand-alone refiners in both the public and private sectors are understood to have offered some concessions compared to the pricing formula in use previously.

Government has been providing subsidies from the Union Budget on account of PDS kerosene and domestic LPG since 2002/03. Since, 2005/06 the Centre has been providing Oil Bonds to the OMC. The total financial support extended by upstream companies, budgetary subsidy and oil bonds aggregated Rs. 28,430 crore in 2005/06, Rs. 47,708 crore in 2006 07 and Rs. 63,820 crore in 2007/08. This is the external financial support provided to the OMC and does not include the forgone profits of the refinery-cum-OMC companies. Details of the external support are given at Table 3.1.

Table 3.1 External Financial Assistance Extended to Refiner-cum-OMC

Unit: Rs in crore

	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08
Upstream assistance			5,947	14,000	20,507	25,708
Budget subsidy	5,225	6,351	2,957	2,930	3,080	2,822
Oil bonds				11,500	24,121	35,290
Total	**5,225**	**6,351**	**8,904**	**28,430**	**47,708**	**63,820**

The rise in crude oil prices, though they were not fully passed on to the customers, has caused the overall turnover of the oil companies to increase manifold between 2002/03 and 2007/08, even as the profits of the industry stagnated and profitability has declined. The amount of working capital required to service these larger volumes of transactions have risen as have the costs of such capital. An overview is presented at Table 3.2. which provides a snapshot of the industry and presents the total turnover and Profit before Tax (PBT). It should be pointed out that the PBT numbers for the OMC and for the upstream oil companies reported at Table 3.1 factor in the external assistance detailed above.

Thus, if the external financial assistance to the OMC is taken out, the aggregate profits of the PSU oil industry in 2005/06 and 2006/07 in absolute terms were much lower than where they had been in 2003/04 and 2004/05. The PSU refiners and OMC would have reported large operating losses, in the absence of the external financial assistance and it is most doubtful if they would have been able to carry

on business at the current levels. The cash profits / losses of the PSU refiners-cum-OMC in the absence of the external financial assistance are also reported at the end of Table 3,2. Cash profits/losses are (for this purpose) taken as the PBT + depreciation (but after interest).

Table 3.2 Finances of Oil Companies
Total Revenues

Unit: Rs in crore

		2002/03	2003/04	2004/05	2005/06	2006/07	2007/08
A	**Upstream Oil Companies**						
	ONGC	34,691	32,510	46,710	48,201	56,904	60,137
	GAIL	10,642	11,296	12,927	14,875	16,546	18,580
	OIL	2,897	3,143	3,916	5,550	5,389	6,082
	Sub-total of A	**48,230**	**46,949**	**63,553**	**68,627**	**78,839**	**84,799**
B	**Refiners + OMC**						
	IOC	119,884	130,203	150,729	183,172	220,779	247,479
	BPCL	47,584	52,983	63,343	82,935	102,408	121,684
	HPCL	54,259	57,511	65,218	76,920	96,918	121,684
	IBP	8,947	10,650	13,51	15,666	na	na
	Sub-total of B	**230,674**	**251,347**	**292,804**	**358,693**	**420,105**	**481,262**
C	**Standalone Refiners FSU**						
	MRPL	8,059	12,612	20,693	28,243	32,208	37,339
	CPCL	8,630	9,476	16,296	25,409	29,349	32,889
	BRPL	2,059	3,196	4,990	6,289	6,426	6,645
	KRL	10,616	11,716	15,440	na	na	na
	Sub-total of C	**29,361**	**37,000**	**57,419**	**59,941**	**67,983**	**76,873**
D	**New private Sector**						
	Reliance *	34,409	41,606	51,700	71,117	85,977	101,482
	Essar Oil			1,045	637	474	
	Sub-total of D	**34,409**	**41,606**	**52,745**	**71,754**	**86,451**	**101,482**
E	**Grand Total**	**342,674**	**376,903**	**466,522**	**559,014**	**653,379**	**744,417**

Note: * Gross Turnover is from Segment Information for Reliance Industries, which pertains to petroleum refining and includes production & marketing operations

Profit before Tax

Unit: Rs in crore

		2002/03	2003/04	2004/05	2005/06	2006/07	2007/08
A	**Upstream Oil Companies**						
	ONGC	16,124	13,609	19,666	21,837	23,670	25,235
	GAIL	2,518	2,814	2,871	3,277	2,860	3,855
	OIL	1,341	1,482	1,623	2,674	2,483	2,713

	Sub-total of A	**19,983**	**17,905**	**24,160**	**27,788**	**29,013**	**31,803**
B	**Refiners + OMC**						
	IOC	8,414	9,691	5,955	6,706	10,485	10,080
	BPCL	1,994	2,636	1,356	407	2,768	2,597
	HPCL	2,412	2,980	1,641	285	1,967	1,109
	IBP	141	333	83	32		
	Sub-total of B	**12,960**	**15.640**	**9,035**	**7,430**	**15,220**	**13,786**
C	**Standalone Refiners PSU**						
	MRPL	-653	575	1,461	623	1,089	1,733
	CPCL	488	572	934	723	881	1,722
	BRPL	308	440	677	267	276	449
	KRL	697	910	1,193			
	Sub-total of C	**840**	**2,497**	**4,265**	**1,614**	**2,245**	**3,904**
D	**New Private Sector**						
	Reliance	2,344	3,500	5,521	5,916	7,723	10,373
	Essar Oil			14	-92	-55	
	Su b-total of D	**2,344**	**3,500**	**5,535**	**5,824**	**7,668**	**10,373**
E	**Grand Total**	**36,127**	**39,541**	**42,994**	**42,656**	**54,146**	**59,866**

Cash Profits (+) / Losses (-) of PSU refiners-cum-OMC
In the absence of external financial assistance

	2002/03	**2003/04**	**2004/05**	**2005/06**	**2006/07**	**2007/08**
IOC	6,039	6,906	3,255	-6,796	-14,235	-22,075
BPCL	1,125	1,636	223	-5,085	-6,569	-10,858
BPCL	1,478	1,865	490	-5,122	-6,961	-12,276
Sub-total of above	**8,641**	**10,406**	**3,968**	**-17,003**	**-27,765**	**-45,209**

A comparison of the "under-recoveries" as estimated by the OMC and cash losses which the OMCs would have incurred but for support from government in terms of oil bonds and discounts from ONGC and OIL is given below. It is interesting to note that there is a gap of nearly Rs. 22.000 to 23,000 crore in the cash losses and under-recoveries. 1ft has to be appreciated that part of this gap is explained by other business volumes of the OMCs relating to naphtha, ATF and other non-controlled products on which there arc no price controls from the Government. The extent of it, however, has not beer, separately computed. It also includes elements of profit which the oil companies would have in case they realise the full costs.

Table 3.3 Cash Losses and "Under-recoveries" by OMCs

	Cash losses in absence of external financial assistance			"Under-recoveries"		
	2005/06	**2006/07**	**2007/08**	**2005/06**	**2006/07**	**2007/08**
IOCL	6,796	14,235	22,075	23,153	28,579	42,970
HPCL	5,122	6,961	12,276	8,290	10,062	16,230
BPCL	5,085	6,569	10,858	8,557	10,746	17,923
Total	**17,003**	**27,765**	**45,209**	**40,000**	**49,387**	**77,123**

There is no doubt that the increase in price of world crude oil prices was fully passed through to the refineries and OMCs in the case of imported crude oil, though it was partially mitigated by below-world price sales in the case of domestic crude oil purchased from ONGC and OIL. This has caused the financial position of the PSU oil refiners-cum-OMC to come to a parlous condition. However, two arguments can be made in respect of the analysis that has been carried out thus far.

First, it can be argued that aside from the four sensitive items, namely Motor Spirit, HSD, PDS kerosene and domestic LPG, the PSU refiners-cum-OMC also produce other products on which the Central government has brought to bear no price restraint. It would thus have been expected that the companies would have passed on to the (mostly industrial) consumers of these products the full effect of the rise in crude oil prices and generated financial surplus thereby from these activities. When we look at the PBT or cash profit/loss performance, the profits from the manufacture and sale of these items are included therein. Hence, the impact of price restraint on the finances of the oil companies was larger than our analysis at Table 3.2 suggests.

Second, it can also be argued that by merely comparing the present financial position of the refiners-cum-OMC with that which pertained in earlier years, the implicit assumption is being made that the previously healthy financial conditions of these companies derived from efficient operations and not from their oligopolistic ability to pass on higher-than-efficient costs to the consumers. That there was not much change in the retail selling prices between the APM and post-APM era does not answer the argument, since one of the debilities of the cost-plus mechanism is precisely that it passes on the costs of inefficiency to the customer. We have tried to approach the problem in c: indirect fashion.

Analysis of international prices for crude and refined product show distinct patterns in the spread between these prices. Thus, the difference between a unit measure (barrel or KL or tonne) of crude oil (delivered at a specific location) and the wholesale selling price (refinery gate price) at the same location is the product-crude spread. In the refining of crude petroleum a variety of products arise. They include higher value products - LPG. gasoline, HSD and ATF/kerosene - where the product prices are generally higher than that of the crude oil. Lower value products - such as furnace oil, bitumen and coke - are also produced that sell at prices lower than that of crude. A part of the crude oil is consumed to produce the heat needed in the refining process and this ranges from 6 to 8 per cent for modern refineries[3], commonly termed as Refinery Boiler Loss (RBL). Thus, in order for the refining operation to be viable, the selling prices of the higher value refinery fractions, that is, the light and middle distillates must cover (a) the direct cost of crude; (b) the cost of the RBL; (c) the negative contribution from the lower - than - crude oil values that will be realised on the sale of the heavy ends and coke; (d) the operating and capital servicing costs of the refinery.

[3] Ultra-modern refineries consume more as RBL as their complexity which enables them to work with very difficult (very heavy and sour) crude oils also involve more processing.

In selling the refined products, distribution and marketing expenses have also to be incurred which take the cost from refinery-gate basis to point-of-sale basis. Finally, taxes and other statutory charges need to be added.

The PSU refiner-cum-OMC sells refined products that it produces at its own refinery, and also product that it purchases from domestic standalone PSU and private sector refiners. In the absence of price restraints, it would be expected that the OMCs would earn a positive margin on their trading sales, although this would be significantly smaller than what they would earn on their own refined production. In the presence of price restraints however, OMCs ran make a loss on their trading sales, but may be obliged to continue with this operation on account of the larger national interest.

The analysis suggests that in most international markets the spreads for both gasoline and HSD over crude oil in 2002/03 was about 25 per cent. In 2003/04 this changed to over 30 per cent for gasoline and little less than 25 per cent for HSD. In order to arrive at the corresponding spreads for Indian refiners-cum-OMC we have assumed a 2.5 per cent margin on trading sales, and a total marketing and distribution margin at the rate of 5 per cent in 200203 and 2003/04. The consequent average product margins over the purchase cost of crude for these years is found to work out to 50 to 60 per cent for IOC, higher than that for BPCL and about 25 to 40 per cent for HPCL. It is thus possible that the financial position of IOC and BPCL in these years may have derived partly from considerations other than efficient operations.

Since, then as crude oil prices rose sharply and the corresponding increases in the retail selling prices were restrained by Government, the margins of these three companies have fallen sharply to 20 per cent and below, in 2006/07. It is estimated to have declined further in 2007/08.

IV. Petroleum Product Pricing

Concept of "under-recoveries", "reported" and "real" deficits, faced by the Oil Marketing Companies (OMC)

The concept of "under-recoveries" derives Erectly from the pricing formula that has been in vogue since April 2002 after APM pricing was done away with.

The pricing formula is notionally based within the framework of import-substitution as if the finished refined product was imported from specific locations in the Middle East and South East Asia. In reality the over-whelming bulk of the refined product sold was obtained by refining imported (roughly three quarter) and domestic (roughly one quarter) crude. Further, there have been some restraints in most periods placed on the price that ONGC and OIL charged from the PSU refiners.

The notional formula price yielded the retail selling prices at Delhi for the four sensitive products, namely motor spirit. HSD, domestic LPG and PDS kerosene. From this by deducting the taxes and statutory charges, the net sales realisation (NSR) was obtained. The difference between this NSR and the NSR as permitted by government was termed the "under-recovery" per unit of the good (litre or cylinder), which multiplied by the quantity sold by the company during the year was the annual total "under-recovery".

Given the notional basis on which the calculation was carried out, the computed "under-recoveries" could not be linked either to the change in the crude oil price nor to the published annual accounts of the oil companies. While the High Powered Committee (February 2006) chaired by Dr. C. Rangarajan did not suggest an alternative method of computing prices, except for introducing the concept of "trade parity". It did however voice reservations about the concept and definition of the term "under-recovery".

The formula used for calculating the import and trade parity prices starts from the free on board (foc) price for the product and adds on to it a large number of costs and volumetric adjustments. As stated earlier

this is done on the basis as if the refined product was actually being imported. However, it is the crude oil that is being imported (to the extent of over 70 per cent) and many of the costs (LC opening charges, volumetric and ocean losses etc.) are embedded in the fob price of the refined product which is the starting point of the calculation. Further, most refining capacity in the world is close to the major consuming centres - in North America, Europe, Far East and South & S.E. Asia - and the prices quoted for refined products at all of these locations include the items of cost (ocean freight, LC charges etc on crude oil) which the Indian refiners are bearing. In fact, India is placed more advantageously in terms of geographic location. Certainly better than Japan, who has to import all of their crude over much greater distances from the Middle East and South East Asia.

The three PSU refiner-cum-OMCs according to their Annual Reports consumed 82 per cent of imported crude oil in terms of value. The quantitative break-up shows that of the total crude throughput in 2007/08 of 87.65 million tonnes, of which 72 per cent or 62.98 million tonnes was imported. In addition to the three PSU refiner-cum-OMCs, other stand-alone PSU refiners had a crude throughput of 24.87 million tonnes of which 79 per cent was imported. Overall for the entire PSU refinery sector the share of imported crude was a shade over 73 per cent. These proportions were similar in 2006/07 and are likely to be more-or-less similar in 2008/09 as well.

Most large consuming countries outside of the big oil exporters, consume a mix of domestic and imported crude oil. In 2007, US refiners processed about 750 million tonnes of crude oil, of which 32 per cent originated in the lower 48 states, 5 per cent came from Alaska, 12 per cent from Canada and 9 per cent from Mexico, while 43 per cent was imported from the Middle East, North Africa, South America and elsewhere.

Western Europe produces a large amount of crude oil in the offshore North Sea fields amounting to 231 million tonnes in 2007. However, the total refinery throughput in that part of the world was ever 740 million tonnes and 69 per cent of the needs were imported from North Africa. Russia, the Caucasus, the Middle East and elsewhere. In 2007 refinery throughput in Japan was about 195 million tonnes and that in South Korea about 120 million tonnes and almost all of this requirement was met from imports from the Middle East Russia and S.E. Asia.

Thus in terms of import dependence and location specific transportation costs, Indian refiners are placed in a situation that is analogous to that of their counterparts in North America, Europe Japan and South Korea. They are clearly at an advantage over the latter two indusrialised nations and perhaps closer to the situation in North America and Europe, is the South/SE Asian region, Singapore is an important refining hub and it imports its crude partly from neighbouring Malaysia and partly from the Middle East - a distance that is greater compared to our coast-based refineries.

In the refining centres of the industrialised world - New York, US Gulf Coast, North West Europe (Amsterdam Rotterdam), Tokyo and Singapore - prices for refined products are widely quoted on a daily basis and the transactions volumes are very large. As has been mentioned Indian coastal locations are at an advantage vis-à-vis most of these centres due to the proximity to the Middle East, especially of refiners located on or near the western or even the eastern coast of India. There is therefore little a priori reason for the refinery-gate price of refined petroleum products in India (now that customs duty on imported crude has been removed) to exceed those quoted at these centres. However, an examination of the data suggests that the formula-based pricing (even with trade as opposed to import parity) yields refinery gate prices that are higher than that quoted at the cited international petroleum product markets.

