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INDIA ENERGY SUBSIDY REVIEW

A biannual survey of energy subsidy policies

Highlights

- In fiscal year 2013-14, the Government of India and associated public sector enterprises spent Rs. 142,471 crore (USD $23.4bn) subsidizing the retail prices of diesel, Liquefied Petroleum Gas (LPG) and kerosene. The Ministry of Finance projects total under-recoveries of approximately Rs. 80,000 crore (USD $13.1bn) in FY 2014-15.
- The UPA government's policy of incrementally increasing the retail price of diesel was continued by the newly-elected NDA administration, and as of September 2014 diesel under-recoveries had been completely removed. On 18th October 2014 the government announced the formal decontrol of diesel prices with immediate effect, with the publicly-owned Oil Marketing Companies (OMCs) reducing retail diesel prices by Rs. 3.37 per litre.
- Following the introduction of an initial cap on the consumption of subsidized LPG of six cylinders per household in January 2013, the UPA government subsequently increased the quota to the current level of 12 cylinders per household in January 2014, which the new administration has not altered. In October 2014 the government announced its intention to fix the total subsidy per cylinder, and reintroduce the Direct Benefit Transfer for LPG (DBTL) scheme previously adopted (and then suspended) by the UPA. In November 2014 it was reported that the per-cylinder subsidy would be fixed at Rs. 568 from March 2015.
- The reduction in Public Distribution System (PDS) kerosene consumption has continued into 2014, with the NDA government retaining the UPA administration's policy of progressively restricting total supply.
- The UPA government's decision to revise the price of natural gas prices on the basis of the Rangarajan Committee's recommendation, initially intended to take effect in April 2014, was stayed by the Election Commission (EC) for the period of the parliamentary elections. Following two further postponements of the decision by the new NDA administration, in October 2014 the government announced an increase in the price of gas on the basis of a modified version of the Rangarajan pricing formula, rising from USD $4.2 per million BTU to USD $5.61 per million BTU with effect from 1st November 2014.

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Introduction

India currently provides consumption subsidies for a range of petroleum products. In fiscal year 2013-14, the Government of India and associated public sector enterprises incurred total costs of Rs. 142,471 crore[1] (USD $23.4bn) subsidizing the retail prices of diesel, Liquefied Petroleum Gas (LPG) and kerosene.

The negative social and environmental impacts of fossil-fuel subsidies are widely acknowledged. By distorting price signals, petroleum product subsidies artificially inflate demand, leading to increased consumption and associated emissions of greenhouse gases and other pollutants. They dis-incentivize improvements in energy efficiency and the development of cleaner energy services, and contribute to fuel adulteration and trafficking. Fuel subsidies are also typically socially regressive, and carry a significant social and economic opportunity cost by displacing more effective social and infrastructural investment.

This is the second edition of the India Fossil-Fuel Subsidy Review, a biannual publication of the International Institute for Sustainable Development's (IISD) Global Subsidies Initiative.

Part One of each edition outlines economic and policy developments affecting key fuels (diesel, liquefied petroleum gas, kerosene and natural gas), and analyzes the dynamics of each market. Part Two features analysis by guest authors on issues related to energy subsidy policy reform. In this edition, articles examine potential reform paths for India's LPG subsidy system, and lessons from a pilot program for electronic transfer of kerosene subsidies.

Part One: Recent trends in fossil-fuel pricing policy

(a) Summary of recent policy developments

Diesel:

In the first two quarters of fiscal year 2014-15, publicly-owned Oil Marketing Companies (OMCs) continued the policy of implementing gradual monthly increases in retail diesel prices introduced by the UPA government in January 2013[2]. Following the temporary suspension of scheduled rate increases during the parliamentary elections, the OMCs implemented the delayed rises in mid-May[3], with the incoming NDA administration confirming its intention to continue the policy[4]. Scheduled price increases were then implemented on 1st June, 1st July, 1st August and 31st August, leading (in conjunction with a period of exchange rate stability and falling oil prices) to the effective cessation of diesel consumption subsidies by September 2014. On 18th October 2014 the government announced the formal decontrol of diesel prices with immediate effect[5], with OMCs reducing retail diesel prices by Rs. 3.37 per litre[6].

LPG:

In fiscal year 2014-15 (to date) there have been no significant increases in the retail price of subsidized LPG[7]. The NDA administration has retained the previous UPA government's January 2014 decision to increase the annual per household cylinder quota from 9 to 12 per household. In addition, on 27th August 2014 the new administration announced the removal of the separate monthly restriction on cylinder release of one per month, and proposed the reintroduction of the Direct Benefit Transfer for LPG (DBTL) scheme previously adopted (and subsequently suspended) by the UPA in January 2014[8]. On 18th October 2014 the government announced its intention to fix the total subsidy per cylinder, and reintroduce the DBTL scheme in two phases commencing in November 2014[9]. On 10th November 2014 it was reported that the per-cylinder subsidy would be fixed at Rs 568 from March 2015[10] – an amount Rs 163.36 above the average per cylinder under-recovery recorded in early October 2014[11].

Kerosene:

In fiscal year 2014-15 (to date) there have been no increases in the retail price of PDS kerosene. The NDA government has thus far retained the previous administration's policy of progressively reducing total PDS kerosene allocations. In addition, the new government is reportedly considering the phased adoption of the Direct Benefit Transfer for kerosene (DBTK) scheme previously piloted (but not adopted) by the UPA[12].

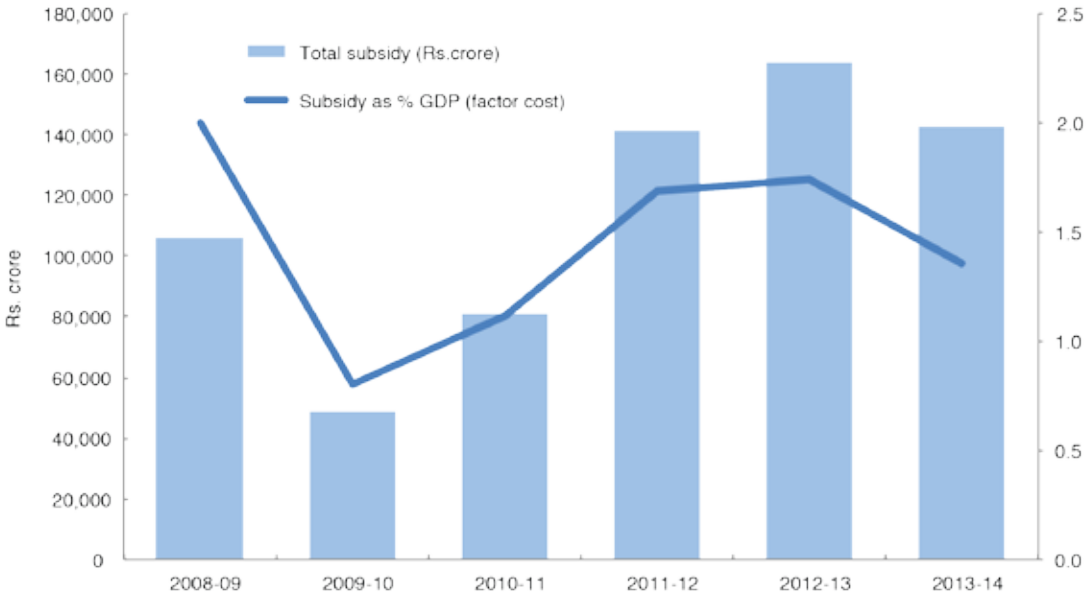
Natural gas:

In June 2013 the UPA administration announced its intention to revise the price of natural gas supplied under the Administered Price Mechanism (APM), with the potential to significantly affect input prices in key sectors and increase related power and fertilizer subsidy outlays[13]. The scheduled revision to gas prices on the basis of the Rangarajan Committee's recommended formula, notified in January 2014 and initially intended to take effect in April 2014, was stayed by the Election Commission (EC) for the period of the parliamentary elections[14]. On June 25th the new NDA administration then announced its intention to postpone a final decision on price revision for a period of three months with the stated aim of allowing consultations with key stakeholders[15]. On 24th September the government then announced a further postponement of the decision to 15th November 2014[16]. On 18th October 2014 the government announced an increase in the price of gas supplied under the APM on the basis of a modified version of the Rangarajan formula, rising from USD $4.2 per million BTU to USD $5.61 per million BTU[17] with effect from 1st November 2014 until 31st March 2015, with future price rises to be implemented on a bi-annual basis[18].