Table 4.1
Comparison of Extant Formula calculations for Refinery Gate Price vis-à-vis International Quoted Prices - average† for June 2008

Unit: US $ per barrel

	Gasoline	HSD	Kerosene (PDS)
Oil & Natural Gas Ministry Calculations			
Import Parity Price	142.27	174.24	167.00
Export Parity Price	135.63	166.22	
Trade Parity Price	140.94	172.64	
International Markets			
Mew York Harbour - regular unleaded	138.27		
US Gulf Coast - regular unleaded	137.92		
Amsterdam 10 ppm sulphur regular	135.19		
Singapore gasoline unleaded 92 RoN	138.72		
Tokyo (20 June 2008)	137.00		
New York Harbour - No 2 H O		159.63	
US Gulf Coast - No 2 H O		158.66	
New York Harbour - low sulphur gasoil		160.52	
US Gulf Coast - low sulphur gasoil		162.43	
Amsterdam ARA gasoil		164.91	
Singapore gasoil		166.05	
New York Harbour			164.73
US Gulf Coast			162.88
Amsterdam ARA			166.41
Singapore			164.85
Tokyo (20 June 2008)			157.70

Note: †These are averages of daily prices in the month of June 2008

Both the import and trade parity price yields a refinery gate price for motor spirit for the period under consideration (June 2008) is clearly on the higher side. The export parity price was closer in line with the other centres. In the case of HSD also, both import parity and trade parity computations yielded significantly higher prices than that reported in the marketing centres reported here, while export parity price bears closer comparison with priors prevailing in other centres of the world, but is still higher than that of centres other than Singapore. In the case of kerosene the computation at import parity price appears is higher than that for most international centres.

In principle transfer of funds from the exchequer by way of subsidy / oil bonds for subsidising automotive fuels o not desirable. However Government as a matter of public policy has decided to do this, perhaps as a means of calibrating the price shock to the citizens. In which case, the resultant subventions must be relatable to the financial hardship caused by the pursuance of the policy of price restraint. The "under-recovery" computations presently being used do not permit the direct relationship between financial hardship and compensation to be established. This is particularly so, since the comparison as presented at Table 4.1 suggests that the computation method certainly for certain products on certain occasions yields a price that is significantly higher than what prevails in the international marketplace.

It must be further noted that the international prices quoted above are full-cost prices that is, ones that not only recover all expenses, but also provides the economic agents - the refiners and market intermediaries - to also earn a market-based return on their capital.

The argument is made that standalone refiners in both the public and private sector demand and receive a refinery gate price which is based on the import parity price according to the formula in vogue since April 2002, and trade parity for the last couple of years. And that since the OMCs have to purchase refined products from these refiners, they have to meet these price demands, or else they would not be able to meet the demand of the national economy.

This argument is unpersuasive. The stand-alone refiners either have to sell their production to the OMC for domestic retail or have to export their output. If they do not sell to the OMC because of price considerations, the stand-alone refiners have then to export, where they will receive the fob price. Therefore, unless the net sales realisation from sales to OMCs is less than what the standalone refiners would receive from exports, they should be amenable to sell to the OMCs irrespective of what the formula based practice may have been in the past. In other words as long as the net sales realisation to stand-alone refiners between exports (fob) and domestic sales are the same, the stand-alone refiners ought to be indifferent between export and domestic sales. Only if the net realisation on account of sales to OMCs was less than that realisable on exports would the standalone refiners have a commercial reason to prefer export sales.

However, the fact of the indifference will be manifest fully in a competitive market characterised by numerous small producers and buyers. The oil industry which has a few large players and sellers may choose to bargain for a price higher than export price on the ground that the buyer would otherwise have to import the product and pay freight and other associated costs. Such tendencies will have to be curbed by policy making it clear that in the event producers are unwilling to sell to OMC at the export price, Government will immediately impose export duty on the refined petroleum products over which there is a dispute. The entry of new refiners and suppliers should be encouraged to strengthen competition in the industry.

The three PSU refiners-cum-OMCs also have in theory the same option as the standalone refiners. If the latter are able to export at some price (and earn a decent profit on it) there is no reason to believe that the full cost of production for the three PSUs should also be very different from export prices. That is, the full cost of output for them at the refinery gate should also be directly relatable to the fob realisation on exports of refined products out of India.

The question may be raised whether the fob price of refined product covers the full cost of production of the refining operation. From our examination it would appear that this is indeed so for modern refiners, but perhaps it may not be entirely applicable for the older and smaller refineries still in operation and for those refineries suffering from location disadvantage (those located in the north east of the country). .

There is considerable advantage in using readily established prices rather than costs is a matter of considerable convenience, since (a) the information is readily available; and (b) it does not permit structural cost inefficiencies from getting embedded in the prices.

The use of fob prices as a starting point for refinery-gate prices is of course, before the discounts from international price that ONGC and OIL provided to OMC through upstream support and burden staring.

The logic behind maintaining an import duty on refined product that is higher than that on crude oil has been to provide "protection" to the domestic refining industry. However in the present circumstances, where the retail selling prices is below the economic cost, there is no merit in continuing with this distinction. Further, the Indian petroleum refining industry has been long since established and has become a major slayer in the world with all the PSU refiner-OMCs in the Fortune 500 list as also the largest private Indian refiner. There is no justification for providing any duty protection to them.

Hence the recently revised customs duty on refined product import - at least for motor spirit and HSD - should be reduced from 2.5 per cent to nil on par with that of the import duty on crude oil. The import duty on PDS kerosene and domestic LPG is already nil. Reduction of import duty on these products would

eliminate any need to pay import duty for small balancing items of imports that may have to be made into the country due to temporary product-demand imbalances. The taxation of refined petroleum product would then be only on the finished product as excise duty and value added tax (and other statutory charge).

There is a subsequent discussion on the recommended pricing structure and it is suggested that the issue of compensation from the government for financial hardship of the oil companies due to price restraint be built on a reading of the pricing structure recommended in this report and suggestions made therein.

It has not been possible to complete the analysis of production cost of the PSU refineries.

V. Financial Needs of Refiners and OMC

For Sustaining Operating Levels and Meeting Needs of the National Economy

Both upstream and downstream sectors have planned large scale investments in the Eleventh Plan amounting to a total of Rs 229,072 crore. These include up-gradation of Euro-III to Euro IV, Euro-II to Euro-III and continuance of Euro-II in certain areas, investments by the refineries for these requirements, need for expansion and setting up new refinery capacities and modernization of marketing network is important - which is expected to account for 36 per cent of the total. Natural gas assets are expected to consume over 5 per cent of the total Plan outlay.

The upstream (exploration and production or E&P) sector has to intensify its exploration activities, undertake exploration and development of fields which were earlier considered uneconomical due to low cost of oil, spend larger resources on exploration due to the sharply increased costs of all exploration and development inputs. In spite of above, the upstream companies may, with the recommendations proposed by this Committee, continue to attain their exploration and development plans in view of high oil prices. The E&P companies are expected to spend 59 per cent of the total of nearly Rs 230,000 crore in the course of the Eleventh Five Year Plan.

The downstream marketing companies which are integrated will face serious crunch of resources, both for undertaking their development plans of refineries including setting up of new refineries and meeting their day-to-day expenditure requirements due to servos cash flow problems.

The downstream companies are losing large financial resources every day and unless steps are taker, immediately, they may not be able to supply petroleum products.

The support extended by the Reserve Bank of India, under the special market operations, has improved the cash position of the PSU refiners-cum-OMC, but the generation of adequate cash to maintain present level of operations remains under pressure. The poor cash flow position of the companies is worrisome.

The stressed financial position of the OMC has resulted in credit downgrades of Indian Oil and negative watch on ratings of HPCL and BPCL. The stressed financial conditions and the apparent unwillingness of government to remove price restraints have seriously undermined the perception of the OMC in the financial markets - both at home and abroad. This may have raised borrowing costs and made the prospective recovery of the previous perception an uphill task.

The early and smooth implementation of the recommendations made in this report will help restore the operational viability and a modest measure of profitability to the oil refining and marketing companies. Conditions have already become so parlous that a failure to put in place a purposeful and internally consistent reform programme will lead to serious supply disruptions that will eventually put the overall economy into considerable difficulties. Ad hoc transfers of the financial difficulties to the fiscal system

possibly present the even greater danger of undermining the solvency of the government system. The financial shortfall that has been estimated on a conservative and competitive basis on a status quo basis amounts to Rs. 174,000 crore which more than 20 per cent greater than the gross financing gap of the Union Budget in 2008/09.

There is a clear capacity for the financial stress arising out of the petroleum sector to cause serious and lasting damage to the Indian economy and the finances of the Government, unless dealt with it in an urgent and cohesive fashion.

One should also be alive to the possibility of world crude oil and refined products rising above previous peaks. The price of crude oil has been around US$130 per barrel in the second half of July 2008. The situation is unpredictable. While a price correction is possible, movement in the opposite direction cannot be ruled out. It is vitally important to set in motion a plan that deals with prices at current levels. Only then can the residual strengths of Government be available to be drawn upon if the situation were to worsen.

The public sector E&P companies were restricted to netting a price of US$ 52.73 per barrel of crude produced by them in 2007/08. There is a great urgency to increase E&P work including acquisition of new production assets, intensifying the recovery from existing fields and meet the sharply increased operating expenses such as rig rentals. It is also necessary to permit the E&P companies to retain a proportionately higher profit so that they are better placed to raise fresh equity and/or debt capital. Keeping these factors in mind, it is recommended that the E&P companies keep the revenue up to 575 per barrel on their output.

VI. Recommendations on Petroleum Product Pricing

We start where we left off from Chapter IV. The fob India basis for pricing as discussed makes sense both from considerations of efficiency and preserving an economic interest for the stand-alone refiners to sell to the domestic retailers of petroleum products.

In fact in an efficient market that would indeed be the market pricing solution for an economy like India which has become a large net exporter of refined petroleum products. Any divergence from this would have to be on account of either an absence of competition or the presence of distortions introduced through import or other duties/charges imposed exclusively on imported finished product.

The pricing recommendations being made here recognise that:

a. There is no domestic market-determined pricing dynamic in operation and as a result a formulaic committee driven solution has been in operation;
b. Our suggestions for a pricing mechanism is in the context of this fact on the ground and the need therefore to develop one that would more closely mimic a functional market;
c. The sooner that domestic pricing can move out of the portals of government decision-making and is replaced by a competitive domestic market, the better it will be, both for the consumer and for the efficient operation of the industry.

However, as long as there are price restraints there will have to be a formula and the more consistent it is with the long-run solution (para 6.2 above) the better it would be.

For a formula, to the extent that an active market for ex-India fob prices has yet to emerge, it would be necessary to use the quoted prices at major refining centres across the globe. It is useful to make the comparison with the developed country markets, since as has been seen earlier they import a large amount of their crude from distant locations and therefore the refinery prices include the ocean freight and associated costs of long-distance crude movement.

Therefore, we have focused, for analytical purposes, on the quoted prices for gasoline, HSD and kerosene in the USA (New York Harbour and Gulf Coast), North West Europe (Amsterdam-Rotterdam-Antwerp or ARA) and Singapore. This comparison provides us with a sense of what the inter-relation between prices at these major centres have been historically and what has been the magnitude of variation and convergence.

The acquisition cost of crude oil, including ocean freight for imported supplies and pipeline charges for domestic supplies, is compiled and reported for US refiners. The difference between this average acquisition cost and the price of refined products at these locations gives the "spread" between crude oil and refined product. The same exercise can be conducted for European, Singapore and Japanese refiners provided the source of crude oil and ocean freight is known.

At Table 6.2. the average annual spread between the refinery gate price and the composite crude acquisition cost for the US has been reported. It may be Doted that the coefficient of variation between the market prices reported at the various centres has been fairly small and the trend has been towards smaller variation, most pronounced in the case of diesel and also in gasoline and jet fuel. That is, there s a pronounced degree of co-movement in the market prices reported at these centres and thus strengthens our suggestion of taking some sort of an average for prices reported at these centres as a basis of forming the applicable fob India price which is to be set equal to refinery gate price.

Table 6.1 Refined product prices at different locations (refinery gate)

Unit. US dollars per barrel

Year	NY Harbour	US Gulf Coast	ARA	Singapore	C.V. (monthly)
Motor spirit low Sulphur unleaded regular					
2000	36.09	35.04	34.41	32.50	5.9%
2001	31.10	31.06	29.05	27.52	6.6%
2002	30.35	30.18	28.10	28.02	5.5%
2003	37.18	36.62	34.28	34.69	5.3%
2004	49.55	49.08	47.00	47.35	4.0%
2005	65.46	66.76	62.28	62.30	4.3%
2006	76.52	76.61	72.33	73.42	3.6%
2007	86.49	85.59	81.23	83.00	3.5%
2008	114.60	115.31	108.63	117.46	3.4%
Low Sulphur Automotive Diesel					
2000	36.93	34.49	34.42	32.39	6.3
2001	30.47	29.77	29.21	27.30	5.0%
2002	29.10	28.36	27.89	27.46	3.0%
2003	36.27	34.52	34.11	32.41	4.8%
2004	48.34	46.87	46.98	45.62	3.0%
2005	70.26	70.59	67.78	64.07	4.6%
2006	81.55	81.41	77.69	76.69	3.5%
2007	89.18	88.89	85.49	85.12	2.7%
2008	136.05	134.54	135.61	134.27	1.3%
Aviation Turbine Fuel / Kerosene					

2000	38.28	35.64	37.07	34.35	6.3%
2001	331.18	30.39	30.91	28.36	5.0%
2002	29.79	28.78	29.28	28.03	3.0%
2003	36.44	34.68	35.93	32.95	4.8%
2004	50.19	48.30	50.43	47.45	3.0%
2005	71.86	71.83	71.09	67.60	4.6%
2006	81.95	80.67	81.49	80.49	3.5%
2007	90.92	89.46	89.80	86.93	2.7%
2008	139.71	136.06	139.40	134.20	1.3%

Note: C.V. is the coefficient of variation and this has been computed on the basis of the monthly prices.

Table 6.2 Spread between Crude Oil and Gasoline, Diesel and ATF/Kerosene

Unit: US $ per barrel

Year	US Crude Composite Cost 1	Refinery losses	US Crude Composite	NY Harbour Conventional Gasoline	NY Harbour No 2 Diesel
	$ / bbl		US $per KL		
2000	28.24	-6.1%	177.58	226.98	232.31
2001	22.95	-5.8%	144.35	195.60	191.63
2002	24.02	-6.2%	151.06	190.87	183.04
2003	28.60	-6.3%	179.90	233.85	228.11
2004	38.41	-6.6%	241.59	311.68	304.03
2005	53.26	-6.3%	334.96	411.75	441.94
2006	63.58	-6.3%	399.87	481.31	512.92
2007	71.21	-6.4%	447.88	536.09	554.60
2008	96.32	-6.4%	605.77	659.16	779.72

	Gasoline - Crude	Diesel - Crude	Diesel - Gasoline	Gasoline - Crude	Diesel - Crude	Diesel - Gasoline
	US $ per KL					
2000	49.39	54.73	5.34	27.6%	30.9%	3.2%
2001	51.25	47.28	-3.97	35.0%	32.9%	-0.9%
2002	39.81	31.97	-7.84	26.6%	21.5%	-4.0%
2003	53.95	48.21	-5.74	30.1%	26.4%	-2.5%
2004	70.09	62.44	-7.64	29.7%	25.3%	-2.5%
2005	76.79	106.99	30.20	22.5%	31.8%	7.9%
2006	81.44	113.04	31.61	19.8%	28.1%	7.3%
2007	88.21	106.72	18.52	20.4%	24.2%	3.7%

2008	53.39	173.95	120.56	8.8%	28.4%	18.0%

At Chart 6.1. the monthly spreads for the past several years with respect to the product prices at New York Harbour have been plotted. It is clear from the annual averages given in Table 6.1 that the gasoline/crude spread has been unusually depressed in the first five months of 2008 and that the diesel/crude has been relatively elevated in recent years and more so in recent periods.