(b) Overview of current fuel subsidy expenditure

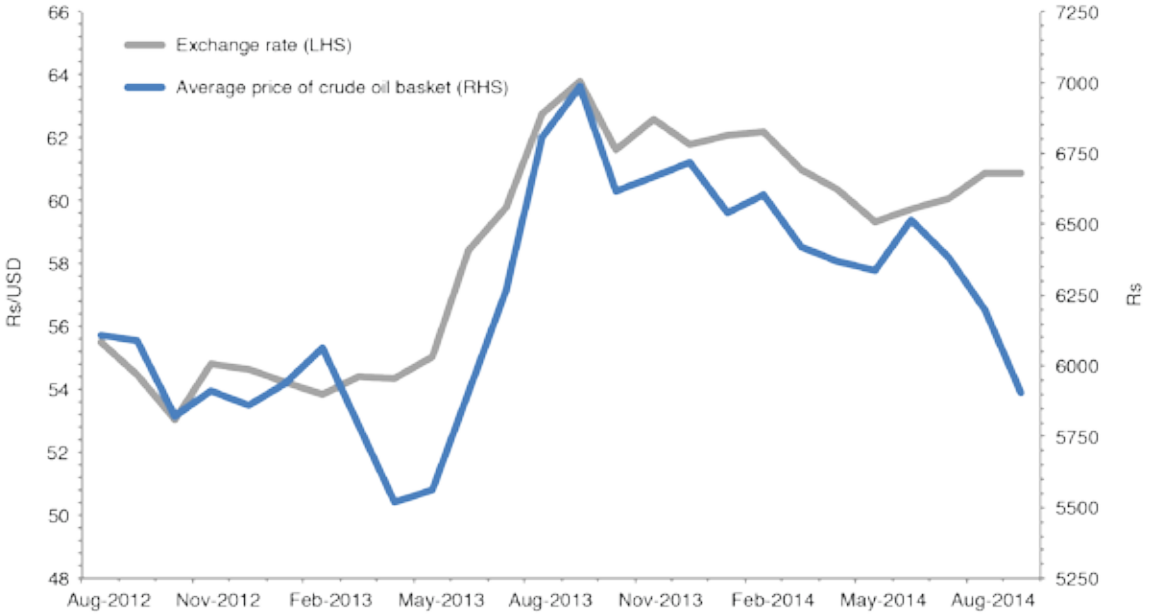
In fiscal year 2013-14, total fuel subsidy expenditure on diesel, LPG and kerosene fell from the record high of Rs. 163,759 crore (USD $26.9bn) - or 1.74% of GDP - in 2012-13 to Rs. 142,470 crore (USD $23.4bn) (1.36% of GDP)[19] (Figure 1). Driven by falling crude oil prices (see Figure 2), a stabilisation in the value of the domestic currency, and successful diesel price reform, total under-recoveries (the principal component of total subsidy expenditure) for FY 2014/15 are projected to decrease to approximately Rs. 80,000 crore[20].

Figure 1: Total diesel, LPG and kerosene subsidy / subsidy as % of GDP (2008/09-2013/14)



Source: Reserve Bank of India (RBI) (2014), MoPNG (2014b; 2014c)

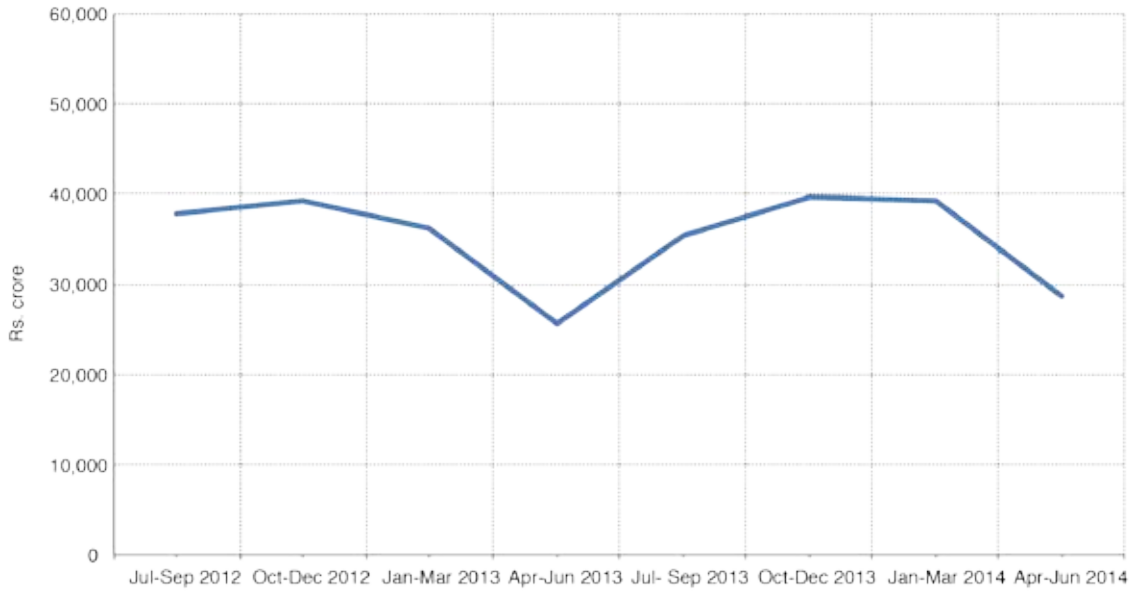
Figure 2: INR/USD exchange rate and price of crude oil basket (August 2012-Sept 2014)



Source: Bank of England (n.d.), MoPNG (2014e; 2014k)

Retail prices of designated fuel products are currently subsidized through two mechanisms: (OMC) 'under-recoveries', and direct fiscal subsidies. The central government regulates the price at which the publicly-owned sector OMCs - Oil Corporation Limited (IOCL), Bharat Petroleum Corporation Limited (BPCL) and Hindustan Petroleum Corporation Limited (HPCL) - can sell certain petroleum products, leading to 'under-recoveries' (representing the difference between the cost price incurred by the companies and the price realized upon sale to the final consumer). These applied to all three subsidized fuel products in FY 2013/14, and constituted the large majority of total subsidies (accounting for over 98% of total expenditure). Direct fiscal subsidies are direct budgetary expenditures applied on a fixed unit basis, and apply only to PDS kerosene and domestic LPG.

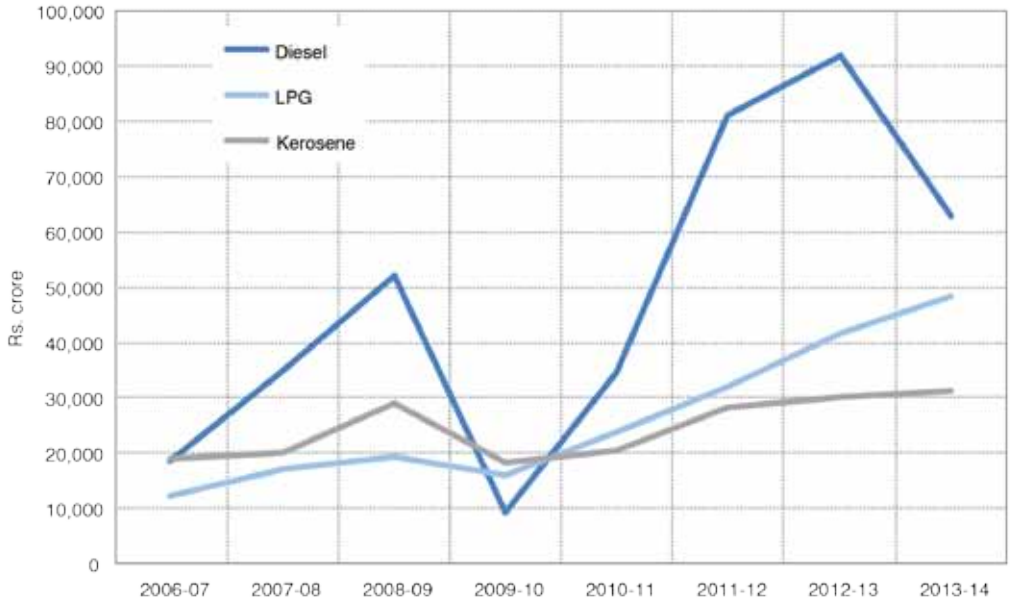
Figure 3: Under-recovery, total and by fuel (2012/13 and 2013/14)



Source: MoPNG (2014b; 2014i)

Diesel subsidies, which constituted the single largest component of fuel subsidy expenditure in six of the last eight years (Figure 4), decreased to Rs. 62,837 crore (USD $10.3bn) in FY 2013-14 from their record high of Rs. 92,061 crore (USD $15.1bn) in FY 2012-13. As a result of ongoing diesel price reform and an increase in the per household cylinder quota in January 2014, in the last quarter of FY 2013-14 (January-March) LPG under-recoveries exceeded diesel under-recoveries, with the gap increasing in the first quarter of FY 2014-15 (Figure 5). Diesel under-recoveries[21] continued to fall throughout Q2 FY 2014-15 (July-September), with the OMCs recording net profits on the sale of diesel from mid-September onwards prior to the formal decontrol of diesel prices on 18th October.

Figure 4: Total subsidy by product (2005/06-2013/14)



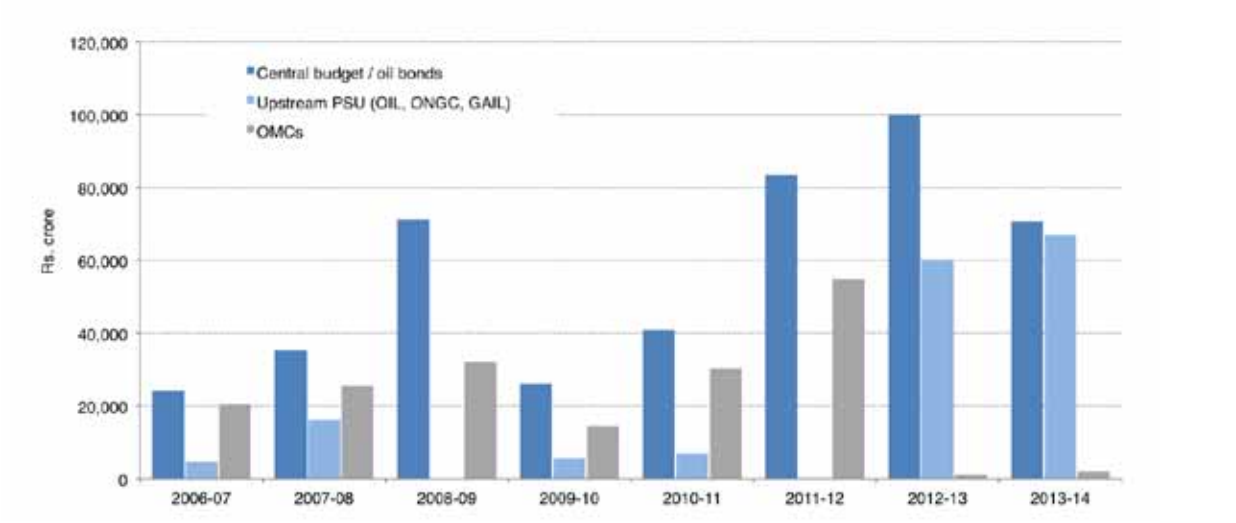
Source: MoPNG (2014b)

Figure 5: Total under-recovery by product (July 2012-June 2014)[22]

Source: MoPNG (2014b; 2014i)

Subsequent to the realization of product under-recoveries by the OMCs, the government distributes the total subsidy cost between the exchequer (through direct budgetary transfers to the companies, and, prior to 2009/10, through the issue of government-backed oil bonds), the OMCs, and the main upstream and midstream Public Sector Undertakings (PSUs)[23]. In fiscal year 2013-14, the UPA government continued the practice adopted in FY 2012-13 of dividing the cost of under-recoveries almost entirely between the government budget (Rs. 70,772 crore, representing 50.6% of total under-recoveries) and the balance sheets of the upstream and midstream PSUs (Rs. 67,021 crore, or 47.9% of total under-recoveries) (Figure 6).