The degree of elevation for diesel/crude spreads become more evident when we look at the monthly averages plotted at Chart 6.1 - the elevated sections being circled.

Thus, the pricing structure that we recommend is based on the prices quoted at major petroleum trading centres in South East Asia (Singapore), Arab Gulf, North West Europe and North America (New York Harbour/US Gulf Coast). These prices are fob and correspond to the opportunity price available to our domestic refiners.

As the domestic selling price on refinery gate prices corresponds to the fob price at these centres, Indian refiners should be in a position where the profitability of domestic and export sales would not be significantly different.

To the extent that these international prices are full cost and largely efficiency cost based, Indian refiners should be in a position to generate "normal" profits by selling at these prices.

That is, unless they face a special hardship arising from inefficiency or special burdens that may have been placed upon them by regional remoteness and/or public policy. While the former does not call for a fiscal response, the latter does. Refineries in the north east of the country have some special problems that need to be separately quantified and compensated; however, this should not be sought to be done by distorting the pricing structure but by specific fiscal measures - the most obvious being differential ax treatment.

The oil companies have represented that:

a. Refinery gate prices should be a reasonable approximation to delivery at the gate, and not stretched to include delivery obligations at considerable distances from the refineries;
b. The distribution (outward freight, storage) and marketing expenses (including the cost of establishing, maintaining outlets and dealers commissions) have been carried over from the APM period and do not reflect the true cost of maintaining such activities.

Our considered view is that specific expenses should be reflected in the form of remunerative margins and commissions and not allowed to distort the basis of refinery gate prices.

Following this line of reasoning it is necessary to put forward an appropriate margin for distribution and marketing. Proceeding on this from the cost side is fraught with the problems of freight pooling adopted by companies today and making a judgment whether specific expenses are acceptable from the point of view of efficiency. It would also entail making a judgment on the appropriateness or otherwise of complete or partial freight pooling, which ought to be legitimately a matter of commercial decision-making dynamics - based on issues of cost-minimizing, market share and similar priorities by the concerned companies.

Irrecoverable Taxes

There are certain irrecoverable taxes such as octroi / entry tax which are being imposed on crude oil / refined product movement. It is recommended that the imposition of such irrecoverable taxes be taken up with the appropriate authorities for revocation. In case this course of action does not elicit a positive

response, the OMC should recover the whole of such irrecoverable taxes imposed from sales made in the jurisdiction of the concerned municipality or if that is not a viable option (in terms of volumes involved) then from sales made within that State. There is also the Central State Tax (CST) imposed on manufacture which cannot be offset against taxes to be paid on the finished product. This too should be recovered form the sales of the refined products made in the concerned State.

Distribution & Marketing Expenses

Presently the distribution and marketing margin for gasoline works out to be Rs. 3,103 per KL for motor spirit and Rs. 2,755 per KL for HSD.[4] This works out to 6.5 and 8.6 per cent respectively of the selling price before this margin. In the existing pricing structure this figure is fixed in absolute terms - that is, at Rs. 3.10 and Rs. 2.76 per litre for MS and HSp respectively.

Data for marketing and distribution costs in the US as compiled by the relevant government department is available for analysis. Between January 2006 and May 2008, for all States, the margin for gasoline ranged from a low of 8.5 to a maximum of 48.0 cents per gallon, with the average being 25.63 cents and the standard deviation at 9.64 cents per gallon. In the same period the margin for diesel ranged from a low of 6.6 to 42.3 cents per gallon, the average was 21.82 cents and the standard deviation 6.87 cents per gallon. It would thus appear that the Quantum of this margin varies from time to time and is not fixed in either absolute terms or as a mark-up margin.

The average value of the margin for distribution & marketing in the context cited in the previous paragraph of 25.63 and 21.82 cents per gallon for motor spin: and diesel works out to Rs. 2.91 per litre and Rs. 2.48 per litre of the two fuels respectively. It may be noted that the present formulaic margins of Rs. 3.10 and Rs 2.76 per litre are not very dissimilar.

Given the geographical dimensions of the two countries, there is no a priors reason to believe that the efficiency-cost based margins ought to be higher in India. However, the argument of lower economies to scale and operating inefficiencies arising from inadequacies of surface transport infrastructure can legitimately be made. However, given these facts on the ground it is hard to draw a conclusion that can justify a distribution & marketing margin for motor spirit and diesel than is significantly higher than what is being presently factored into the price build-up

4 This is the sum of APM freight, in-land freight under-recovery, marketing cost, return of capital and dealers commission.

To the extent that shortfalls on cost recovery are expected to be compensated from fiscal and upstream transfers, and keeping in mind the time horizon over which this may have to continue, the distribution & marketing margin nay be frozen at Rs. 3.25 and Rs 3.00 per litre for motor spirit and diesel which should be adequate to compensate real costs (including appropriate dealer commissions). It will also serve to contain this part of the cost stream from the rest of the pricing structure, and thereby permit international fob prices to be the clear reference point for determination of refinery gate prices.

VII. Demand Management & Efficiency Improvement in Energy Usage - Automotive Fuels

Domestic Consumption Growth

Domestic consumption of refined petroleum products at the aggregate level has been growing at an average annual pace of about 2.5 per cent between 2000/01 and 2005/06. The pace of expansion picked

[4] This is the sum of APM freight, in-land freight under-recovery, marketing cost, return of capital and dealers commission.

up in 2006/07 to about 5.7 per cent and provisional estimates suggest in 2007/08 it rose further to 7.0 per cent. The acceleration was due to higher growth of consumption of both motor spirit and diesel in the past two years. Consumption of HSD increased in 2006/07 by 6.7 per cent and 11.1 per cent in 2007/08. Even in the case of motor spirit, where the retail selling price was not that much depressed, consumption increased by as much as 11.2 per cent in 2007/08.

It may be recollected that during this period of accelerating petroleum product consumption, the overall pace of expansion of the economy as measured by the Gross Domestic Product (GDP) was around 9 per cent per annum. It is difficult to come to any other conclusion than that one outcome of keeping the retail selling prices of Motor Spirit and HSD lower through administrative restraints on domestic retail selling prices was an increase in consumption at an elevated pace. Higher selling prices would have kept aggregate growth in automotive fuel consumption within levels that were lower than the general pace of economic expansion by placing higher incentives on fuel efficiency.

It must be emphasised that the most potent economic instrument for energy conservation is the price of the product. This is particularly true when the unprecedentedly high level of world prices and that of imported crude, that provide more than 73 per cent of the refinery throughput for meeting domestic consumption of finished products, are not being passed on to the domestic consumer. And instead domestic consumers are being subsidised by way of subvention from the general government revenues and expansion of government debt, both of which have significant and critical alternative use - whether it is in the creation of social or of physical infrastructure.

The level and annual rates of growth of domestic consumption of principal refined petroleum products is placed at Table 7.1.

Table 7.1 Domestic Consumption Levels and Rates of Change

Unit: Million tonnes and per cent

	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09 E.
LPG	7.0	7.73 10.1%	8.35 8.1%	9.31 11.4%	10.24 10.1%	10.46 2.1%	10.85 3.8%	12.00 10.6%	12.54 4.5%
Motor Spirit	6.6	7.01 6.0%	7.57 8.0%	7.90 4.3%	8.25 4.5%	8.65 4.8%	9.29 7.4%	10.33 11.2%	11.46 11.0%
H S Diesel	38.0	36.55 -3.7%	36.64 0.3%	37.07 1.2%	39.65 6.9%	40.19 1.4%	42.90 6.7%	47.64 11.1%	51.33 7.7%
Kerosene	13.6	12.69 -6.4%	12.67 0.2%	12.71 0.3%	12.21 -4.0%	12.84 5.2%	13.49 5.1%	13.91 3.1%	14.39 3.4%
Other products	36.9	38.6 4.7%	41.6 7.8%	43.0 3.3%	43.3 0.8%	42.5 -2.0%	45.4 7.0%	46.6 2.6%	48.8 4.8%
Total refined products	100.1	100.4 0.4%	104.1 3.7%	107.8 3.5%	111.6 3.6%	113.2 1.4%	120.8 6.7%	129.2 7.0%	137.3 6.3%

Note: E Projected for 2008-09

Short to Medium Term Steps to Reduce Automotive Fuel Demand

Aside from the price factor there is one another element which is of crucial importance in determining consumption levels, especially in India. A sizeable part of the diesel consumption is used for captive power generation in industrial, commercial and residential establishments, not out of choice, but due to the inadequate availability of electric power from the grid. While there is no justification to extend subsidy

for the use of diesel in this class of applications, there is considerable justification to take steps to move up the pace of adding power generating capacity, reducing AT&C losses in power distribution and thereby reduce grid shortfalls and outages to the barest minimum, and to do so in the shortest possible time span. This is not only a medium-term, but also a short-term objective.

Although there are no readily available estimates, it is well-known that the unsatisfactory state of most of our road network increases both the wear-on-tear on automotive vehicles, and also reduces the fuel efficiency of transportation. Improving road networks, rectifying poor road surfaces and reducing traffic jams will help us to achieve greater automotive fuel efficiency. This is not only a medium-term, but also a short-term objective.

There is a higher incidence of union excise duty on larger cars, which has been further increased by a recent ad hoc impost. The long history of a regime of motor spirit prices that was higher relative to many of our neighbours, and the excise differential in favour of smaller cars have helped the small car industry to flourish in India. This has had a significant beneficial impact on the development of a globally competitive small car industry in India, as also the attendant component business. The policy gradient in favour of smaller cars should be continued into the future.

Improving Mass Transit Provision

In the medium to longer term there is a great urgency to improve the scope and quality of mass transit, which alone can give a realistic alternative to gasoline and diesel fired personal or even collective transportation. This includes incorporating the option of electric street cars (trams) wherever the road infrastructure can permit and do so in newly created urban areas. However, the initiatives that wil1 be needed to achieve these outcomes must be taken now.

Implications for Power Generation

All of the options delineated above involve the expansion and extension of power generation and in the limited scope of this report, we are assuming that the necessary steps to accelerate the pace of power generating capacity, reducing distribution & commercial losses, and expanding the scope of primary energy sources will be taken.

Medium to Longer Term Options on Automotive Transportation

There are also other aspects in the effort to achieve a reduction in the pace of expansion in automotive petroleum fuel consumption.

First, to the extent that natural gas availability can be assured, the conversion of urban mass transportation from diesel to compressed natural gas (CNG) should be actively pursued especially in the metro- and larger (over 1 million population) cities. This will have the direct effect of displacing HSD, besides improvement in emission etc.

Second, there is the need to encourage new technologies for automotive transport. Hybrid engines which use surplus kinetic energy to charge batteries and then draw down the stored electrical energy are expensive. However, their workability and economics need to be investigated and explored actively.

Potentially of much greater / significance are pure electric cars and buses/urban commercial delivery vehicles that can in-principle be no more expensive than conventional gasoline/diesel engine powered equipment. Batteries have been developed to provide drive/charging cycles of up to 150 kilometres and 4 to 8 hours of charging. These parameters can, it is believed, be improved upon, both in terms of magnitude and dependability. Interest in these options has gained considerable ground over the past year as petroleum prices have skyrocketed.

As an emerging country we stand to make tremendous gains if we can leapfrog the established technology and to that extent pro-active research and development efforts in this direction hold out the promise of significant medium term substitution away from petroleum derived fuel based passenger cars, urban commercial (delivery) vehicles and intra-city passenger buses, leaving the diesel option as inevitable as of now only for highway movement. It is imperative to take steps to evaluate the technologies on offer and work towards encouraging viable technological and business solutions.

Government should take necessary steps to evolve a policy and decision making framework which can evaluate these options and provide support and assistance, including fiscal and other incentives, on the basis of realistic and workable plans.

VIII. Resource Rent, Windfall Gains & ITS Taxation

Analysis & Recommendations

Mineral resources present difficult questions in respect of creation of appropriate incentives for their exploitation, as well as of taxation. In most countries, mineral rights are vested with the State.; Leases extended to mining operators thus constitute a form of co-ownership by the State in the operation of the mineral extraction business. Traditionally the State sought to materialise its rights of co-ownership through the instrument of mineral royalty which typically where a fixed monetary sum per unit of mineral extracted.

Over the decades as industrialisation has made mineral extraction an ever-larger business, the state innovated on the basic royalty into more complex structures of cash bids, lease rentals and in the case of the petroleum production, a share in the output. The desire to increase the share accruing to the State had another logical component, which was to maximise the development of mineral potential and its eventual output.

It is in the nature of minerals - like all other natural resources - that considerable heterogeneity obtains in the quality of the resource and therefore in respect of the cost of extraction. Further, the unit cost of operating a mine tends to rise with increasing depletion. Balancing the fiscal objective with that of output (or rather potential output) maximisation is tricky. Further adding to the complexity are the changing norms and hence regulations about environmental degradation, volatile mineral prices and finally the uncertainty about future legislative and technological changes and how these might influence both extraction costs and the price of the product (and of its potential substitutes).

Heterogeneity in the nature of the mineral endowment gives rise to the more conventional notion of rent. Compare an onshore oi! field where the cost of extraction of a barrel of crude oil may be as low as S5 per barrel, with an off-shore site where the extraction cost may be $40 per barrel. If the price of oil is $40 per barrel, the first field generates a conventional rent of $35 per barrel.

However, oil is a depleting resource and for incremental extraction of the oil in-place more and more expenditures are called for first in a given field and then across fields. To illustrate, in the care of the field with $5/bbl oil, in order to extract more of the oil in-place secondary and tertiary recovery procedures would be needed that would push the extraction cost up. Even then the field would eventually run dry and the operator will have to find an alternative source of supply and the cost of that supply may be much more. At an aggregate level, the appropriate cost of extraction may be viewed as being not the actual cost on any field, not even the marginal one, but the cost of reserve replacement - by which the future productive potential of the aggregate industry may be preserved. However, given the time horizon being considered the cost of reserve replacement may vary widely.

Thus, there is in the case of oil and other exhaustible resources a second dimension in regard of what could be viewed as economic rent. The Hotelling Rule famously sought to quantify this relation, postulating a continually rising price for an exhaustive resource and linking the value of the rental to the

interest rate. The 1931 paper by Harold Hotelling virtually opened up the new field of exhaustible of resource economics.

Viewing the issue from the fiscal perspective, the State's taxation rights is Contained in the surplus left over from the price of the mineral produced after allowing for all expenses and a "normal" return on capital. In other words, the State as the co-owner of the mineral resource is seen to provide the resource for exploitation to the mine operator who is expected to function as any other entrepreneur, being satisfied with a "normal" rate of return on capital. Since we live in other than a perfectly competitive economy, the "normal" rate of return which is a derivative of profit equalisation in a perfectly competitive framework is not possible to determine. But that is a much smaller problem than the fundamental fact that the State does not offer a ready resource for exploitation. The resource is to a great extent unknown and the operator runs the risk of not being able to establish even a commercially viable level of operations. He also stands to profit from having taken the risk if the resource turns out to be rich enough.

As a result the trend has been to structuring mining, especially oil and gas, leases in a way that combines the element of reimbursing cost including capital servicing as a first charge on the initial production stream and subsequently (at a later stage of production) to insert the share of the State through "revenue" or "profit" hydrocarbons. This is the State's principal share. Royalties, cesses, other statutory charges and profit tax comprise of the balance, more conventional means of accruing to the State its dues.

In many countries, the entirety or a large part of the exploration and production (E&P) work is vested in state-owned entities, which makes the process of sharing of resource rents/profits that much easier.

Exogenous shocks can and has changed the price of minerals dramatically, the most vivid examples being that in petroleum. The steep increase in the price of oil changes the relative price of oil vis-à-vis other commodities and likewise that of oil assets vis-à-vis other assets. A windfall or unearned gain thus accrues to the owners of the oil assets, or more properly to the leaseholders of these assets. It may readily be pointed out that while governments are keen enough to hone on these profits, the symmetrical opposite treatment when oil prices fall (as it did in the late 1990s) is never forthcoming.