Figure 6: Distribution of under-recoveries (2006/07-2013/14)

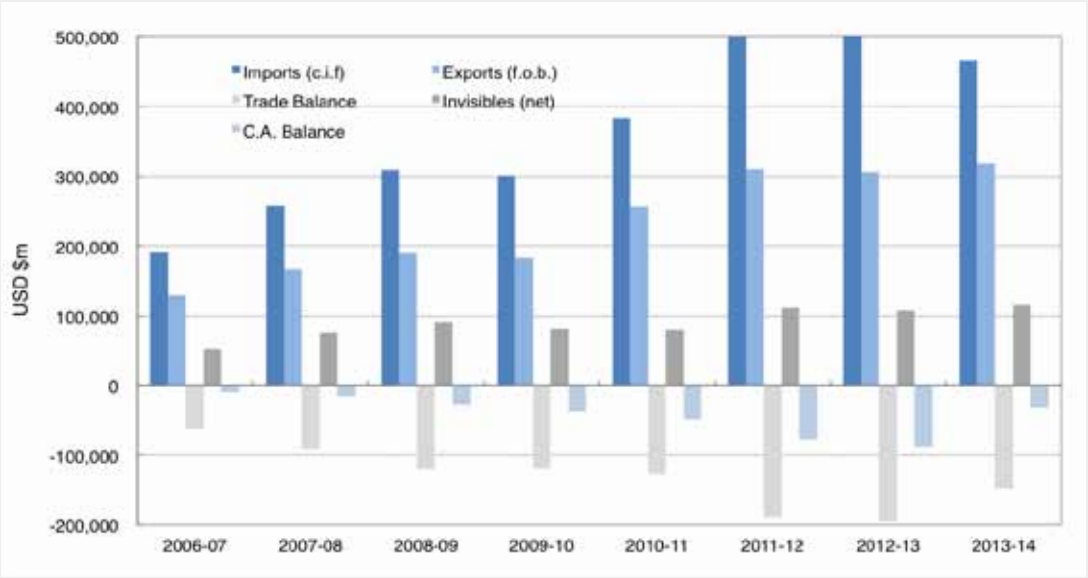


Source: MoPNG (2014n), GoI (2013; 2014)

BOX 1: External sector

In fiscal year 2013-14 India's current account deficit declined significantly to USD $32.4bn from a previous record high of USD $88.2bn in FY 2012/13 (see Figure 7), driven primarily by a substantial reduction in the value of imports (due in part to restrictions on gold imports), and a rise in the value of merchandise exports[24].

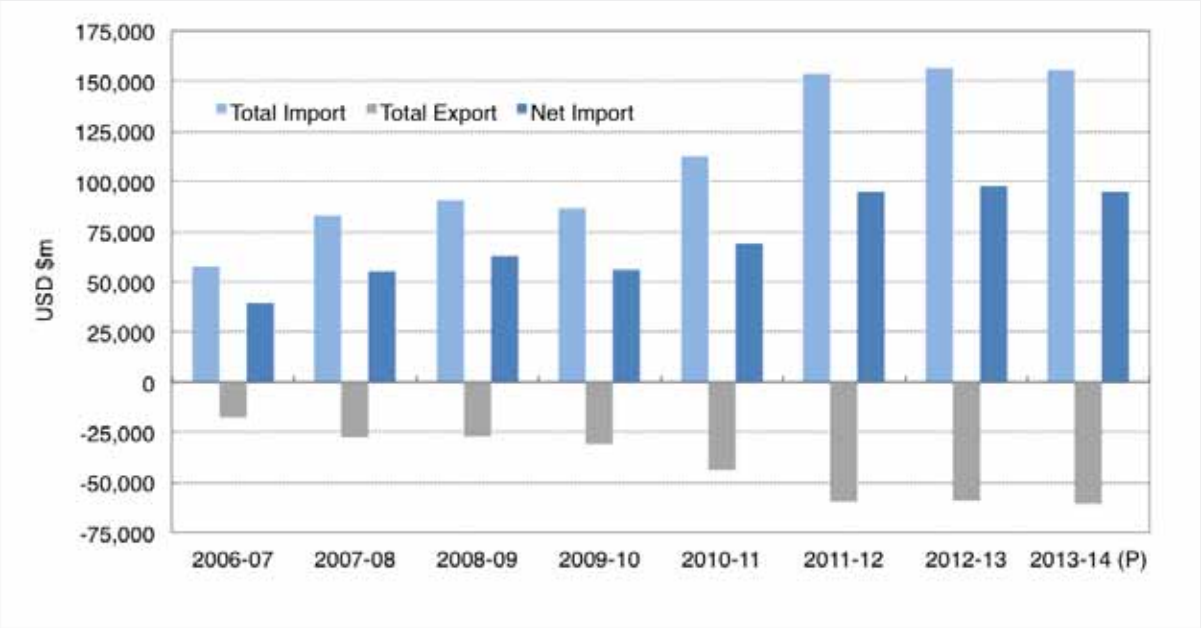
Figure 7: Imports, Exports, Trade Balance, Net Invisibles and Current Account Balance (2006/07-2013/14)



Source: RBI (2014)

The petroleum trade balance remained largely unchanged from the preceding two years, with total imports by value falling by 1% to USD $155.2bn (having previously expanded from USD $86.6bn to USD $153.9bn between FY 2009-10 and FY 2011-12 - an increase of 77.8%)[25]. Petroleum exports (consisting entirely of refined products) increased by 3.1% compared to FY 2012-13, resulting in a 3.5% reduction in net imports (from USD $98bn to USD $94.6bn) (see Figure 8). Crude imports continued to constitute the large majority of total imports, accounting for 92% by volume and value in FY 2013-14[26].

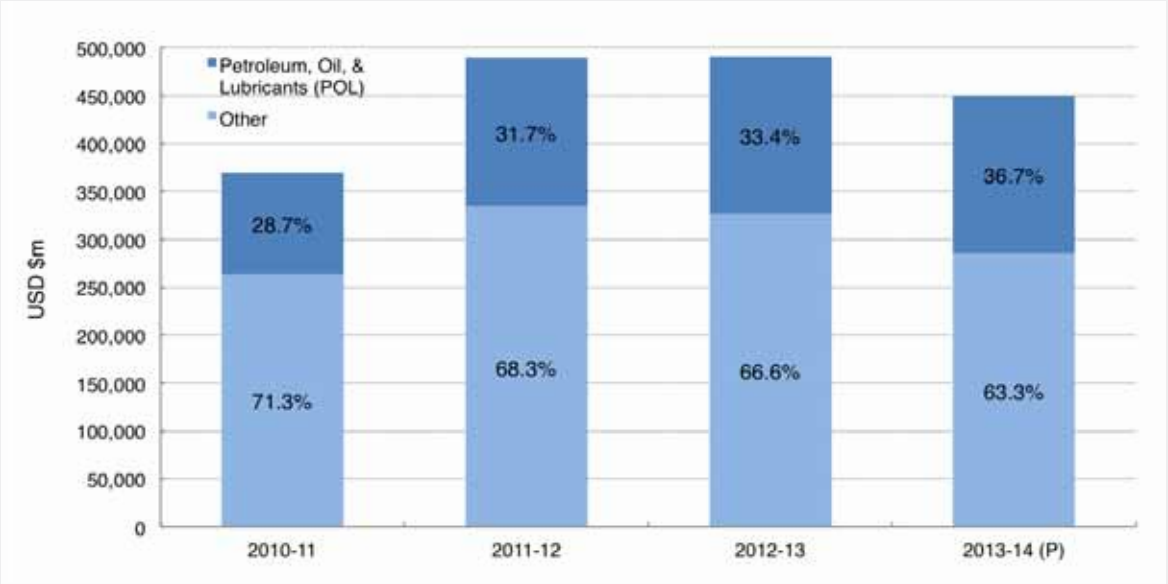
Figure 8: Petroleum trade balance (2006/07-2013/14)[27]



Source: MoPNG (2014f)

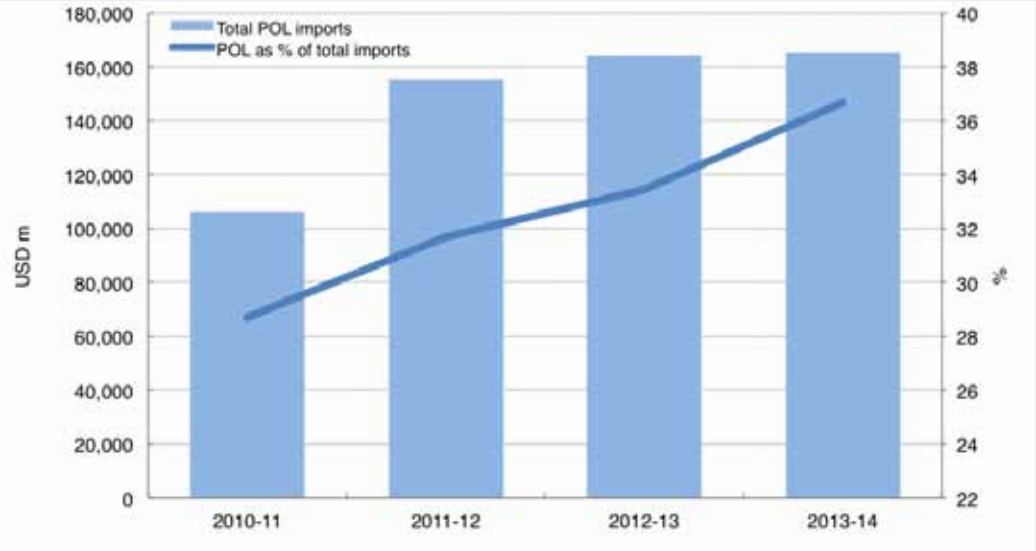
India's oil consumption remains highly import-dependent, with imports (predominantly crude) representing 77.6% of total consumption in FY 2013-14 (it was 77% in FY 2012/13 and 75.9% in FY 2011/12)[28]. The share of oil and petroleum imports in total imports has increased significantly in the previous four years, rising from 27.7% in FY 2010-11 (USD $105bn, within total imports of USD $369.8bn) to 36.7% in FY 2013-14 (USD $165.2bn, within total imports of USD $450.1bn) (see Figures 9 and 10).

Figure 9: Oil and petroleum product imports within total imports (2010/11-2013/14)



Source: RBI (2014)

Figure 10: Total POL imports / POL as % of total imports (2010/11-2013/14)

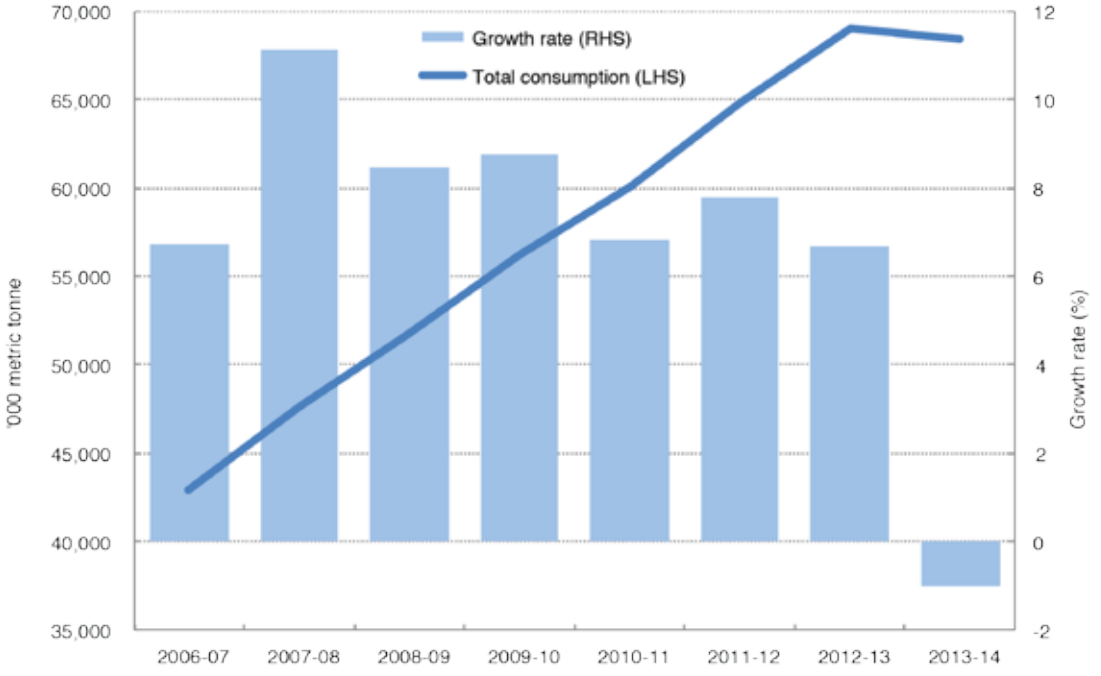


Source: RBI (2014)

Diesel

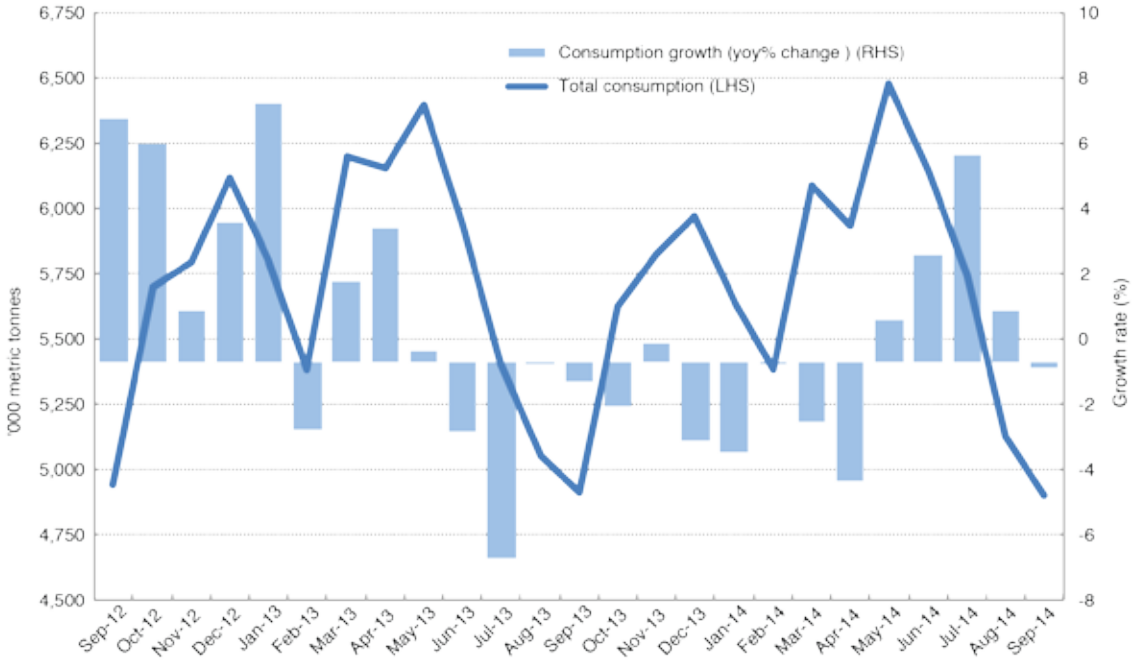
Diesel is used in a wide range of sectors including transport, agriculture and power generation, and is principally supplied through retail outlets operated by the three public-sector OMCs. After a decade of consistent year-on-year growth, total diesel consumption recorded a full year decline of 1% in FY 2013-14 (Figure 11). Following 12 months of static or negative monthly growth in FY 2013-14, diesel consumption registered positive monthly (year-on-year) growth from May to August 2014[29], before declining marginally in September 2014 (Figure 12).

Figure 11: Annual diesel consumption (2006/07-2013/14)



Source: MoPNG (2014a)

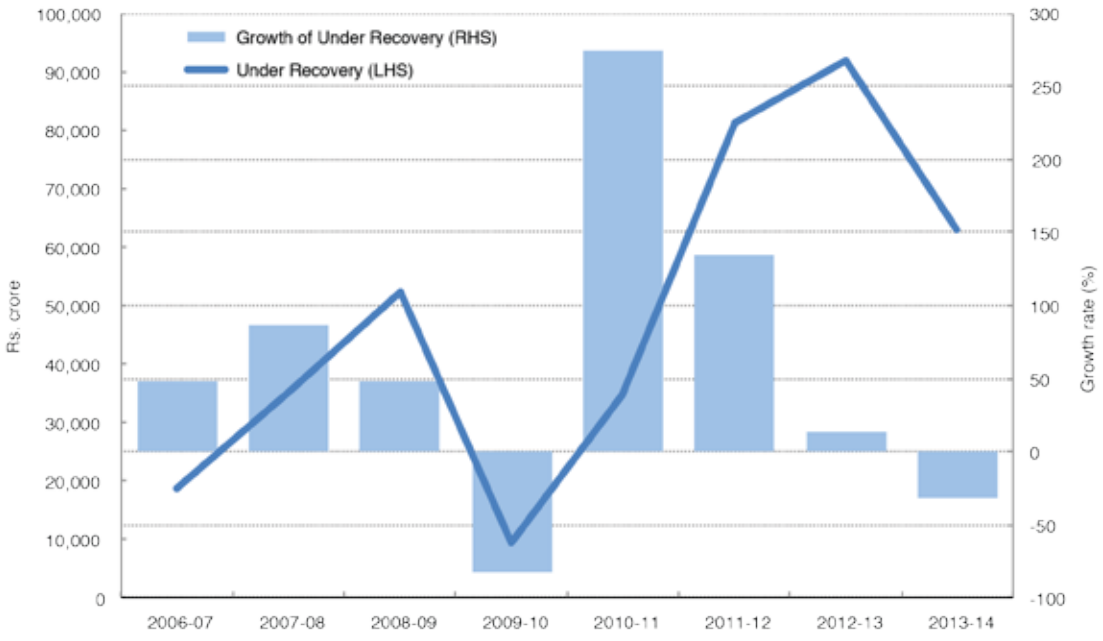
Figure 12: Monthly diesel consumption (Sept 2012-Sept 2014)



Source: MoPNG (2014a; 2014h)

As a result of price reform measures, a strengthening domestic currency and falling international oil prices, quarterly diesel under-recoveries (both in absolute terms and as a share of total product under-recoveries) declined rapidly in the first half of 2014, decreasing from Rs. 15,182 crore in Q4 FY 2013-14 (January-March) to Rs. 9,037 crore in Q1 FY 2014-15 (April-June) (see Figure 13). Following the further scheduled monthly price rises implemented in July and at the beginning and end of August - and coinciding with a period of continued exchange rate stability and oil price weakness - unit under-recoveries on diesel had been completely removed by September (with OMCs recording net profits on the sale of diesel from mid-September onwards). On 18th October 2014 the government then announced the formal decontrol of diesel prices, allowing the OMCs to price diesel on a cost-recovery basis[30].