Taxing of these windfall gains (materialised in the form of profits arising from sale of oil and gas at prices elevated beyond the "normal" level) has been seen as a prerogative of governments, in part to meet fiscal needs and in part in pursuit of redistributive justice.

International Experience

There have been many instances where governments have imposed some higher special taxes on the oil industry, often in the context of a sudden increase in oil prices. In several cases, however, the special higher taxes have been put in place as part of a general exercise to raise tax revenues or to help facilitate a balanced exploration and development effort for petroleum resources.

An early instance was in the USA, when the Carter Administration in June 1980 imposed the Crude Oil Windfall Profit Tax (WPT) on the domestic oil industry. The argument for imposing this tax - which was termed "temporary" from the outset - was that oil prices had shot up because of the successive actions by OPEC in 1973 and 1979 and as a result unjustified high profits were accruing to the oil industry. Although it was termed a profit tax, the tax was given effect to though a special excise on domestic crude production, in excess of a specified "base price". Domestic crude oil production was divided into three categories or tiers. Producers in Tier-I were required to pay a tax equal to 70 per cent of the difference between their sales price and the base price of $12.81 per barrel. This base price was to be revised upward to offset inflation, at a rate equal to the implicit GDP price deflator.

Tier-I included all producers who did not fall into Tier II or Tier III. Producers of "stripper oil" and oil produced from a National Petroleum Reserve in U.S. had an economic interest were placed in Tier II and paid an excise duty as a percentage of the value of crude sales in excess of a "base price" of $15.20 per

barrel which was also subject to inflation adjustment. Producers from oil fields <??> after 1978 and certain categories of heavy and tertiary oil were placed in higher category and subject to an excise of 30 per cent of the excess over a "base price" of $16.55 per barrel, also subject to inflation adjustment. Further, the rate on Tier III was scheduled to decline steadily over the years to 15 per cent. In the course of becoming law these provisions were amended to permit for a more complex structure with exemptions and tax credits woven in. In addition, certain kinds of crude oil, such as that produced in Alaska were exempt from the provisions of the Act.[5] [6] Over subsequent years the upward adjustments in the "base price" and additional exemptions caused the tax revenue to drop sharply and by 1987 it was yielding no revenue at all.[7] In 1988 the Act was repealed. The case has also been made that it caused a disincentive for domestic producers resulting in lower production than otherwise may have been achieved and increased therefore the import content of crude oil and refined products consumed in the USA.[8]

In the United Kingdom, in addition to the normal tax on the profit of corporations, the companies producing crude oil from the North Sea pay a 50 per cent Petroleum Resources Tax (PRT) on their profits relating to the sale of oil, or the transfer of oil to their own refineries. This tax is deductible for purposes of assessing corporation tax. The PRT regime applies only to oil fields discovered before 1993. Crude oil produced from fields developed after 1993 are not required to pay PRT. However, all North Sea oil fields operation and refiners are also required to pay an additional second leg, namely Supplementary Tax, which was increased from 10 to 20 per cent in 2006. This tax too is imposed on the profits of crude oil producers - estimated on the sale of crude oil, or of the transfer of crude oil to their own refineries.

In Norway, under the provision of the country's Petroleum Tax Act, a special tax of 50 per cent is levied on the profits from production (and pipeline transportation) of crude oil, which deductible for assessment to corporation tax. A provision exists for a 30 per cent "uplift" to permit accelerated deduction of development costs.

Australia passed into legislation the Petroleum Resource Rent Tax Act (PRRT) in 1987 to replace the till then prevalent system of mineral royalties. The PRRT levies a 40 per cent tax on the "taxable profit" of a project.[9] In addition exploration expenditures are eligible for a 150 per cent "uplift". In the case of Australia (as well as that for the UK and Norway above) the PRRT essentially replaces the pre-existing system of mineral royalties and constitutes the complete tax on the production of petroleum from on-shore and off-shore fields within the taxable domain of that country.

In March 2006, the government of China imposed a Special Oil Income Levy on domestic and foreign-invested upstream petroleum exploration enterprises and joint ventures. A special oil income levy is levied on the revenue of a crude oil producer for sales that are in excess of S40 per barrel. There are five taxation tiers. For the first tier which is between $40 and S45 per barrel, the tax rate is 20 per cent and

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[5] Gelb, Bernard A (1981): The Crude Oil Windfall Profit Tax Act, Context and Content, Congressional Research Service (CRS), US Library of Congress

[6] Lazzari, Salvatore (2006): The Crude Oil Windfall Profit Tax of the 1980s - Implications for Current Energy Policy, CRS Report for Congress.

[7] The actual net revenue collection under the said Act was one fifth of that projected during the life of the legislation

[8] From 1980 to 1988, the WPT may have reduced domestic oil production anywhere from 1.2% to 8.0% (320 to 1,269 million barrels). Dependence on imported oil grew from between 3% and 13%.", Lazzari (summary)

[9] Taxable profit for Australian PRRT purposes is calculated as the excess of assessable receipts over the sum of: (a) eligible expenditures incurred (which include exploration and all project development, operating and decommissioning expenditures); (b) undeducted (that is, carried forward) expenditures that are compounded annually as an uplift rate comprising the Australian Government long-term bond rate plus 15% for exploration expenditure or plus 5% for project development and operating expenditure; and (c) undeducted exploration expenditures (compounded at the uplift rate) that are transferred from other projects the taxpayer is engaged in or, if the taxpayer is a company in a wholly-owned group, from other projects within the group", Determination of Australian PRRT taxable profit, Australian Petroleum Resource Rent Tax, Australian Accounting Standards Board, Australian Government (2007).

this eventually rises to 40 per cent for sales at prices above $60 per barrel. There are some adjustments provided for in respect of type of crude and its quality. The purpose of this tax was apparently to subsidise the losses arising from sale of refined products.

Special Oil Tax - Recommendations

In the case of India, the major E&P companies are ONGC and OIL. They are majority government-owned and had obtained most of their leases under generous and open-ended terms and had initial capital funded from the exchequer. The discounts that they have offered to the OMC have been used to subsidise the oil consumer - the stated objective of which policy was to graduate the impact of upward price revision.

The transfer of part of rise profits of E&P companies to finance the graduated adjustment of the domestic market to higher crude oil and product prices helps to protect the domestic market from sudden price shocks. In the longer term this is of benefit to the economy at large, and in that sense also to the company. The erosion of profits in the shorter term is of course more directly palpable. These companies now have private shareholders and differences in priorities and time horizons are inevitable between the government and minority shareholders.

However, government has to act in its own perception of the larger national interest. In order to avoid the conflict between majority and minority shareholders in these E&P companies, it would be appropriate to have a structured taxation structure that removes the identified excess profit in the form of a tax.

The simplest version is to specify a value of oil above which all or part of the revenues would accrue to the Centre in the form of a Special Crude Oil Tax, which should:

a. First, explicitly be a temporary measure that will last only for the duration of the time frame needed towards restructuring domestic selling prices in a graduated fashion;
b. Second, the proceeds of this tax should be earmarked exclusively for meeting the subsidy needs arising out the price restraints on the four sensitive items - motor spirit, diesel, PDS kerosene and domestic LPG;
c. Third, be made clear that this tax will expire on the completion of the price adjustment and the need for providing subsidies on account of these four sensitive petroleum products.

We have suggested a cut-off price of $75 per barrel for the next twelve months as the cut-off point for the imposition of the Special Crude Oil Tax. The exact value of this limit could be reviewed periodically keeping in mind the investment needs of the E&P companies and the state of the world crude oil market.

For ONGC and OIL which has enjoyed the benefit of generous government port in lease agreements and capital support, it is recommended that the rate of tax under this scheme be 100 per cent. That is, all revenues in excess of $75 per barrel should be taken a tax for financing subsidy on the four sensitive petroleum fuels. In the case of private and joint ventures that predate the NELP in recognition of the fact that these companies have financed the investment and development activities from private resources, a rebate amounting to 60 per cent be extended and thus for such entities the effect rate of taxation would be 40 per cent.

Crude oil and natural gas is also produced in leases extended in the post-NELP Government may examine the terms of the agreement under which these concessions were given and see if a tax is consistent with these agreements. In this success consideration should be given to:

a. The concession agreements and the framework of the policy under which se concessions were granted; and

b. Preserving investment interest in the exploration and development of the entry's potential hydrocarbon resources.

The argument has been made that the provision of similar taxes should be it to activities other than E&P, such is oil refining. As the preceding it including the experience of other countries across the globe indicates, there is a fundamental difference between mineral exploration & production and other industrial activities.

The concept of an economic rent derives from the very character of mineral extraction activities and the desire to equate it to normal business activity by expropriating the rent through taxation. Thus by definition the concept of a windfall gain, and tax thereon, is alien to business enterprises that are not in the business of mineral exploration and production.[10]

There is thus no justification to seek to tax the profits or refining and marketing companies, just as it would be unreasonable to seek to tax any other business in order to try and offset the impact of rising crude petroleum prices on the Indian consumer. In any event, policy cannot ignore the change in world crude oil prices, considering that we have to meet our domestic consumption of refined products by way of the import of nearly three-quarter of the corresponding crude petroleum. At most, Government can try and graduate the effect of the price increase and in order to finance this there is a reasonable premise for imposing the sort of crude oil windfall tax that we save suggested here.

However, as has been repeatedly stated, such a tax should be a temporary one, only for the purpose of tiding over the period of price adjustment. It is imperative that the policy framework is conducive to exploration and development efforts for finding additional hydrocarbon reserves and this has to be given emphasis to when seeking to tax the profit that may accrue from production of crude petroleum and other hydrocarbons.

Finally, to reiterate, there only is justification for providing a subsidy to BPL families for their use of lighting and cooking fuel.

A significant part of the lighting needs of the poor is better served, and is indeed being served, through extensive rural electrification. Solar lanterns can help in providing portable substitutes of the kerosene fuelled lanterns. The effort has to be towards reducing the dependence on SKO for lighting amongst the economically weaker sections by providing them superior substitutes.

Some form of subsidy for poor families for their needs of a cooking fuel may be justified for some time to come. The resultant subsidy needs on LPG (and SKO) for BPL families should be addressed through the medium of Smart Cards or cash support, rather than supplying fuel at subsidised price, where the perverse incentives for diversion will always arise.

There may thus be a case to seek to continue to finance these BPL petroleum fuel subsidies from producers of crude oil. However, once diversion is stopped, the actual financial burden is likely to be smaller and the resultant tax rates much lower than is needed to tide over the period of general adjustments of automotive and domestic fuels.

The argument has been made that in addition to the E&P (or upstream) companies, special taxes should also be imposed on the profits of standalone refineries. The absolute level of Profits before Tax (PBT) (or losses) and sales revenues have been presented at Table 3.2 above. The profitability expressed as PBT a proportion of the volume of total sales is presented at Table 8.1. It may be observed that the profitability of upstream companies continued to remain at elevated levels despite their having to make a contribution to meet the financial deficit arising from the lag in increasing retail selling prices in response to higher

[10] Somewhat analogous to the difference in the windfall gain tax on the winnings of a lottery and the tax treatment extended to incomes from profession and business.

crude oil prices. It may be observed from Table 3.2 that the absolute level of profits of upstream companies even after their contribution continued to rise steadily over the past few years when oil prices have been on the increase.

Table 8.1 Pre-Tax Profits as a Proportion of Sales Revenue

		2002 /03	2003/04	2004/05	2005 /06	2006 /07	2007 /08
A	**Upstream OB Companies**						
	ONGC	46%	42%	42%	45%	42%	42%
	GAIL	24%	25%	22%	22%	17%	21%
	OIL	46%	47%	41%	48%	46%	45%
B	**Refiners + OMC**						
	IOC	7%	7%	4%	4%	5%	4%
	BPCL	4%	5%	2%	0%	3%	2%
	HPCL	4%	5%	3%	0%	2%	1%
	IBP	2%	3%	1%	0%		
	Sub-total of B	**6%**	**6%**	**3%**	**2%**	**4%**	**3%**
C	**Standalone PSU Refiners**						
	MRPL	-8%	5%	7%	2%	3%	5%
	CPCL	6%	6%	6%	3%	3%	5%
	BRPL	15%	14%	14%	4%	4%	7%
	KRL	7%	8%	8%			
	Sub-total of C	**3%**	**7%**	**7%**	**3%**	**3%**	**5%**
D	**New Private Sector Standalone Refineries**						
	Reliance Industries	7%	8%	11%	8%	9%	10%
	Essar Oil			1%	-14%	-12%	
	Sub-total of D	**7%**	**8%**	**10%**	**8%**	**9%**	**10%**

The profitability of refiner-oil marketing companies was small relative to that of the E&P companies even in 2002-03 and has since tended to steadily deteriorate. The profitability of PSU standalone refineries have either remained more-or-less steady or have declined. The profitability of the largest private sector standalone refinery (RIL) has fluctuated between 7 and 10 per cent.

The objective of making this comparison is to examine the impact of the increase in crude oil and refined product prices on the profitability of companies engaged in different segments of the industry. As would have beer, expected, higher profitability accrues to E&P companies, while for stand-alone refineries the changes in profitability is small and these do not appear to run in tandem with the change in crude oil prices.

It has been clarified in the earlier discussion why the principle of windfall taxation is based on resource rent and is therefore typically a tax on resource raising companies. In the case of the oil industry thus the tax has been seen to be applicable only to the E&P segment and has therefore been imposed on the assessed profit of crude oil producers. The refining and manufacture of refined petroleum products (and its marketing) is a business which is fundamentally similar to that of any other industrial or commercial industry and the principle of profit taxation should therefore be similar and consistent across business

segments. No separate treatment for the purpose of taxation is therefore seen to be justified for the petroleum refining segment.

IX. Recommendations on Graduated Price Adjustment for Automotive Fuels

Refinery Gate Prices

A retail pricing framework that is based on international fob prices at the refinery gate and a reasonable margin for distribution and marketing is consistent with a competitive market structure, once the price reform process is completed. Even before the process is completed, by presenting the final outcome as time-bound, companies can plan market operations accordingly and provide the marketing dynamic that can finally do away with formulaic and necessarily arbitrary price formation.

It is not expected that the pricing adjustments would be able to be completed at one go. For automotive fuel, particularly HSD where the required adjustment is large, we are recommending a time frame of 24 months over which regular and small price adjustments would be able to achieve the outcome of competitive domestic prices while making the adjustment process gradual and to that extent easier to deal with.

It is recommended that we cease to fix a price that is inclusive of State taxes, duties & cesses. States should be able to take a decision on what burden of taxes etc to impose on the product, consistent with their pricing policies on public transportation, road expenditures and general considerations of revenue.

It is understood that the Empowered Committee of State Finance Ministers is seized of the matter of State level taxation of petroleum products. It is expected that the issue of large inter-State differences in the rates of taxation on petroleum products will be resolved.

It is also recommended that for motor spirit and HSD the price guidance be indicative for:

1. Metro- cities where Bharat Stage III (BS-III) fuel is sold and
2. Non-metro centres where Bharat Stage II (BS-II) fuel is being sold.

The OMCs should be left to adjust the price for specific cities around this indicative price, taking into account transportation and other differences. It may be noted that there are presently small differences in the net sales realisation for motor spirit and diesel between cities, amounting to a difference of about 37 to 46 paise per litre deviation on either side of the mean, reflecting differences in transport costs. We expect that the order of deviation from the recommended mean value will remain roughly around this magnitude.

The average wholesale or refinery gate prices pertaining in June 2008 at Singapore, Arab Gulf, North West Europe (ARA), New York harbour and US Gulf Coast for a large number of product specifications are shown at Table 9.1. The price quotes are from Platt's which is extensively used by the petroleum industry as an authoritative source. There are no exact counterparts to the exact specifications of automotive fuels, SKO and LPG that are being sold in India, Hence, a large number of quotes for different but similar product lines in each of these regions have been used to arrive at an average. This average value is used as the basis of obtaining recommended India refinery gate prices, after making an adjustment for the lower sulphur in most international quotes relative to India BS-II specifications at the rate of Re 0.50 p per litre for MS and Re 1.00 per litre for HSD. Most of the international HSD quotes are for standards that correspond for Euro IV or higher. A premium mark-up then gives the corresponding BS-H1 refinery gate prices at the rate of Re 0.50 p per litre for both MS and HSD.

Table 9.1 Pricing Structure Arising from Recommendations Made

Assumed exchange rate is Rs 42.25 per US dollar

Item	Currency	Motor Spirit	HSD	SKO	LPG
		per litre			per kg
Singapore (1)*	US cents	87.28	106.52	103.70	
Arab Gulf (1)	US cents	85.92	104.49	100.91	89.87
North West Europe (multiple)	US cents	83.97	102.15	106.05	92.40
USA (multiple)	US cents	87.31	101.38	102.55	97.49
Average of above quotes	US cents	86.40	102.92	103.36	92.40
					per cylinder
Equivalent @ Rs 42.25 / $	Rs	36-50	43.49	43.67	554.38
Adj. for quality difference & discount for SKO / ATT	Rs	36.00 #	42.49 #	40.67	554.38
Refinery Gate Price	**Rs**	**36.00#**	**42.49 #**	**40.67**	**554.38**
Distribution ^ Marketing	Rs	3.25	3.00	3.00	80.00
Metro extra for large cities	Rs	-	2.00		80.00
Union Excise Duties	Rs	13.75	3.75	nil	nil
Recommended Retail Selling Price before State duties					
BS-II	Rs	53.00	49.20	43.67	634.38
BS-III $	Rs	55.50	51.70	43.67	634.38
Present Retail Selling Prices before State duties					
BS-II	Rs	42.10	30.90	8.75	329.99
BS-III $	Rs	42.22	30.80	8.75	329.99

Note:

* Figures /text in parentheses indicate number of price quotes taken for liquid fuels. In aggregate the above price information has been constructed on 8 (eight) product/origin price quotes for MS, 14 (fourteen) for HSD. 8 (eight) for Jet Kerosene and 2 (two) each for propane and butane. For LPG four price quotes have been used, two for two for Arab Gulf, one for NW Europe and one for US Gulf.

This price is for BS-II automotive fuel. For BS-III add Re 0.50 per litre for both MS and HSD.

^ The discussion on the estimation of this margin is given earlier at para 6.17 to 6.21.

$ Includes both BS-III premium and Metro Extra.

Likewise the refinery gate price for kerosene is also determined from the average of June 2008 prices for a large number of centres. However, the world prices are for Jet Kerosene or Aviation Turbine Fuel (ATF) which is more sophisticated than the PDS kerosene which is used in lamps and stoves and more commonly known by the name of Superior Kerosene Oil (SKO), a term that dates back to the nineteenth century. To derive the refinery gate price for SKO from ATF a discount of Rs. 3.00 per litre has been taken which equates it to about Rs 2.20 per litre less than HSD. These have been determined to be a reasonable approximation in the absence of exact estimates of cost or price differentials.

It has been submitted to the Committee that the cost differential as between SKO and ATF is negligible and that in international markets Jet Kerosene sells for a price that is normally slightly higher than diesel or gasoil. It was however felt that a discount should be inserted for working out the refinery gate price for the following reasons, First, there is a huge difference between the present selling price of PDS kerosene and the international price. Second, it is fairly well-established that a significant part of SKO is being diverted for commercial use. Third, the unwarranted subsidy burden on Government due to the large

price differential and diversions is huge. Fourth, if full compensation is provided to the Oil Companies, they may have little incentive to take initiatives to improve the system of PDS kerosene distribution and of subsidy disbursement and thereby reduce the leakage of PDS kerosene for commercial purposes.

Therefore, it was decided that a discount of Rs 3 per litre in the computation of the refinery gate price for SKO will be retained during the first year of price adjustment. The Oil Companies are expected to be proactive in helping the process of making recommendations, made in this report on plugging diversions and improved targeting, to fructify on the ground. If adequate progress is made at end of the first year in reducing PDS SKO diversions, the Rs 3 per litre discount may be removed fully for the purpose of computing the refinery gate price of SKO.

For LPG, the refinery gate prices are for the two major constituent gases -propane and butane. The prices available and taken are based on four price quotes from the Arab Gulf, N. W. Europe and US Gulf Coast and the monthly contract price offer from Saudi Aramco. The average of these four quotes has been adopted. By using the constituent proportions[11] of propane and butane the price of LPG has been established and this has been taken to be the refinery gate price.

For refineries located in the North East of the country a concessional higher refinery gate price is recommended to the extent of Rs 2 per litre for MS, HSD and SKO and Rs 1 per kg for domestic LPG, in order to compensate for the disadvantages arising from the transportation of a part of the crude oil overland from distant locations, the movement of a large part of the finished product for sale to markets outside the North Eastern region and the smaller size of the refineries.

It may be noted that presently as a consequence of adjustments in differences for transportation (since BS-III and BS-II are specific for certain cities) there are apparent anomalies in the selling price (before State duties) of automotive fuels, particularly of diesel. It is expected that following on these recommendation on published price (before State taxes) separately for BS-II and BS-III automotive fuels, the price/quality differential will become clearer and therefore more transparent.

It is also recommended that a separate Metro Extra of Rs 2 per litre for HSD be levied on sale in large cities (conforming to BS-III specifications) which under the present regime is applicable to eleven cities[12]. This may also be extended to other large cities where BS-II fuel is being dispensed, such as capitals of the major States and other large cities, but in the calculations of the financial implications, the Metro Extra has been taken only for the 11 cities presently being supplied with BS-III fuel. The objective of the Metro Extra is to seek to capture the significant use of subsidised HSD by private cars and sports utility vehicles. It may be pointed out that there is link justification in excluding large and growing cities such as Chandigarh, Jaipur, Lucknow, Bhopal and other major cities from the ambit of the Metro Extra that is primarily meant to make users of diesel fired cars and SUVs to ay a price that is more reflective of cost.

As has been stated earlier, the focus of Central guidance to oil companies must be on the selling price before State taxes and duties. As a matter of full disclosure, retail outlets should exhibit for customers the full price build-up of the ducts that they are selling indicating:

(a.1) Refinery gate-price;

(a.2) Distribution & marketing costs;

(a.3) Metro extra - where applicable

[11] Indian Oil Corporation has reported that the constituent proportions for domestic LPG sold by them are propane (60 per cent) and butane (40 per cent).

[12] National Capital Territory (NCT), Mumbai, Chennai, Kolkata, Bangalore, Hyderabad, Ahmedabad, Kanpur, Pune, Surat and Agra.

(b) Central taxes and

(c) State taxes (including irrecoverable taxes such as octroi or entry tax imposed on crude or other inputs).

Motor Spirit

In the case of motor spirit the full price adjustment would mean moving the refinery gate price before state taxes & duties from about Rs. 42 to Rs. 53.00 (BS II) and 50 (BS III) per litre. This would constitute an increase of about 27 per cent in the retail selling price in Delhi after State taxes and duties.

It is not desirable to subsidise motor spirit consumption by way of support upstream companies and even less so from increase in government debt. Further, it may not be practicable to increase the retail price of gasoline by the 28 / litre immediately. It is therefore suggested that:

a. In order to facilitate the rapid adjustment of this product, the excise duty to be reduced temporarily to Rs 10.00 per litre (including the education process);
b. Graduated adjustment are made over a period of 3 months to bring the ; net sales realisation in line with the recommendation made here;
c. Thereafter, further adjustments have to be made in the gasoline retail prices so as to fully restore the excise duty to the present level of Rs 13.75 per litre (including education cess) over the next 2 months.
d. Adjustment of the BS-III premium of Re. 0.50 per litre in the first month ' of adjustment.

Thus motor spirit prices should fully reflect the pricing formula suggested here by March 2009. In other words motor spirit sales by March 2009 will no longer have to be supported either from upstream discounts (or Special Oil Tea) or through the issue of Oil Bonds.

Branded gasoline currently accounts for 24 per cent of total motor spirit consumption (2006/07), which is suggestive of the value that car owners tend to place on the value of their vehicles and the improved mileage that obtains from superior quality of fuels. Better fuels also reduce conventional polluting emissions and this is a process of transition that should be encouraged. There may be a temporary drop in the proportion of branded motor spirit consumed in the first year of adjustment, but thereafter it is likely to be restored to the level of 2006/07. The OMCs should continue to educate motorists on the value of using branded fuel and on fuel efficiency in general.

Automotive Diesel - HSD

The gap for HSD is however very large. To fully reflect internationally prevailing pricing conditions, the price of HSD before State taxes, duties & cesses has to be increased from the current level of Rs. 30.90 per litre (BS-II) to Rs. 49-0 per litre, a required adjustment of nearly Rs. 18.30 per litre or of 59 per cent. For BS-III + Metro Extra, the increase is of Rs 20.90 per litre or of 68 per cent.

The magnitude is of an order that precludes early change; graduated adjustment over a period of time is advisable. We have separately made certain segment-wise pricing recommendations - keeping En mind the twin issues of the needs of public transportation and the question of affordability.

For general transportation use, the retail price for HSD before State taxes & duties, will have to be adjusted in small increments over a period of time so that the need of subvention in the form of Oil Bonds be gradually reduced zero. In other words the imperative of full cost adjustment has to be balanced against the requirement for non-disruptive change.

The excise duty (and other central duties) which is Rs. 3.71 per litre is too low compared to motor spirit. However, as long as diesel is subsidised there may not realistically be a scope for moving the excise duty upward. However, there clearly is a need to bring the excise duty on diesel more in line with that being imposed on motor spirit and a differential of more than 50 per cent may not be desirable and this level should be reached in the medium term.

For general transportation use, it is recommended that the retail selling price (before state and local taxes) be raised by 75 paise per litre each month till the net sales realisation to the OMC less distribution & marketing expenses becomes equal to the refinery gate price as determined in the manner recommended here.

The premium of Re. 0.50 p. per litre for BS-III as well as the Metro Extra of Rs. 2 per litre, are expected to be put in place through increments of 50 paise. per litre over the first 5 months of the adjustment period.

Table 9.2 Summary of Prescribed Price Recommendations for Automotive Fuels

	Motor Spirit	High Speed DIM
BS II Fuel Prices	1. Increase of Selling Price before State taxes & duties by Rs 2.50 per litre each month 2. Temporary reduction in Excise Duty to Rs 10 per litre to be restored by March 2009 3. Total increase of Rs. 10.90 per litre/ in selling prices before State Taxes & Duties	1. Supply to industrial customers to be at negotiated market-based prices and not at the prices being recommended here. 2. Increase of Selling Price before State taxes & duties by Re 0.75 p per litre each month 3. Total increase of Rs. 18.30 per litre before State Taxes & Duties over 24 months 4. Metro Extra of Rs 2.00 per litre to be levied on large notified cities to be imposed through four 50 paise per month impost 5. OMCs are also advised to negotiate with Indian Railways and SRTC about a more rapid calendar of price adjustments than envisaged for the general transport sector
BS III Fuel Prices	1. Refinery gate price & NSR to be Re 0.50 p per litre more than for BS-II motor spirit 2. As in BS II above 3. Total increase of Rs. 11.28 per litre before State Taxes & Duties	1. As in BS II above. 2. As in BS II above 3. Total increase of Rs. 20.90 per litre before State Taxes & Duties over 24 months 4. Metro Extra of Rs 2.00 per litre to be levied on large notified cities to be imposed through four 50 paise per month impost 5. As in BS II above

The prices are the average for the major cities before State taxes and duties. The small variations that presently obtain due to differences in transport costs will continue. The NSR as computed will provide a reference price around which the OMCs are expected to set their selling price before Sate taxes & duties.

Separating industrial diesel use

The unexpectedly high rates of expansion of HSD consumption has been mentioned earlier. There is clearly a need to reduce the pace of increase in diesel consumption.

A significant part of HSD is consumed in industrial applications, which in terms of client segmentation is treated as "bulk" customers. In 2006/07 about 22.3 per cent of total diesel sales were made to large customers, which the OMC categorise as "direct sales". Road & railway transportation and agricultural use accounted for 11.0 per cent of total diesel sales. The balance 10.5 per cent was to industrial, power generation and miscellaneous use. It is recommended that sales to the industrial segment which now account for about 10.5 per cent of total diesel consumption be made only at the applicable full market prices. The OMCs are advised to negotiate rates for HSD supplied to the Railways and State Road Transport Corporation to see if a faster pace of price adjustment can be achieved.

The largest share of HSD sales is made through retail outlets that are located on national and state highways and accounted for as much as 61.9 per cent of total OMC sales in 2006/07. Another 13.7 per cent of sale is made in towns with population of less than 200,000, while 6.7 per cent of sales are in rural and remote regions. Larger cities (metros and those with population of more than 1 million) made up 9.8 per cent of total diesel sales and medium sized towns (200,000 up to 1 million population) accounted for 8.0 per cent of total sales.

Diesel cars and sports utility vehicles (SUV) are able to obtain fuel at the present subsidised rates - which is certainly not an intended outcome. Most of such vehicles are concentrated in urban centres. A practical and excessively non-g intrusive scheme for pricing HSD sales to this segment does not present itself. However, the recommended Metro Extra of Rs 2 per litre will be able to some extent partly tax the sales to this market segment.

Dealing with future price changes

The price adjustments recommended here have been made on the basis of prevailing prices in the third and fourth weeks of July 2008 for crude oil of about US$ 130 per barrel and associated prices of refined petroleum products.

If prices of crude and products rise even further, additional adjustment will need to be made using the principles set out in this report.

In the case that world prices begin to drop below current prices, the first impact will be upon the sequential price increases that at that point remain to be implemented; that is some future price increases may not be called for.

In case prices fall even further (which it may in the case of motor spirit), as long as further adjustments in diesel are still left incomplete, the adjustments should be made by suitably increasing the central taxes on motor spirit.

Only in the case where prices fall over a sustained period, of say six months, such that there is no further need to implement any diesel price increases, can a reduction in selling prices of motor spirit be considered. In the case of HSD, if price declines imply a cut in prices with the present duty structure, in the first instance excise duty rates should be raised to bring it within 50 per cent of the excise duty on motor spirit, before taking steps to reduce retail selling prices.

Future Retail Prices

9.35 It may be noticed from Table 9.1. that the selling price of motor spirit and diesel before state and local taxes & duties at the end of the adjustment period, will no longer be as far apart as they arc presently. If we were to add the State taxes & duties as they presently obtain, at the end of the adjustment period, the retail selling prices of HSD would begin to closely approximate that of motor spirit - which would be a truer reflection of the use value of these automotive fuels than the present situation or even the one that has obtained over past years and decades.

X. Demand management & Improvement of Subsidy Targeting

PDS Kerosene & Domestic LPG Cooking Gas

PDS Kerosene

Kerosene (Superior Kerosene Oil, SKO) is distributed through the Public Distribution System (PDS) for lighting and cooking purposes. SKO is not very different from the kerosene that is used as jet fuel (Aviation Turbine Fuel or ATF). The total domestic consumption of kerosene type fuels amounted to 13.91 million tonnes in 2007/08 or 10.8 per cent of total refined petroleum product consumption. Out of this, PDS kerosene amounted to 9.15 million tonnes or 7.1 per cent of total refined product consumption. ATF kerosene amounted to 4.56 million tonnes or 3.5 per cent of total product consumption. PDS Kerosene is allocated to each State by the Central Government.

PDS Kerosene prices have not been revised since April 2002, although by way of removal of all central duties and state taxes the net sales realisation accruing to OMC has increased as detailed earlier in this report. However, both the selling price and the net sales realisation to the oil companies are only a very small fraction of the cost of producing this fuel. The cost of the crude oil required to make a litre of kerosene is about Rs 38 at current world prices of crude petroleum, as against the retail selling price of Rs 9 per litre. The subsidy outgo is therefore huge and it is of absolute urgency that the benefits of the PDS Kerosene is made available only to economically weaker sections for their legitimate household use and not diverted to adulterate diesel or to be used as a commercial fuel.