Figure 13: Diesel under-recovery (2006/07-2013/14)



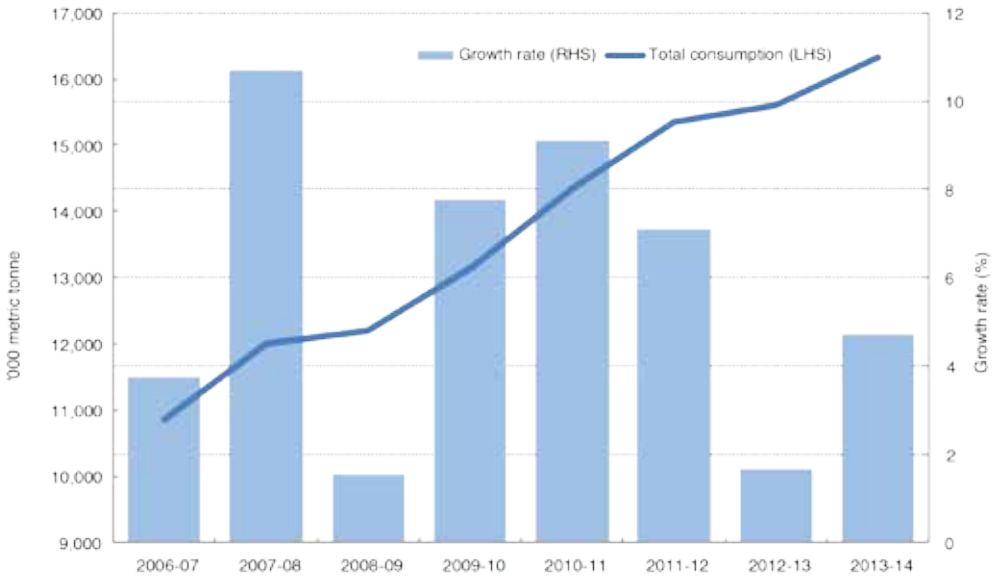
Source: MoPNG (2014b)

LPG

LPG is primarily used for residential cooking, with additional uses for residential heating, commercial cooking and heating, transport and industrial processes. Direct purchase of LPG cylinders in the formal sector requires possession of a registered LPG connection at an LPG dealership supplied by one of the three public sector OMCs. For household use, LPG is largely supplied in 14.2 kg cylinders, and is sold at both domestic (subsidized) and commercial (non-subsidized) rates.

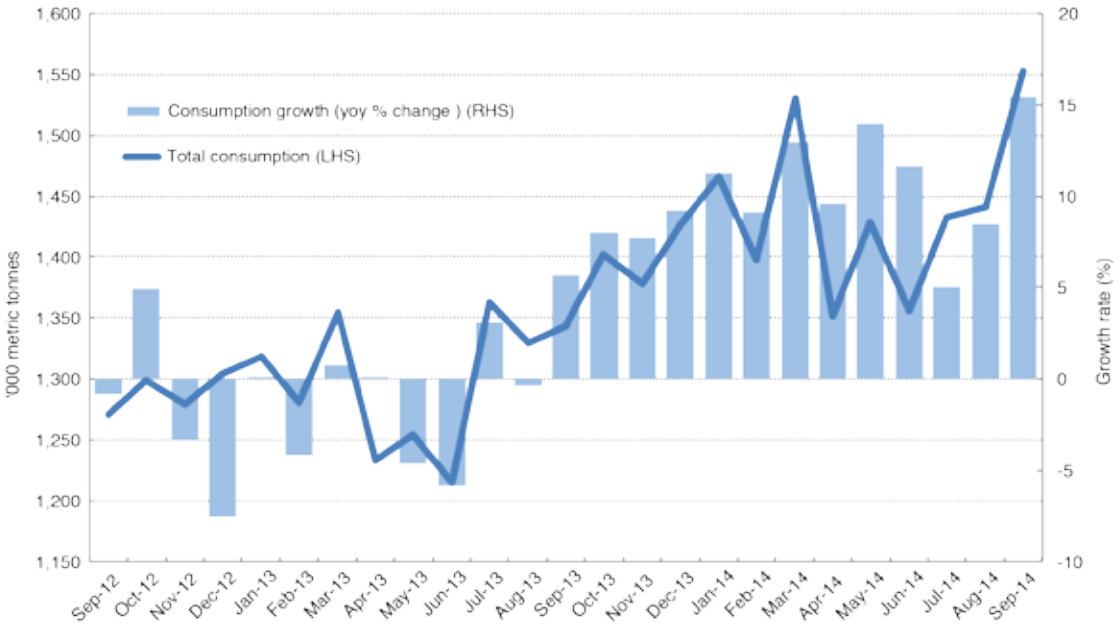
Total LPG consumption has increased substantially in the previous decade, rising from 10.85 million metric tonnes (MMT) in FY 2006-07 to 16.33 MMT in FY 2013-14 - an increase of 50% (Figure 14). Total monthly LPG consumption has increased rapidly on a year-on-year basis from September 2013 onwards - with an average (year-on-year) monthly increase of 9.9% between September 2013 and September 2014 (Figure 15) - reflecting the impact of increases in the per-household subsidized cylinder quota (and associated base effect), and the continued addition of new connections[31].

Figure 14: Annual LPG consumption (2006/07-2013/14)



Source: MoPNG (2014a; 2014h)

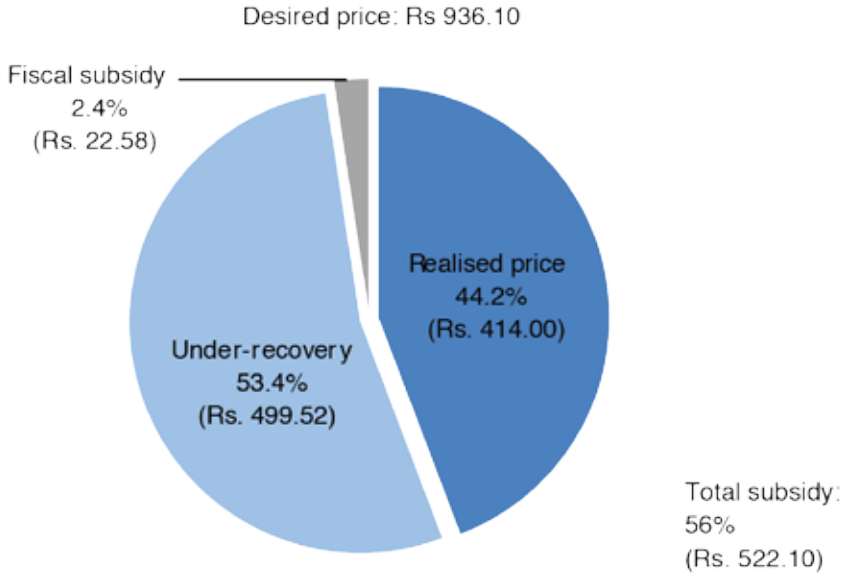
Figure 15: Monthly LPG consumption (Sept 2012-Sept 2014)



Source: MoPNG (2014a; 2014h)

In fiscal year 2013-14, total LPG subsidies (including both under-recoveries and direct budgetary subsidies) amounted to Rs. 48,378 crore (USD $7.9bn), representing 34% of total fuel subsidies[32]. In the most recent financial year, domestic (subsidized) LPG retailed at a fixed price of Rs. 410.5-414 per 14.2kg cylinder relative to an average total cost of approximately Rs. 936, representing a subsidy of around Rs. 522 per cylinder (or 56% of total cost – see Figure 16) [33].