The present practice of allocating SKO is that the OMCs make available to the concerned departments of the State governments the kerosene on bulk basis for further distribution. The State-wise allocation of PDS kerosene is done by the Ministry of Petroleum and Natural Gas allocates SKO to the States on quarterly basis. Each PSU OMC is given a specified quantity for distribution to the wholesalers in each State. The OMCs appoint the SKO distributor (wholesaler), but it is the State government that are responsible for distribution through the fair price shops (FPS) to the ultimate consumer.

While the Central government presently fixes both the retail prices of SKO and the distributor's commission, the State government makes adjustment in the price by adding transport cost.

Trend & Pattern of SKO and LPG Consumption

The Census of India (2001) estimated that 33.6 million households use LPG for cooking purposes, of which 25.75 million are in urban areas and 7.85 million in rural areas. As a proportion of the total number of urban and rural households, LPG use was found to be there in 48.0 per cent of urban households and in 5.7 per cent of rural households.

The number of LPG connections has increased sharply since 2001. As on March 1, 2001 there were a total number of 57.85 million connections (which include double cylinder and more than one connection at a given residential address). As on March 1, 2008 the total number of domestic LPG connections had risen by 75 per cent to 100.98 million. Extrapolating from the Census (2001) estimate this may mean that

the total number of households being served by LPG has risen close to 60 million or over one-quarter of the national total.

Various surveys and studies, including that by the National Sample Survey Organisation (NSSO) and reputed research institutions have identified several broad trends:

a. The proportion of households using SKO for lighting and cooking purposes has been declining over the last decade;
b. There is considerable diversion of PDS SKO for use as commercial fuel and for adulterating high speed diesel.
c. There is a steady increase in the share of LPG as a cooking fuel both in urban and rural areas.
d. Nearly 60 per cent of urban homes use LPG as the predominant cooking fuel.

Table 10.1 Proportion of Households using LPG and SKO as Primary Source of Energy

Unit: per cent

	Rural			Urban		
	Firewood	**LPG**	**SKO**	**Firewood**	**LPG**	**SKO**
Cooking						
1999/00	75.5	5.4	2.7	22.3	44.2	21.7
2000/01	75.4	7.2	2.4	21.0	47.4	19.4
2001/02	73.4	8.1	2.0	23.3	49.9	15.3
2002/03	74.3	8.5	1.6	21.2	51.2	14.8
2003/04	74.9	9.1	1.9	20.0	55.4	13.0
2004/05	75.7	9.0	0.9	21.5	56.4	10.4
2005/06	74.0	9.3	1.0	20.9	57.1	9.2
Lighting						
1999/00			50.6			10.3
2000/01			47.8			9.0
2001/02			47.2			7.8
2002/03			47.4			8.3
2003/04			46.6			8.3
2004/05			45.6			7.0
2005/06			42.0			7.2

Source: NSSO, 50th and 62nd Round, 2007/2008

The NSSO undertakes annual Household Consumer Expenditure Survey which provides detailed information on state-wise consumption of SKO and LPG.

The all-India percentage of households in the rural and urban sectors using kerosene, and LPG for lighting and cooking purposes since 1999/2000 has been given in Table 10.1.

From Table 10.1, it can be clearly seen that:

a. Rural households use SKO primarily for lighting. But, the proportion of rural households using SKO for both lighting and cooking purposes has been steadily declining since 1999/00, with rural use of SKO for lighting falling to 42 per cent in 2005/06 from 51 per cent in 1999/00. The proportion of rural households who use SKO for cooking has always been small, but it has further fallen to 1 per cent in 2005/06.
b. Urban households used SKO more for cooking than for lighting purposes. The trend in urban SKO use is however also on the decline, with the proportion of urban households using primarily SKO for cooking dropping to 9 per cent in 2005/06 compared to nearly 22 per cent in 1999/00. The proportion of urban households dependent on SKO for lighting use has also fallen by about 30 per cent.

The steady decline in SKO use for lighting purposes both in rural and urban households can be attributed to the increase in electrification of rural homes under the development schemes of Government. The sharp decline in use of SKO for cooking in urban homes is due to the sharp increase in LPG connections provided to urban homes during this period.

The proportion of households using LPG and SKO for cooking/lighting in different states in 2005/06 is presented at Table 10.2.

In high income states like Punjab. Haryana and Union Territories, SKO for urban lighting use is minimal, quite unlike that for lower income States. In contrast, SKO for cooking use is higher in the higher income States. It may also be observed that while more LPG use is associated with higher income States, urban homes tend to be predominant users of LPG for cooking and States with lower urban LPG usage do not show associated higher use of SKO as cooking fuel.

Table 10.2
Percentage of Households using LPG & SKO - State-wise: 2005/2006

	LPG (Cooking)		SKO (Cooking)		SKO (Lighting)	
	Rural	**Urban**	**Rural**	**Urban**	**Rural**	**Urban**
High & Middle Income States						
Punjab	28.7	74.7	1.8	10.8	0.5	1.0
Haryana	22.2	67.3	0.2	9.6	5.5	5.4
Union Territories	20.8	52.9	22.5	11.5	8.3	0.0
Andhra Pradesh	11.0	61.4	0.5	8.4	15.6	2.7
Karnataka	7.0	47.5	1.8	16.7	17.3	4.2
Kerala	18.7	41.7	0.6	0.5	13.8	6.8
Low Income States						
Assam	11.6	70.2	0.6	9.7	64.8	7.3
Bihar	2.0	41.3	0.1	7.2	83.8	27.7
Madhya Pradesh	2.8	66.2	0.3	3.3	32.9	4.1
Orissa	2.8	41.8	0.0	7.9	63.9	13.3
Uttar Pradesh	6.7	56.2	0.0	2.2	69.6	16.1
All India	**93**	**57.1**	**1.0**	**9.2**	**42.0**	**72**

Source: NSSO, 62nd Round, January 2008

Several studies have shown the extent of diversion of kerosene for unintended uses, particularly for adulteration with diesel.

a. The India Development Foundation (IDF) in 2004 studied NSSO data on consumption expenditure surveys for 1993/94 and 1999/2000 rounds. It concluded that 50 per cent of PDS kerosene supplied never reached the targeted households.
b. The National Council of Applied Economic Research (NCAER) undertook a comprehensive survey of SKO consumption in 2005, and concluded that over 38 per cent of the PDS Kerosene was being diverted for illegitimate purposes.

A state-wise analysis of per capita Net State Domestic Product (NSDP, the! extent of rural electrification and SKO allocation is summarized in Table 10.3. It; may be observed that in several States which have already achieved 100 per cent electrification of villages there is a large continuing allocation of SKO that amounts to as much as 43 per cent of the total PDS allocation for the country. Only 10 per cent of the total PDS kerosene allocated goes to States where the proportion of villages electrified is 50 per cent or lower.

When the SKO allocations are separated between urban and rural distribution centres it turns out that as much-as 32 per cent of the total rural allocation is going to States that have 100 per cent electrification who also lift 74 per cent of the total allocation to urban outlets (see Table 10.4).

Clearly there is considerable dissonance between the perception of where PDS/SKO consumption should have accounted for a predominant share, such as in rural areas relatively lacking in electrification, and the extant pattern of SKO allocation. That 32 per cent of the total rural allocation of SKO amounting to 22 million tonnes or 24 per cent of total SKO consumption goes to States that have achieved 100 per cent village electrification is difficult to understand and given the extent of subsidy is a matter of concern.

Table 10.3 SKO (PDS) Allocation State-wise along with their Economic Profile

S.No.	State	NSD per capita	Electrified villages	SKO Allocation in 2007/08
		Rs	per cent	'000 metric tonnes
1	Chandigarh	86,629	-	13.1
2	Goa	70,112	100.0	19.2
3	Delhi	61,676	-	168.5
4	Pondicherry	48,477	-	12.3
5	Haryana	38,832	100.0	145.6
6	Maharashtra	37,081	100.0	1,276.9
7	Punjab	34,929	100.0	237.2
8	A & N Islands	34,853	n/a.	6.8
9	Gujarat	34,157	100	743.8
10	Himachal Pradesh	33,805	99.4	50.5
11	Kerala	30,668	100.0	216.3
12	Tamil Nadu	29,958	100.0	570.6
13	Karnataka	27,291	98.1	461.9
14	Sikkim	26,412	90.6	5.6
15	Andhra Pradesh	26,211	100.0	517.9

16	West Bengal	25,223	83.6	754.0
17	Tripura	24,706	95.7	30.8
18	Uttaranchal	24,585	83.7	89.8
19	Arunachal Pradesh	23,788	64.0	9.3
20	Mizoram #	22,417	99.0	6.2
21	Meghalaya	23,420	55.0	20.7
22	Nagaland #	20,821	100.0	13.3
23	Manipur	20,326	93.6	19.9
24	Chattisgarh	20,151	94.0	146.9
25	Jharkhand	19,066	26.0	211.2
26	Assam	18,598	77.3	263.0
27	Jammu & Kashmir #	17,752	97.3	76.4
28	Rajasthan	17,863	98.4	401.2
29	Orissa	17,299	80.2	315.0
30	Madhya Pradesh	15,647	97.4	488.6
31	Uttar Pradesh	13,262	58.7	1,241.8
32	Bihar	7,875	50.0	663.0
	All India	**25,716**	**80.8**	**9,203.0**

Note:

* Economic Survey, 2007-08: Statistical Appendix - A-12

** Source:

@ Source PPAC

NSDP: J&K and Nagaland for 2003/04 and Mizoram for 2004/5

Table 10.4 Pattern of SKO (PDS) Allocation State-wise vis-à-vis Rural Electrification 2007/2008

Proportion of Villages Electrified	Share of total SKO allocation	Share of Total Urban SKO Allocation	Share of Total Rural SKO Allocation
100 per cent villages electrified	43%	74%	32%
90 per cent & above but less than 100 per cent	18%	13%	20%
80 per cent & above, but below 90 per cent	**13%**	**12%**	**13%**
Above 50 per cent but below 80 per cent	17%	0%	22%
50 per cent and below	10%	0%	13%
Memo item			
	Total	**Urban**	**Rural**
Quantity of PDS Kerosene Sales ('000 tonnes)	9,131	2,312	6,819

Note: The practice of classifying districts on the basis of "predominantly rural" may have placed caused some amount of urban consumption to be reported as rural.

This acquires special significance in light of the fact that the total allocation of SKO has remained virtually unchanged at 9.2 million tonnes in 2007/08 compared to 9.6 million tonnes in 2002/03, while the evidence clearly shows a decline in the pattern of household usage. Further, in States where rural electrification has made great strides the allocation has been reduced only marginally. Thus, for those States which have achieved 100 per cent village electrification the SKO allocation in 2007/08 was only 7 per cent lower than in 2002/03, compared to the reduction of 4 per cent in the all-India level of SKO allocation.

Jan Kerosene Pariyojana (JKP)

In an effort to better target subsidy on PDS Kerosene, Government launched a scheme by the name of Jan Kerosene Parryojna (JKP) on October 2, 2005 in selected blocks of some States. Under this scheme, OMCs have created infrastructure at wholesaler locations by providing underground tanks, dispensing units, specially painted blue barrels and barrel sheds. Unlike the traditional system of distributing SKO, delivery under JKP is made at wholesaler points by OMCs through dedicated tankers fined with Global Positioning System (GPS).

In order to assess the impact of implementing JKP on distribution of PDS Kerosene, PPAC commissioned NCAER in 2007 to undertake a study of the Impact Assessment of JKP. The study found that while there have been improvement in awareness of the SKO consumers about their entitlement as well as the monitoring and complaint redressai mechanism formulated under JKP, the benefit from JKP was still lower than the cost of the scheme, without imputing savings from elimination of losses arising from diversion. The study also revealed that while some States have fared better, others have not; a primary reason for this difference was the level of involvement of Panchyati Raj Institutions in the monitoring mechanism which had a positive correlation with the performance of the JKP. The study concluded that there was scope for rationalization of cost as well as increase in the benefits from JKP. The proposal of regularising the scheme is under consideration of the Government.

Government has initialed a review of state-wise allocation of SKO under PDS. As a result, PDS Kerosene allocation for the UT of Chandigarh has been reduced by about 25 per cent from July 2008.

Pricing of PDS Kerosene and domestic LPG

The recommendation of fob based pricing is also being made for kerosene. The oil companies have submitted that the Marketing & Distribution cost is Rs. 4.88 per litre, comprising of Rs. 2.14 freight, Rs. 2.37 marketing cost and Re 0.37 marketing margin. There are no retail outlets being maintained by the OMC and the actual distribution is carried out by concerned State government departments. Under these conditions, it is recommended that the distribution & marketing margins is restricted to Rs. 3.00 per litre, the same as for HSD. There are no central taxes on this product, though there are State taxes (and some States have a subsidy). The recommended basis for the prices is as in the case of automotive fuels for the retail selling price before State taxes (or subsidies).

The pricing leaves the central subsidy element at nearly 400 per cent higher than the net sales realisation on kerosene. There is as discussed earlier evidence of diversions and a concerted effort needs to be made to reduce these diversions for ' given the large difference in the issue price of PDS kerosene and its value as an adulterant for diesel the gradient is pointed towards even greater diversion. In the first 12 month planning horizon it is expected that a reduction in diversion equal to 10 per cent of current consumption levels will be made.

For PDS kerosene and domestic LPG, the required policy response has to deal with different kinds of problems specific to the product and needs a more wide-based response that is not entirely price-based. The planning horizon here has been taken at 36 months, that is, three years

While no changes are being recommended at this stage in the selling price of PDS kerosene and domestic LPG, it needs to be underscored that:

a. A sizeable part of the PDS kerosene is being diverted to uses (including adulteration of HSD) other than the desired ones;
b. That LPG is used mostly in middle class homes where the argument for large subsidies is weak. Further there is evidence of diversion too is to commercial and automotive purposes.

A package of measures to contain diversions and calibrate the subsidy to better-off homes has been suggested. The financial impact of these measures has been worked into the financial calculations reported in the subsequent chapter.

It is recommended that the pricing approach for LPG also adopt the export-based fob India price. While it is true that a part of the LPG being sold domestically is being imported, given that this is a losing proposition there have to be additional incentives placed on the OMCs to reduce diversion and their interest in schemes such as Auto-LPG which directly expand the scope and incentive for diversion and is based on the assumption of a surplus in LPG which there is not.

The distribution and marketing expenses are taken at Rs. 78.88 as per the current computation. Since additional burdens are being proposed to be placed on dealers, their commissions need to be increased marginally. Hence the total of distribution & marketing expenses is rounded off to Rs. 80.00 per 14.2 kg cylinder.

That generates a retail selling price (before State VAT or subsidy) of Rs. 641 per cylinder, which is 90 per cent higher than the current net sales realisation. While no revision is being suggested for subsidised domestic LPG, a change in the quantum of entitlements to subsidised LPG is being recommended.

In the case of domestic LPG, there is no incidence of central taxes and it attracts 4 per cent State VAT. Yet the quantum of subsidy amounts to nearly 48 per cent of the fob based price recommended. In our discussions with State government officials, evidence of diversion of domestic LPG to commercial use has come to light. This is not surprising given the extent of subsidy being currently provided. The first kind of diversion is to commercial use and the second to automotive use. Evidence has been brought before the Committee of people have installed equipment to transfer LPG from the red 14.2 kg domestic cylinders to the blue larger commercial and smaller auto-LPG cylinders. More energetic enforcement is called for to make the illegal business of diversion much more, in fact prohibitively expensive.