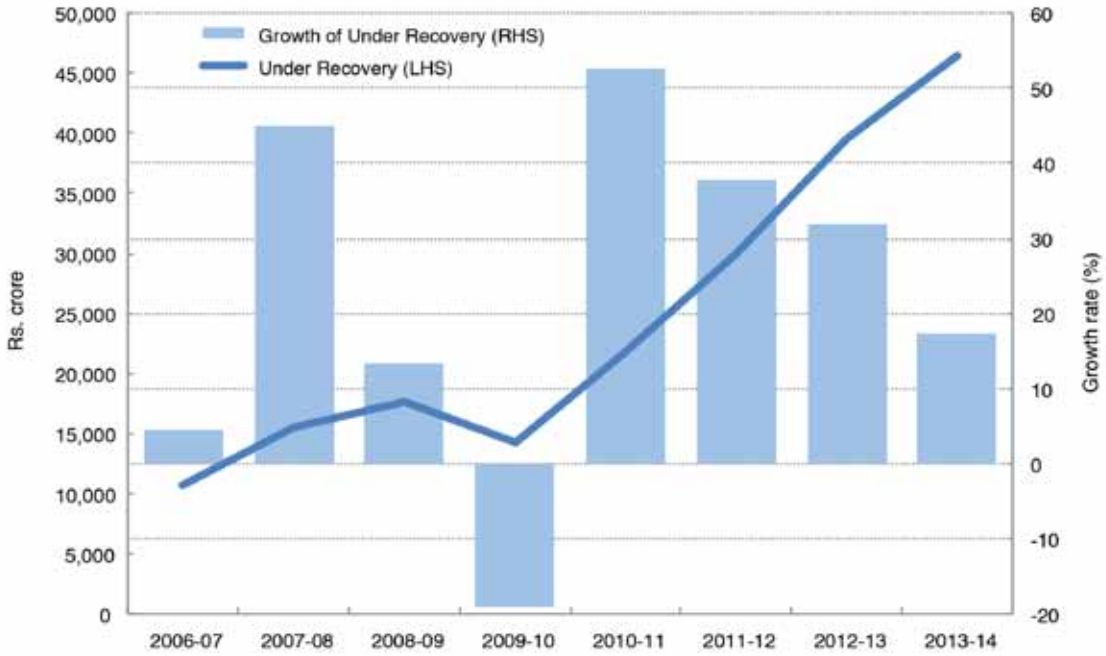
Figure 16: Domestic LPG price breakdown (2013/14)



Source: MoPNG (2014c; 2014d; 2014n)

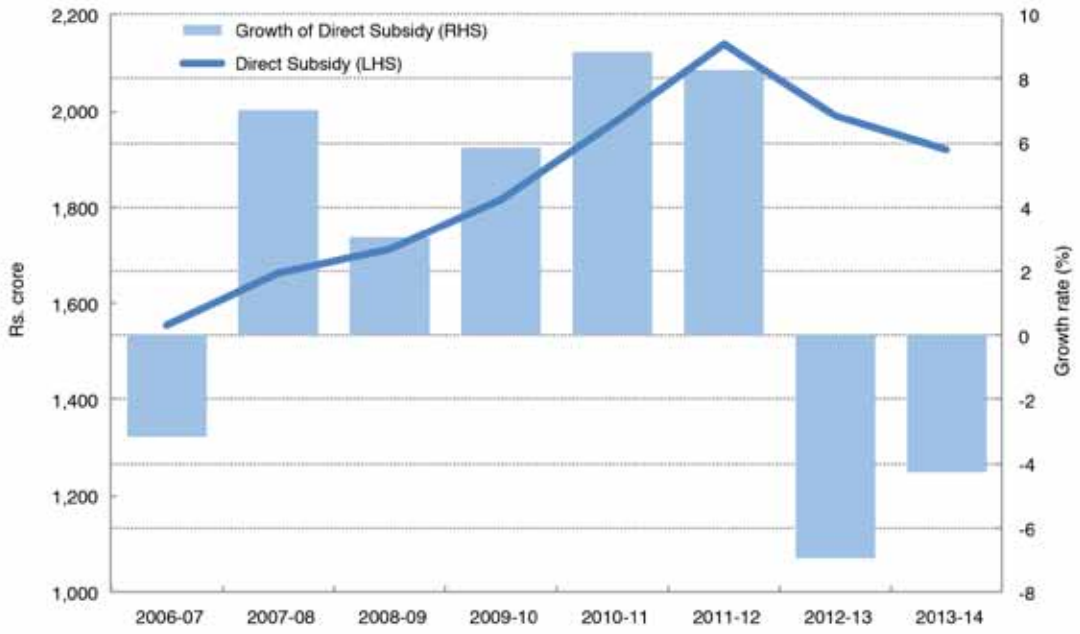
Total LPG under-recoveries have grown strongly in the previous four years, increasing from Rs. 21,772 crore (USD $3.6bn) in FY 2010-11 to Rs. 46,458 crore (USD $7.6bn) in FY 2013/14 (Figure 17). Direct subsidies have declined from a high of Rs. 2,137 (USD $351m) crore in FY 2011-12 to Rs. 1,920 crore (USD $315m) in FY 2013-14 (Figure 18), reflecting a reduction in the total consumption of subsidized LPG by volume.

Figure 17: LPG under-recovery (2006/07-2013/14)



Source: MoPNG (2014b)

Figure 18: LPG direct subsidy (2006/07-2013/14)



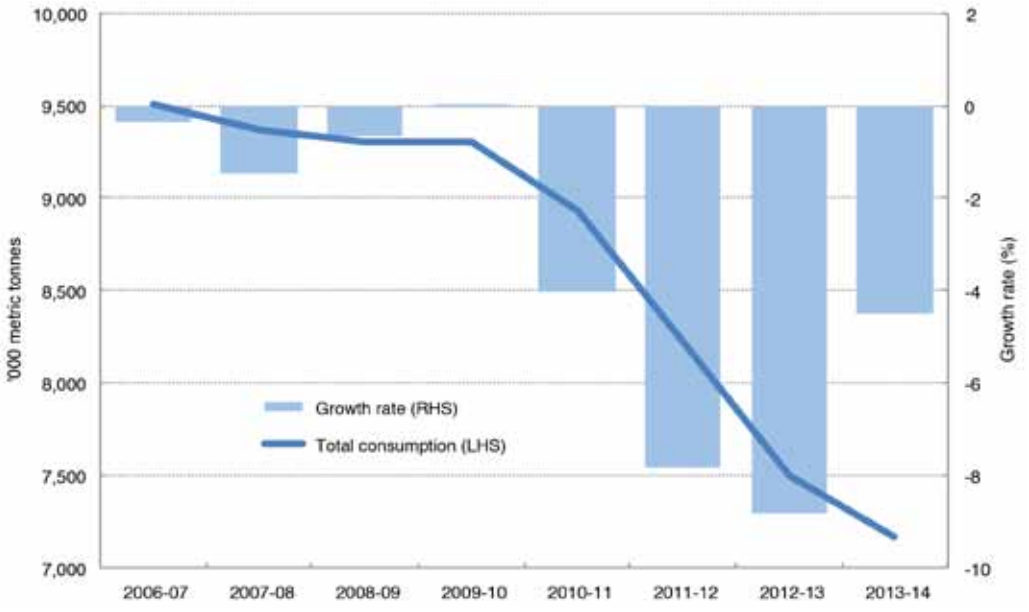
Source: MoPNG (2014c)

Kerosene

Kerosene or "Superior Kerosene Oil" (SKO) is primarily used at a household level for lighting and cooking, with additional uses in industrial processes and as a fuel for generators, pumpsets, freight and passenger vehicles, and agricultural machinery.[34] Subsidized kerosene, which constitutes the large majority of total kerosene consumed, is provided through the Public Distribution System (PDS), a nationwide system of predominantly third-party run Fair Price Shops (FPS) (administered at the state level) through which the central and state governments distribute subsidized food, kerosene and other commodities on the basis of household ration card allocations[35].

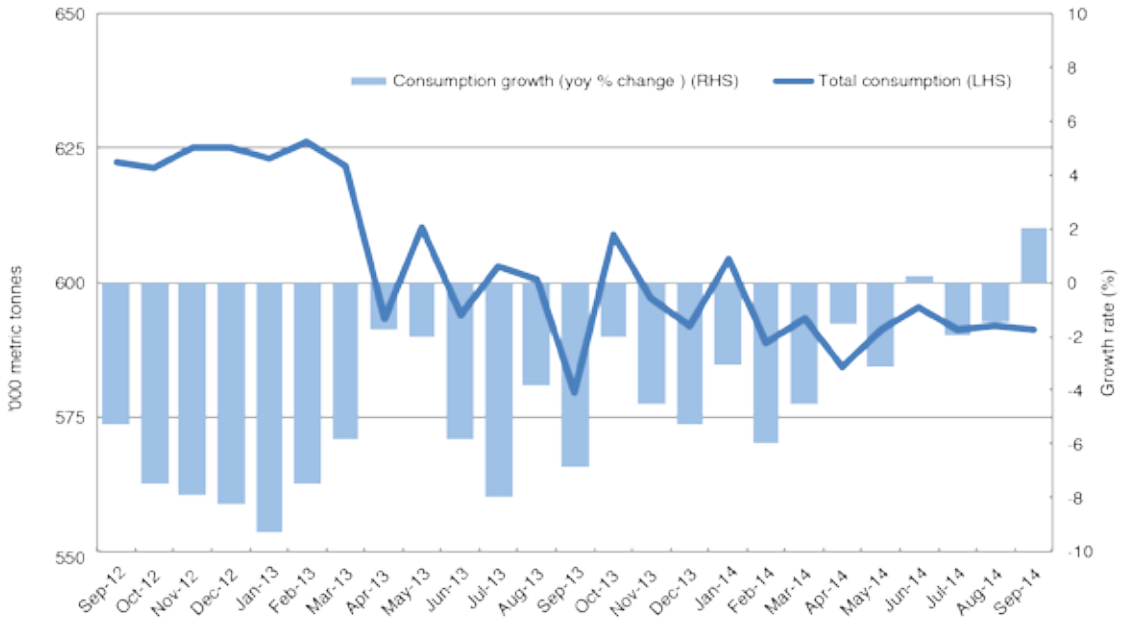
Total kerosene consumption has declined substantially in the previous decade, falling from 10.2 MMT in FY 2003-04 to 7.2 MMT in FY 2013-14 - a decline of 30% (Figure 19). Total monthly kerosene consumption in the past two years has exhibited a similarly consistent downward trend, with an average (year-on-year) monthly reduction of 4.4% between September 2012 and September 2014 (Figure 20).

Figure 19: Annual kerosene consumption (2006/07-2013/14)



Source: MoPNG (2014a)

Figure 20: Monthly kerosene consumption (Sept 2012-July 2014)



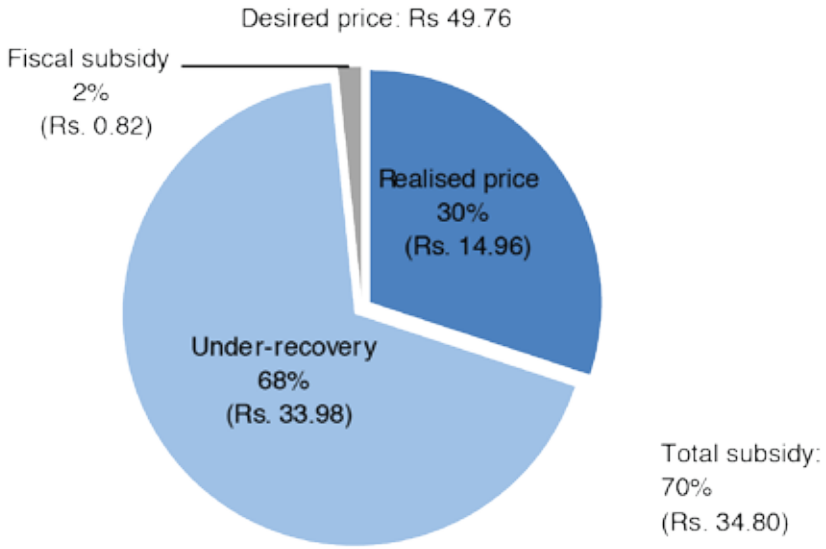
Source: MoPNG (2014a; 2014h)

Unlike the other designated "sensitive" petroleum products subject to price regulation (LPG, and previously diesel and petrol), the central government pre-determines the volume of PDS kerosene available for consumption. Per-state PDS kerosene allocations are calculated by the Ministry of Petroleum and Natural Gas (MoPNG) and kerosene is released for delivery on a quarterly basis[36], with the Department of Food and Civil Supplies within each state and Union Territory (UT) responsible for ensuring uplift of quota allocation and distribution to retail outlets[37].

The central government has attempted to contain kerosene use (and related subsidies) for several years by progressively reducing the availability of kerosene within the public distribution system[38]. The average rate of reduction in total annual PDS kerosene allocations has increased significantly in the period from FY 2009-10 onwards, with allocations falling by 7.9%, 8.5% and 4.2% in 2011-12, 2012-13 and 2013-14 respectively.

In FY 2013-14, total kerosene subsidies amounted to Rs. 31,256 crore (USD $5.1bn), representing 19.1% of total fuel subsidies[39]. Barring minor amendments to dealer commissions and other adjustments, the retail price for PDS kerosene has increased only twice between March 2002 and September 2014.[40] In the most recent financial year, PDS kerosene[41] retailed at a fixed price of Rs. 14.96 per litre relative to an average total cost of Rs. 49.76, representing a subsidy of Rs. 34.80 per litre (or 70% of total cost – see Figure 21).

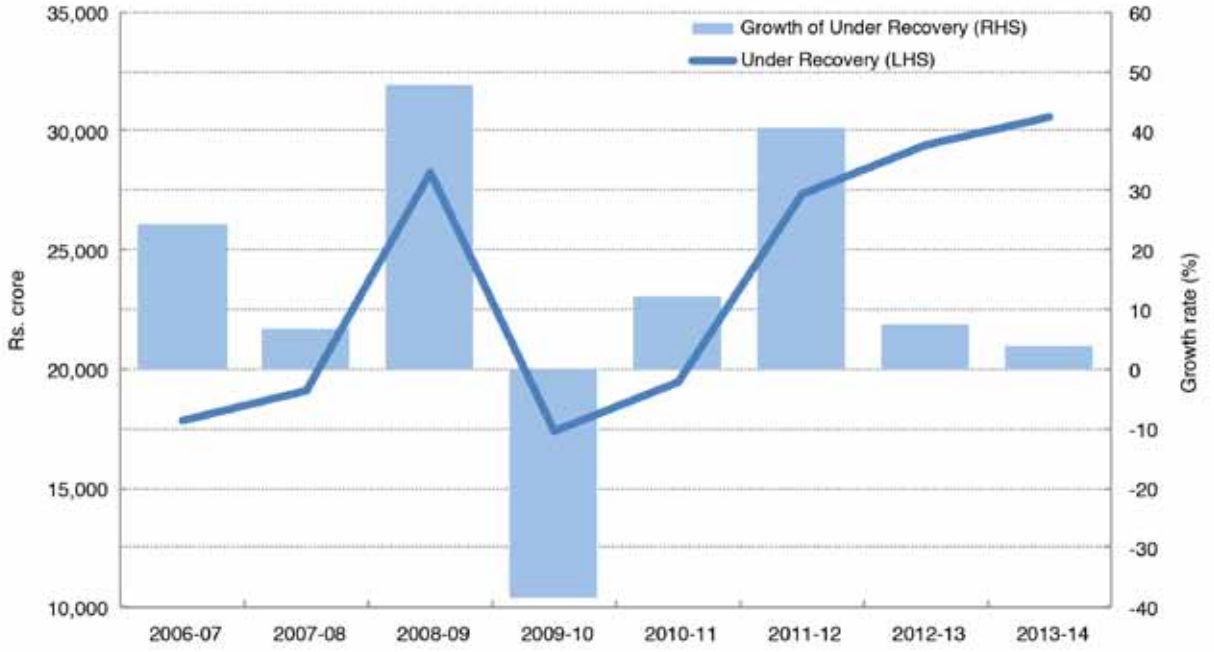
Figure 21: PDS kerosene price breakdown (2013-14)



Source: MoPNG (2014c; 2014d; 2014n)

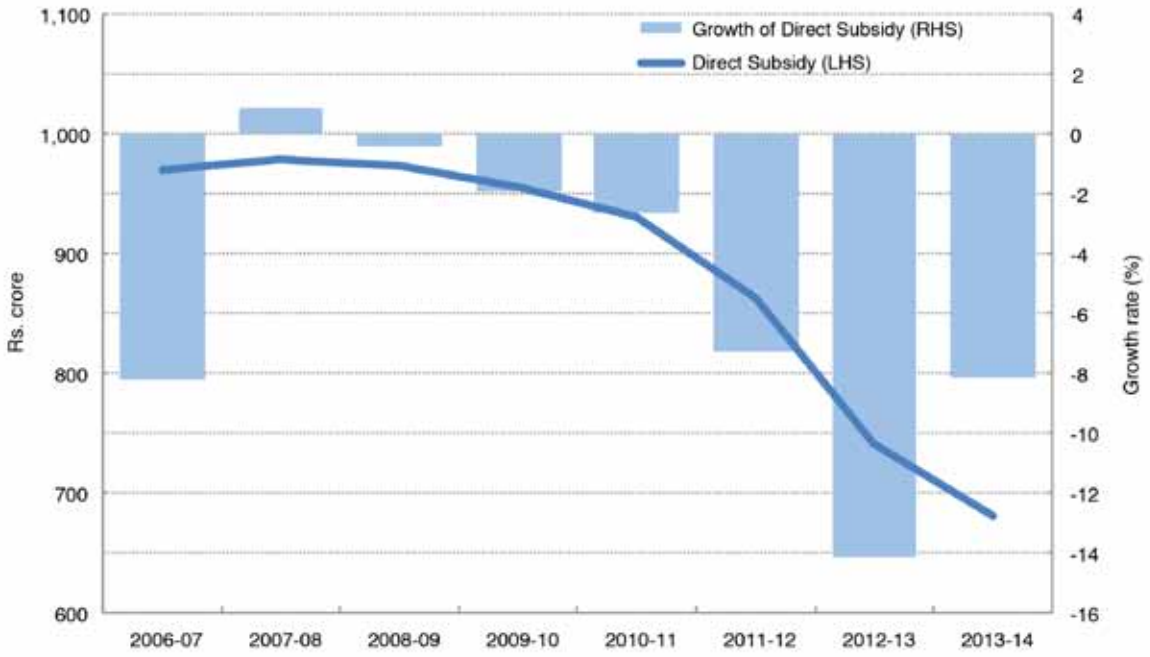
Total kerosene under-recoveries have grown significantly in the previous four years, increasing from Rs. 19,484 crore (USD $3.2bn) in FY 2010-11 to Rs. 30,575 crore (USD $5.0bn) in FY 2013-14 (Figure 22). Direct subsidies have declined consistently from Rs. 978 crore (USD $161m) in FY 2007-08 to Rs. 681 crore (USD $112m) in FY 2013-14, reflecting a reduction in the total consumption of subsidized kerosene by volume (Figure 23).