Calculations made by die PPAC suggest that on the average the annual consumption by a household (with LPG connection) is 7.44 numbers of cylinders. That is, LPG connected homes require a cylinder refill every 49 days. This is also roughly in conformity with the NSSO data. A small sample of LPG cards with Indian Oil Corporation suggested that the number of refills may be higher at around 9 to 10 cylinders per annum, except for the Eastern region where it is somewhat less. The ratio between number of domestic LPG cylinders supplied in 2007/08 of 725.85 million and the average number of connections between March 2007 and 2008 (of 91.45 million) gives an implicit annual consumption of 7.94 per connection. However, for all calculations made in this report we have taken the lower value of 7.44 refills per household as estimated by PPAC.

It is being recommended that the entitlement of each household to LPG cylinders at the subsidised rate be restricted to 6 cylinders every year. That is, for those homes who consume 8 cylinders in a year, 6 would come at the subsidised rates, while the balance 2 would have to be purchased at the full market price being recommended here. At the same time, free and unrestricted access at the full market price must be ensured. This scheme should be made with effect to April 1, 2008 (that is for the current fiscal year) for the purpose of counting the number of subsidised LPG cylinders issued per household.

The entitlement to subsidised LPG cylinders should be gradually phased out over a period of 3 years, with the future entitlements being reduced to 4, 2 and then zero subsidised cylinders. It may be mentioned that even at the full market price, the government will be foregoing any tax from this product, except for State VAT at the concessional rate of 4 per cent.

The task of implementing this limited access to subsidised LPG will have to be undertaken by the dealer network guided by the OMC. To compensate the dealers for this additional work a small increase in the dealer commission is being recommended.

There is merit for providing subsidy only to households that are Below Poverty Line (BPL). Over the course of the next year, OMC should in co-ordination with the Centre and State governments develop a scheme where targeted subsidies to BPL families should be provided either through Smart Cards or direct money transfer or by other means.

Finally, it is strongly recommended that piped natural gas be actively extended wherever the infrastructure is in place and expanded to newer areas. Piped natural gas should be actively pushed against LPG and the gradual reduction of access to subsidised LPG will help achieve the objective of gradually replacing LPG with piped natural gas in the big cities. The OMC should interact with the companies supplying natural gas to eliminate access to subsidised LPG to homes with piped gas connections. This should be done by the oil companies in a commercial rather than an officious fashion. Though this is not part of the TOR of this committee it may be suggested that the best way to achieve the desired outcome is to ensure that the cost of piped natural gas is placed between the subsidised and full market price (after adjustment for calorific value) so that home owners will see the piped gas as a viable economic alternative and will therefore accept the elimination of access to subsidised LPG. In our society where public service often fails, it is not recommended that the LPG connection be cancelled per se once the piped gas connection has been made. Only access to subsidised LPG should be shut down.

Kerosene supplied under the PDS scheme is being supplied at a price where the subsidy element is 400 per cent of the present issue price. A large part of the kerosene being supplied is diverted to commercial use, which includes the adulteration of diesel. The total subsidy element over a year is computed at around Rs. 30,000 crore. Protecting a prize of this magnitude is a big challenge. Enforcement and oversight urgently needs to be strengthened given the magnitude of the potential theft.

As discussed earlier, me bulk of the PDS kerosene consumption in rural India is for lighting use. Electrification of villages is clearly one solution. However, as the data seems to show even where villages have been fully electrified there continues to be some demand for kerosene as a lighting fuel.

Technically this lighting application can be easily provided by alternative means, with portability maintained, by solar lanterns. In fixed locations, electrification of villages is the prime substitute for kerosene fired lanterns. Solar lanterns is particularly attractive because of the preservation of portability and form of apparatus and because the fuel is a free, renewable and clean source. The scheme of providing solar lanterns under a heavily subsidised scheme has already been launched by the Prime Minister in June 2008.

The cost of a solar lantern is estimated at Rs. 3,632 a piece. The total number of rural Below Poverty Level (BPL) households, or those marginally above BPL, is estimated to be 43 to 54 million. The cost of providing 54 million households with one solar lantern each comes to a once-off cost of little under Rs. 20,000 crore. This amounts to two third of the total subsidy element computed for PDS kerosene over one year.

It is imperative to ensure that the solar lanterns meet normal dependability tests. That common breakage and failure can be readily rectified. Early disappointments will make it very difficult to convince rural families to accept a relaunch of a piece of equipment that is vital to them. Large scale manufacture on the scale of tens of millions of pieces per year should also cause a sharp drop in the cost of manufacture of

such lanterns. However, if the conditions of dependability and serviceability are met, the solar lanterns programme holds out the potential of dramatically reducing rural consumption of kerosene for lighting purposes amongst the rural poor in a fashion that will actually raise incomes of such households.

In urban areas, where one-fifth of the PDS kerosene is issued, the approach has to be, and fortunately can be different. Urban poor (BPL) families can be issued smart cards by the OMC or state governments with a specified^ amount of subsidy loaded on to the card, which can be replenished at monthly or bi-monthly cycles. The kerosene in urban centres could then be sold at the full market price, disabling the incentive for diversion, increasing the scope of access and at the same time adequately subsidising the urban poor for their fuel and ligbting needs.

The LPG network is being constantly expanded as is the City Gas scheme. As a result of which there has bee and will continue to be considerable shift from kerosene as a cooking fuel to LPG/piped gas, eventually reducing the demand for kerosene as cooking fuel.

However, for those urban BPL families who still need kerosene, smart cards or cash transfer arrangements may be worked out. In the first instance, in all urban areas, the sale of kerosene should be at the full market price, and the difference between that and the subsidized price would be met from the subsidy provided to the BPL household through Smart Cards or ash transfer. This would eliminate the financial incentive for diversion of SKO to other uses.

Subsequent to this semi-urban areas should be taken up followed by the more developed rural regions of the country. Tribal and remote regions may for the moment continue to be served by the present arrangement, albeit strengthened to curtail diversion.

The allocation of subsidized SKO to States would be correspondingly reduced. Central cash subsidies for supply of SKO to BPL households would be provided on the basis of digitised records of smart card operation or direct cash transfers through the banking system or post office system.

We are of the view that though the combination of the following measures:

a. Plugging diversions;
b. Provision of electric lighting under the existing schemes;
c. Distribution of solar lanterns;
d. Provision of LPG connections in urban areas and
e. Better methods of subsidy targeting through Smart Cards and/or Bank/Postal money transfers,

Will result in a reduction amounting to 40 per cent of the current allocation of PDS kerosene under the present arrangement can be reduced over a period of two years. It may be noted that conservative estimates of diversions of PDS kerosene is of the order of 40 per cent.

To kick start the process, besides taking up the initiatives described above, it is necessary to start reducing the SKO allocations by an average of 20 per cent in the first year of adjustment. A suitable methodology may be worked out keeping in mind the income levels in the State, the degree of electrification in villages and other relevant parameters.

The objective should be that at the end of three years, the physical distribution of subsidised SKO should be discontinued except for tribal and remote regions.

XI. Recommendations Relating to "Burden Sharing"

Between OMC - Refiners, Standalone Refiners, Upstream (E&P) Companies, Government and Consumers

We have worked whth the following volumes (Table 11.1) for 2008/09. These are taken to be the likely quantum of sales by the refiner-OMCs over the 12 month planning horizon, that is, over a period that can be seen to roughly begin in July 2008 to July 2009, though the reported volumes are strictly speaking for fiscal year 2008/09. In practice, not much of a difference should arise from this one quarter displacement, since the proposed revision of retail prices are likely to result in some economies at the level of consumption.

Table 11.1
Volumes of Sales of Sensitive Products in 12 month planning horizon

		2006/07	2007/08	2008/09 Est
Motor spirit	TKL	12,422	13,936	14,916
HSD	TKL	49,146	56,181	59,040
PDS Kerosene	TKL	9,505	9,353	9,360
Domestic LPG	'000 Nos	686,761	725,845	783,220
Dom LPG	TMT	9,752.0	10,307.0	11,121.7

For the record it should be noted that the pricing build-up that has been adopted is on the basis of averages for June 2008. In that month, the average international prices of important marker crude oils were:

- Indian Basket $ 129.72 per barrel
- WTI Cushing $ 133.88 per barrel
- Europe Brent $ 132.32 per barrel
- Saudi Light $ 127.60 per barrel
- Saudi Heavy $ 121.30 per barrel
- Oman Blend $ 127.13 per barrel

The recommended Net Sales Realisation (NSR) and Retail Price (before State Taxes & Duties) for automotive fuels conforming to BS-II ad BS-III have been presented at Table 9.1 above.

At presently prevailing Retail Prices

On the basis of these recommended NSR and for sales volumes as given in Table 11.1. the financial shortfall at the presently ruling retail prices and NSR for these products, over a 12-month time horizon amounts to Rs. 190,131 crore. On adding the effect of the concessional refinery gate price prescribed for the North East (Rs. 826 crore), the shortfall comes to Rs. 190,958 crore. The break-up, product-wise is given at Table 11.2.

Table 11.2
Extent of Incomplete Implementation of Pricing Recommendations
At Current Retail Selling Prices and Net Sales Realisation

Unit. Rs in Crore

	Net Sales Realisation (recommended)	Difference
Motor spirit	58,741	16,405
High Speed Diesel	269,264	108,777
PDS Kerosene	51,410	41,110
Domestic LPG	49,849	24,003
Total	**429,927***	**190,958***

Note: * Includes the effect of the concessional higher refinery gate price for refineries located in the North East. This is not included the component-wise totals for different refined products.

Impact of Graduated Price Increase & of other Recommendations

Implementation of adjustments in the form of early equalisation of mi spirit prices with international ones, small graduated increase in diesel prices, reduction in diversion of kerosene and of entitlement to subsidised LPG would bring down the financial burden to Rs. 123,212 crore. The product-wise account o this is presented at Table 11.3.

Table 113 Extent of Financial Shortfall after Implementation of Pricing and Other recommendations

Over the next 12 month period

Unit: Rs in Crore

	Volume		Net Sales Realisation (recommended)	Net Sales Realisation (actual)	Difference
Motor spirit	TKL	14,916	58,741	58,911	-170
HSD Industrial	TKL	6,199	28,820	28,820	nil
General	TKL	52,841	240,444	168,974	71,470
PDS Kerosene	TKL	9,123	39,843	7,983	31,860
Domestic LPG cylinders	Million	783.2	49,686	30,460	19,226
Total			**418,360***	**295,349**	**123,212***

Note: * Includes the effect of the concessional higher refinery gate price for refineries located in the North East. This is not included the component-wise totals for different refined products

There is an existing Union Budget (7008/2009) provision of Rs. 2,700 crore for PDS kerosene and domestic LPG. Taking that out reduces the uncovered financial shortfall to Rs. 120,512 crore.

The Special Oil Tax described in Chapter VIII previously has been estimated on the basis of expected production in 2008/09. These expected production volumes are 32.66 million tonnes for ONGC ad OIL and 6.26 million tonnes for pre-NELP private and joint venture operations. On these volumes and the rate

(and rebate) described previously, the likely collection is estimated to be Rs. 59,890 crore. This will comprise of Rs. 55,627 crore from ONGC & OIL and Rs. 4,264 crore from the other crude oil producers.

In addition, a contribution of Rs. 500 crore is assessed for GAIL on account of the LPG that it produces from the natural gas that is made available to it at the controlled price.

This leaves an uncovered net shortfall of Rs. 68.122 crore, to be met out of the issue of special Oil Bonds by Government.

There is the question of the treatment of the residual financial support, to be met from issue of Oil Bonds which the OMC can cash after consultations on an agreed timeframe. These Oil Bonds are presently treated as below the line in the accounts of the Government. There has been criticism of inter-generational inequity in the passing on of the financial shortcomings of our generation to future ones who will have to find the resources to pay down these bonds. Under the NELP scheme, Government stands to gain from the so-called "profit" or "revenue" petroleum and natural gas which will typically accrue to government towards the second half of the productive life of the oil or gas field.

The development of these oil and gas fields thus creates a future stream of receivables for Government. These streams must be earmarked for paying down the Oil Bonds that have already been issued to date and any future issuance of Oil Bonds. In that sense, the Oil Bonds thus represent the net present value (NPV) of the future "profit" oil and gas that would accrue to Government. Since the Oil Bonds have and will continue to be issued, thereby creating the liability, the counterpart asset needs to be identified and secured. Otherwise, the "profit" or "revenue" oil and gas streams may be used for some other purpose and the pay out of the Oil Bonds will have to met out of general tax revenues.

It may be noticed that the OMCs are not being expected here to make a separate "contribution". They are simply expected to carry on their commercial operations under competitive price and cost conditions and earn a competitive profit in the process. The extra effort that they are expected to make is one that is in their own interest. That is the initiative to set in motion the process of close supervision of the scheme of limited access to subsidised domestic LPG, issuance of smart cards for urban kerosene PDS customers, plugging the diversion of LPG and PDS kerosene, and helping out with the solar lantern programme if they find a useful area to facilitate the process.

The financial position has been simulated for 2009/10, or rather for the second 12-month leg of the planning horizon which is closer to being July 2009 to July 2010. Sales volumes have been projected on the basis of growth from 2008/09 levels, except for SKO which has been maintained at the same level.

World prices are assumed at the same level as in June 2008.

The outstanding adjustments in price and LPG entitlements entailed in our recommendations have been carried forward into the second 12-month leg of adjustment.

The simulation shows that on the basis of revisions completed at the end of the first 12-month leg of adjustments, the shortfall would amount to about Rs. 125,000 crore. The completion of adjustments recommended for the second 12-month leg would bring down this amount to Rs. 63,000 crore, which could be fully met from the combination of Special tax ocn crude oil produced and the Budgetary provisions on account of PDS kerosene and domestic LPG.

At the conclusion of the second 12-month leg of adjustment, the price adjustment for automotive fuels would be virtually completed. MS would have been fully adjusted by March 2009 and HSD under the present scheme would take at most two months beyond the second leg of 12-months for complete adjustment. That is, the retail selling prices of automotive fuel would have been adequately reformed to no longer require support for either a tax on domestic crude oil producers or issue of Oil Bonds.

The only subsidy element that would be left after the recommended package of adjustments is completed is those for BPL families for domestic LPG and SKO.

It is urged upon Government to urgently push for the creation of adequate electricity generating & distribution capacities, expand sass transit and improve the infrastructure towards achieving higher energy efficiency outcomes.

A sizeable part of the diesel consumption is on account of captive generation by industry and large commercial establishments which is the result of lack of availability of grid power. It is of the greatest urgency that adequate grid power be made available such that the financial burden on these users is reduced and the overall consumption of diesel is moderated.

The emergence of competition and choice in the refined petroleum product market is in the vital interest of the consumer. The price and other reforms recommended in this report is designed to kick in the prospect of other companies to enter the product market in the not top distant future, earlier in the case of motor spirit and later for diesel. The pricing principle also pares the price build-up to the most competitive basis, namely the fob India export price basis. It extends a renewable choice for rural families in the form of solar lanterns, and targeted subsidy to the urban poor. Perhaps most importantly, by placing the oil refining and marketing business on a sustainable financial position the set of recommendation in this report ensures the continuation of normal operations and that is in the vital interest of every citizen of this country.

It is imperative to have an on-going policy and implementation for a larger integrated energy policy framework that maximise contributions from f renewable sources, an accelerated nuclear power programme, electric propelled transportation solutions as opposed hydrocarbon fuelled ones, and factors in the pressing concerns of climate change arising from greenhouse emissions.

XII. Summary of Recommendations

Fixation of Refinery Gate Price

The Committee recommends that the refinery gate price of motor spirit, high speed diesel, PDS kerosene and domestic LPG be based on the fob export prices. This will be determined on the basis of the monthly average obtained from similar quality available price quotes from Singapore, Arab Gulf, North West Europe and US eastern seaboard deliveries. This will be applicable for all refineries, except for this in the North East for which a concessional treatment has been provided.

In computing the benchmark refinery gate price for automotive fuels, first the price for Bharat Stage (BS) II which accounts for the bulk of automotive fuel sold should be arrived at after making an adjustment on account of quality difference between the internationally quoted products as above and that of the BS II automotive fuel.

The price of BS III automotive fuels is derived from BS II prices using a prescribed premium. This premium has been based on a combination of quality premia

Fixation of Retail Prices

The distribution & marketing expenses (detailed in the report) and the applicable Union taxes and duties will be added to arrive at the retail selling price before State taxes & duties. These should be estimated separately for metro and other major cities.

In addition to capture the use of HSD by private cars and sports utility vehicles in metro and other specified cities a metro extra is proposed. This is to be implemented in a phased manner over the first few months of the adjustment process.

In order to compensate for the irrecoverable taxes, namely entry tax, octroi and CST over and above the refinery gate price, the refining company should be entitled collect the same from the OMC which in turn will recover this from the consumer of that State along with the other State taxes and duties.

It is recommended that the official price guidance be strictly restricted to the selling prices before State taxes and duties. The final retail selling price of the product will incorporate the applicable State taxes and duties as determined by the concerned State government.

The pricing mechanism recommended here is for the average of BS-II and BS-III destinations and it is expected that the OMCs will make the necessary adjustments for spec:5c cities keeping in mind economic and commercial considerations.

Duties on Refined Petroleum Products

The import duty on motor spirit and diesel should be reduced to zero, as has been done in the case of crude oil, domestic kerosene and LPG. It has been recommended that the excise duty on motor spirit be temporarily reduced to allow faster adaptation of the motor spirit price to reflect international price and cost conditions and then be restored by March 2009. No other changes in duties have been recommended.

By changing the pricing basis to export fob prices (and not trade parity or import parity) the refineries have been placed on a more challenging basis, where the protection that has been accorded to them by way of ocean freight and import duty has been taken away. It is appropriate in our view that the Indian refining industry, which has world-sized companies, be placed on par with the international refining business.

Price Adjustments for Automotive Fuels

A summary is provided at Table 9.2 in Chapter EX

Industrial use of HSD which accounts for about 10 per cent of the total consumption of the product should not be eligible for subsidy It is thus recommended that the sale of HSD to industrial and commercial users be done at market prices to be negotiated on commercial considerations.

In the case of other HSD users, in view of tic high international prices and the magnitude of the gap between these and the prevailing domestic prices, it is recommended that a phased price adjustment programme be carried out as described below.

The price of motor spirit, where the gap is relatively less, be adjusted to fully reflect international prices of crude oil and refined products by March 2009.

In the case of HSD, it is recommended that the adjustment be carried out in a phased manner over a period of 24 months.

Railways and State Road Transport Corporations account for 10 per cent of HSD consumption. It is suggested that the OMCs should negotiate with them for a more rapid price adjustment than envisaged for general transport consumers of HSD.

Once these price adjustments are completed. Government should disengage from the process of pricing of petroleum products, and allow pricing to be an outcome of a competitive market process.

Subsidy and Demand Management for SKO and domestic LPG

Fuel subsidies are only justified in the case of domestic petroleum fuels (SKO and LPG) supplied to BPL families. This subsidy should be delivered through Smart1Cards or cash transfer and not through supply of products much below their market prices. The latter encourages their diversion, resulting in both a loss to the exchequer and denial of availability to the targeted population. A scheme for the gradual replacement of the present system of providing PDS kerosene and subsidised domestic cooking gas is set out below.

In urban and semi-urban areas, BPL families who need kerosene be issued Smart Cards or receive the funds to be transferred through the banking/postal system for purchase of present ration card entitlement of SKO. The actual sale of the product should be done at market price and on unrestricted basis. Consequently, the allocations of SKO made to States should be reduced. The distribution system also needs to be modernised. This scheme should be extended to rural areas also subsequently, and only in the tribal and remote regions of the country should the presently prevailing system be continued.

For domestic LPG, the entitlement to subsidised supply should be reduced to 6 refills in a year. In the subsequent year this should be further reduced to 4 refills and ia the next two years to 2 and nil respectively. It is estimated that the average number of refills per household presently is 7.43. Households should be encouraged to subscribe to the piped City Gas network wherever available.

LPG subsidy for BPL families should, as in the case of SKO, be eventually provided directly through Smart Cards or cash transfer mechanism.

Special Oil Tax on Domestic Crude Oil Production

It has been recommended that a Special Oil Tax be levied on the domestic producers of crude oil on pre-NELP leases. This tax kicks in at $75 per barrel and the rate for revenues above that is 100 per cent in the case of ONGC and OIL where the Government had infused the initial capital and has otherwise supported the companies from their inception. In case of private companies and joint ventures who have entirely funded their E&P programme a rebate of 60 per cent may be extended; thus their effective rate will be 40 per cent of the revenue in excess of $75 per barrel.

This tax will be fully deductible for the purpose of assessment to income tax, any other taxes and royalty.

This tax is visualised as a purely temporary measure for financing the graduated adjustment of the selling price of automotive fuels, SKO and domestic LPG and is not visualised as a general revenue measure.

Once the adjustment of prices of automotive fuels is completed, the tax should be either be (i) annulled; or (ii) reset downwards to equal the fuel subsidies being made available only to BPL families for SKO and LPG under the revamped scheme where, with the exception of tribal and remote regions, (a) the disbursal of subsidy is through Smart Cards or direct bank transfer and (b) the actual sale of the product is at full market prices on an unrestricted basis.

Shortfall in the Course of Adjustment

It has been estimated that with the complete implementation of the " adjustments envisioned herein, the financial shortfall to be borne by the issue of Oil Bonds in (he first 12-month period will be Rs. 60,122 crore. ; If all recommendations are implemented and the prices of crude oil and of refined products do not rise further, there will not be any need for issue of Oil Bonds in the subsequent 12-month period.

Summary of the Report of the Committee on Pricing and Taxation of Petroleum Products, February, 2006

Government had constituted in October 2005, a Committee under the Chairmanship of Dr. C. Rangarajan, Chairman, Economic Advisory Council to Prime Minister to study pricing and taxation of petroleum products with a view to stabilising / rationalising prices, conserving petroleum products and establishing a transparent mechanism for autonomous price adjustments by the Oil Companies.

The decisions of the Committee were based on the following underlying principles:

i. Pricing and taxation should be rationalised in order to transmit the appropriate signals to minimise inefficiencies;

ii. Petroleum product prices should be, as far as possible, aligned to international prices;

iii. Subsidies should be minimal, targeted to Below Poverty Level (BPL) families and restrained to a monetary ceiling, and borne transparently in the Union Budget;

iv. The Effective Rate of Protection to refineries should be moderated through rationalisation of customs tariffs on crude and products to offset domestic disadvantages. Excise tariffs to be restructured in order to protect consumers from price volatility.

Based on the above principles, the Committee made the following recommendations:

Pricing of Motor Spirit and Diesel

a. Given the global context and our domestic refining capacity, wherein exports are of the order of 20 per cent of production of these products, a more appropriate pricing model for diesel and petrol will be the trade parity price which would be a weighted average of the import parity and export parity prices in the ratio of 80 to 20. This proportion is to be reviewed subsequently.

b. Government should keep itself at arm's length distance from actual price setting and should allow flexibility to oil companies to fix the retail price subject to the indicative ceiling so is to introduce an element of competition.

c. The effective protection to refineries ought to be reduced, and towards this end the customs duty on motor spirit and diesel to be reduced to 7.5 per cent; and

d. The principle of freight equalisation should be terminated, but since the price increase will be larger in remote and hilly areas the Government may wish to consider some other way of softening the impact of freight in these areas.

The above recommendations should be implemented as an integrated package as selective implementation will create more distortions.

Restructuring taxation on Motor Spirit and Diesel

The ad valorem levies exacerbate the burden on the consumer, and also result in the Government appearing to benefit through higher tax yields. There is thus, a need for both softening and smoothening of the impact on the consumers of variations in international prices. Accordingly, the current mix of specific and ad valorem levies should be replaced by a pure specific levy calibrated 5.00 per litre of diesel and Rs 14.75 per litre of motor spirit.

Subsidy on domestic LPG and PDS Kerosene

i. Subsidised kerosene should be restricted for distribution to BPL famililies only. This will reduce the quantity of PDS kerosene going through the subsidised route by about 40 per cent from the present level.

ii. The price of domestic LPG should be raised by Rs 75 per (14.2 kg) cylinder in one go and gradual increases should be made thereafter so that the retail price adjusts completely to the market level and the subsidy is eliminated altogether.

iii. The practice of asking ONGC, OIL and GAIL to provide upstream assistance should be discontinued. Instead, their contribution may be collected by increasing the OIDB Cess from the present level of Rs 1,800 per tonne to Rs. 4,800 per tonne. (The level of Cess was increased to Rs 2,500 per tonne with effect from March 1,2006.)

iv. The entire cost of subsidy should be met from the Budget.

This set of recommendations also to be implemented as an integrated package as partial implementation will not yield sustainable results.

Computation of International Reference Price

Gasoline / Motor Spirit

	1 US $ - Rs. 42.25	**Origin**		**Unit**	**Average of Daily Quotes**	**UN cents/litre**	**Rs per litre**
1	Prem. Unl. 95 RON	Arab Gulf	Ex Jebel Ali	US$/Bbl	136.61	85.92	36.30
2	Gasoline Unleaded	NWE FOB	Cargo	US$/T	1,125.68	83.29	35.19
3	Gasoline Unleaded	USG	Waterborne	US cents/Gal	334.26	88.30	37.31
4	Gasoline Unleaded	USG	Pipeline	US cents/Gal	333.16	88.01	37.18
5	Gasoline Unleaded	NWE FOB	Barge	US$/T	1,144.03	84.65	35.76
6	Prem. 92 RON	Singapore		US$/Bbl	138.78	87.28	36.88
7	Conventional Gasoline	NY Harbour		US cents / gal	329.22	86.97	36.75
8	Conventional Gasoline	US Gulf Coast		US cents / gal	328.39	86.75	36.65
	Average of above 8 Quotes					86.40	36.50

Automotive Diesel or HSD

	1 US $ = Rs. 42.25	Origin		Unit	Average of Daily Quotes	US cents /litre	Rs per litre
1	GO 0.2% S	NWEFOB	Cargo	US$/T	1,188.75	100.35	42.40
2	GO 0.25% S	Sing FOB		US$/Bbl	168.62	106.05	44.81
3	Gasoil S 0.05%	AG FOB	Cargo	US$/Bbl	166.14	104.49	44.15
4	Gasoil S 0.05%	Singapore		US$/Bbl	169.36	106.52	45.00
5	GO 50ppm	Singapore FOB	Cargoes	US$/Bbl	170.10	106.98	45.20
6	ULSD 50	NWE FOB	Cargo	US$/T	1,246.98	105.27	44.48
7	GO 0.2% S	NWE FOB	Barge	US$/T	1,215.44	102.61	13.35
8	GO 0.2% S	NWE FOB	Cargo	US$/T	1,188.75	100.35	42.40
9	Gas Oil 50 ppm (low S)	NY Harbour		US cents / gal	386.33	102.06	43.12
10	Heating Oil No 2	NY Harbour		US cents/gal	380.07	100.40	42.42
11	Gas Oil 50 ppm (low S)	US Gulf Coast		US cents / gal	382.19	100.96	42.66
12	Heating Oil No 2	US Gulf Coast		US cents / gal	377.75	99.79	42.16
13	ULSD 15 ppm S	NY Harbour	Cargo	US cents / gal	386.93	102.22	43.19
14	ULSD 15 ppm S	US Boston	Cargo	US cents / gal	389.43	102.88	43.47
		Average of above 14 Quotes				**102.92**	**43.49**

Kerosene /Jet Fuel / Aviation Turbine Fuel

	1 US $ - Rs. 42.25	Origin		Unit	Average of Daily Quotes	US cents / litre	Rs per litre
1	Jet/Kero	NWE FOB	Barge	US$/T	1,320.54	106.48	44.99
2	Jet Gd54	USG	Water borne	US cents / Gal	388.69	102.68	43.18
3	Jet Gd54	USG	Pipeline	US cents /Gal	187.44	102.35	43.24
4	Jet Gd55	USG	Waterborne	US cents / Gal	388.97	102.76	43.41
5	Jet Gd55	USG	Pipeline	US cents / Gal	387.72	102.43	43.27
6	Jet/Kero	NWE FOB	Cargo	US$/T	1,309.90	105.62	44.62
7	Jet kero	Singapore		US$/Bbl	164.88	103.70	43.81

8	Jet kero	Arab Gulf		US$/Bbl	160.45	100.91	42.64
	Average of above 8 Quotes					**103.36**	**43.67**

Liquefied Petroleum Gas (LPG) for Domestic Cooking Cylinders

	Ratio	**Unit**	**Arab Gulf fob**	**fob N.W.E.**	**Mont Belviueu Texas**	**Saudi Aramco**	**Average**
Propane	40%	US$ / tonne	872.33	955.83	946.27	895.00	917.36
Butane	60%	US$ / tonne	897.33	902.74	993.91	920.00	928.50
LPG Price average of 4 quotes in US$ per tonne							**924.04**
Equivalent in Rs / Kg							39.04
Rs /cylinder of 14.2 Kg each							554.38
Add Distribution and Marketing Expenses per 14.2 Kg cylinder							80.00
Total NSR per 14.2 Kg LPG Cylinder delivered							**634.38**

Computation of Net Sales Realisation at Different Locations

	MS	**BSD**	**Kerosene**	**LPG**
	Rs per litre			**Rs/cylinder**
Refinery Gate Price	36.50	43.49	43.67	554.38
Adj for BS II / SKO	-0.50	-100	-3.00	
Refinery Gate Price	36.00	42.49	40.67	554.38
BS II Pricing				
Mkt & Distbn Cost	3.25	3.00	3.00	80.00
Recommended NSR	39.25	45.49	43.67	634.38
Union excise duty	13.35	3.60		
Education Cess @ 3%	0.40	0.11		
Central taxes	13.75	3.71	0.00	0.00
Price before State taxes	53.00	49.20	43.67	634.38
Existing NSR	28.35	2720	8.75	329.99
Recommended increase in NSR	10.90	18.30	0.00	0.00
Existing Excise Duties	13.75	3.71	0.00	0.00
BS III Pricing				
Adjustment for BS III quality	0.50	0.50		
Refinery Gate Price	36.50	42.99	40.67	554.38
Metro Extra	0.00	2.00		
Mkt & Distbn Cost	3.25	3.00	3.00	80.00
Recommended NSR	39.75	47.99	43.67	634.38
Union excise duty	13.35	3.60		

Education Cess @ 3%	0.40	0.11		
Central axes	13.75	3.71	0.00	0.00
Price before State taxes	53.50	51.70	43.67	634.38
Existing NSR	28.47	27.09	8.75	329.99
Recommended increase in NSR	11.28	20.90	0.00	0.00
Existing Excise Duties	13.75	3.71	0.00	0.00

Existing Net Sales Realisation at Different Locations

	MS	HSD	Kerosene	LPG
	Rs per litre			Rs/cylinder
BS HI Metro Cities *				
Mumbai	28.22	26.88	8.71	332.01
Delhi	28.43	27.03	8.74	332.95
Chennai	28.06	26.86	8.56	320.31
Kolkata	28.47	26.99	8.99	334.70
Bangalore	28.88	27.30		
Hyderabad	28.80	27.55		
Gandhinagar / Ahmedabad	28.42	27.02		
Average of above	**28.47**	**27.09**	**8.75**	**329.99**
BS H Cities				
Chandigarh	28.25	27.11		
Jaipur	28.25	27.12		
Lucknow	28.72	27.26		
Bhopal	28.31	27.28		
Patna	28.29	27.06		
Ranchi	28.40	27.29		
Bhubaneshwar	28.57	27.36		
Trivandrum	28.04	27.08		
Average of above	**28.35**	**27.20**		

Note: * In addition to these cities, BS-III fuel is required to be dispensed to Agra, Pune and Surat and the cities included in the National Capital Territory