Figure 22: Kerosene under-recovery (2006/07-2013/14)



Source: MoPNG (2014b)

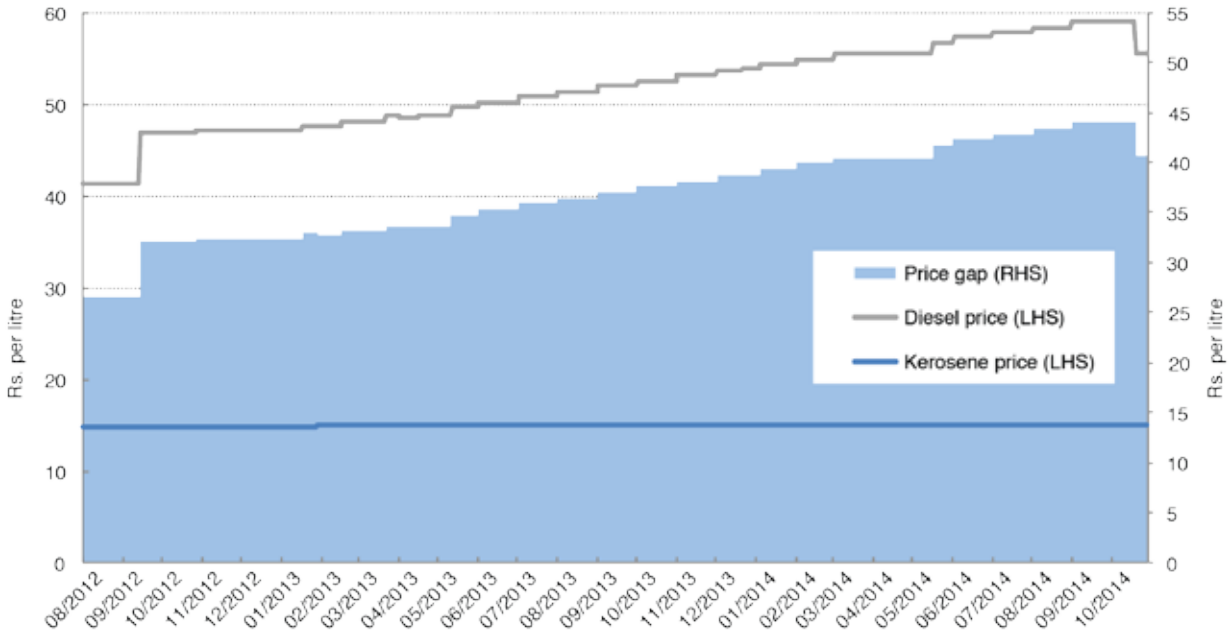
Figure 23: Kerosene direct subsidy (2006/07-2013/14)



Source: MoPNG (2014c)

As a result of diesel price reforms, the price differential between PDS kerosene and diesel (the principal fuel it is used to adulterate or substitute) continued to increase rapidly throughout FY 2013-14 and the first two quarters of FY 2014-15, rising to a record high of Rs. 44.01 per litre in September 2014 before falling to Rs. 40.64 in October 2014 with the formal decontrol of diesel prices (see Figure 24).

Figure 24: PDS kerosene and retail diesel price differential (Aug 2012-Oct 2014)



Sources: MoPNG (2014d; 2014j)

Recommendations

Diesel

- Despite the decontrol of retail diesel prices, there still remains a large price differential between diesel and petrol prices, reflecting preferential taxation on diesel. Moves should be undertaken to revise diesel taxation upwards on an incremental monthly basis over time until tax parity with petrol is reached. This should be combined with the formulation and implementation of a coherent long-term fuel taxation policy accurately reflecting the externalities generated by different fuels.

- Contemplate and map-out additional fiscal measures to enhance tax recovery from fuel markets with an initial focus on enhanced tax recovery from end-use consumption by higher income households (particularly private vehicle use), through, for example, higher luxury vehicle taxes.

LPG

- The Global Subsidies Initiative has argued against the efficacy of the DBTL program for LPG for reasons of administrative efficiency, equity and cost. The proposed reintroduction of the Direct Benefit Transfer for LPG (DBTL) scheme should therefore be suspended pending improvements in financial inclusion, subsidy targeting and ease of implementation.[42]

- Apply a significantly lower cap on the total number of subsidized cylinders available per household per annum, which is more in line with average consumption and which therefore caps subsidy benefits for larger and wealthier LPG users.

- Restructure LPG subsidy mechanism to provide basic LPG access to all households (while reducing total subsidy expenditure) through the following steps:

    - modify the distribution of subsidy expenditure to increase unit subsidy per cylinder (indexed to inflation) while decreasing total cylinder allocation through better targeting of subsidy distribution (which could initially be achieved through a lower per annum cap in subsidised cylinders);
    - universalise ability to access subsidized LPG through free provision of LPG stoves and associated equipment to all non-connected households;
    - provide universal access based on demand to 5kg cylinders for subsidized LPG provision
    - invest in additional distribution infrastructure, networks and operators.

- Reform the distribution and marketing of non-subsidized LPG, including regularisation of the production and (non-connection) sale of smaller volume (e.g., 2.5kg) cylinders.

Kerosene

- Provide two free (solar-compatible) LED lamps to all rural households currently without a functioning household electricity connection.
- Introduce phased monthly increases in PDS kerosene pricing of Rs. 1.50 per month.
- Increase retailer commission for PDS kerosene sale by 75% , with additional adjustment subsequent to calculation of viability levels.

Notes

1 All figures in Indian Rupees (INR) unless otherwise stated. One crore is equivalent to 10 million. USD/INR exchange rate: $1 = Rs. 60.8754.

2 Increasing by the equivalent of approximately Rs. 0.50 per month (note that pricing of bulk supplies had previously been decontrolled from January 2013).

3 Economic Times (2014).

4 Press Trust of India (2014a).

5 MoPNG (2014p)

6 Hindustan Times (2014).

7 From October 23, 2014, dealer's commission (the cost of which is passed through to the final retail price) for both subsidized and non-subsidized LPG sales was increased by Rs. 3.50 per cylinder (Press Trust of India, 2014b).

8 Business Standard (2014a).

9 Covering an initial 54 districts from 15th November 2014, and all remaining districts from 1st January 2015 (CCEA, 2014).

10 Ranjan (2014). It is currently unclear if this represents a (notional) maximum subsidy – see also Mehra (2014).

11 MoPNG (2014o). Note that this assumes the continuation of the Rs 22.58 fiscal subsidy.

12 See for example Surabhi (2014).

13 Mehdudia, S. (2013).

14 Reuters (2014).

15 The Hindu (2014).

16 Business Standard (2014b).

17 On a Net Calorific Value (NCV) basis. On a Gross Calorific Value (GCV) basis, the price was increased from $3.79 to $5.05 per million BTU.

18 Using price data from the previous four quarters (with a one-quarter lag) (MoPNG, 2014q).

19 Including under-recoveries for diesel, domestic LPG and PDS kerosene, and direct subsidies for domestic LPG and PDS kerosene. This figure does not include further costs incurred by publicly-owned Oil Marketing Companies (OMCs) in relation to gas importation and corporate borrowing (due to delays in receipt of compensatory payments), freight subsidies administered under the Freight Subsidy Scheme (2002), central government transfers to selected states with the (nominal) purpose of compensating farmers for diesel consumption during periods of low rainfall, subsidy expenditure on LPG and kerosene supplied to Bhutan, customs duty, excise or sales tax exemptions, state-level price subsidies, or any direct or indirect subsidy expenditure related to natural gas.

20 See for example Dey (2014).

21 Reported fortnightly on a unit basis.

22 Fiscal subsidy data is not currently reported on a quarterly basis.

23 Primarily Oil and Natural Gas Company Limited (ONGC), and to a lesser extent Oil India Limited (OIL) and Gas Authority of India Limited (GAIL).

24 In a context of domestic currency weakness.

25 Partly as a result of a substantial expansion in export-focused refining capacity, with product exports increasing by USD $28.7bn between FY 2009/10 and FY 2011/12.

26 MoPNG (2014f).

27 Note that the figures for oil imports and exports provided in MoPNG (2014f) differ from those presented in RBI (2014).

28 For further details see MoPNG (2014g; 2014d).

29 Reflecting in part the base effect resulting from the previous year's price reforms, and their attendant effect on demand.

30 Resulting in a retail price reduction of Rs. 3.37 per litre (Hindustan Times, 2014).

31 With an additional 58.75 lakh new connections and 35.65 lakh Double Bottle Connections (DBCs) added between April and August 2014 (MoPNG, 2014l; 2014m).

32 In addition, the Indian government subsidises all LPG supplied to Bhutan through the budget of the Ministry of External Affairs (MEA). In FY 2012-13 IOC supplied a total of 7,312 tonnes of LPG to Bhutan (Press Trust of India, 2013), incurring an estimated subsidy of approximately Rs. 23 crore. The MEA budgeted a total of Rs 50 crore for fuel subsidies to Bhutan in FY 2013-14 (including both LPG and kerosene) (MEA, 2014).

33 The price for domestic LPG was raised by Rs. 3.5 (from Rs. 410.50 to Rs 414) on 11th December 2013, and therefore average realised price and total subsidy figures differ slightly from those presented (fiscal subsidy was fixed throughout FY 2013/14). Under-recovery represents average unit under-recovery reported by the MoPNG for FY 2013/14. All prices relate to IOC in Delhi (the final retail price of domestic LPG varies between states and Union Territories (UT) due to differences in state-levied taxes and other charges).

34 Both directly and as an adulterant (primarily for diesel).

35 Note that PDS entitlement criteria and allocations differ by state – for an overview of eligibility criteria and allocations in selected states see Singh and Jaiswal (2008).

36 With the exception of J&K and Lakshadweep (MoPNG, 2013b).

37 Note that PDS allocations differ from final PDS consumption due to varying rates of quota utilisation by states.

38 See for example Planning Commission (2011).

39 In addition, the Indian government subsidizes all kerosene supplied to Bhutan through the budget of the Ministry of External Affairs (MEA). In 2012-13 IOC supplied a total of 4,311 tons of kerosene to Bhutan (Press Trust of India, 2013), incurring an estimated subsidy of approximately Rs. 18 crore.

40 Increasing by Rs. 3 per litre in June 2010 and Rs. 2 per litre in May 2011.

41 Using the IOC Delhi benchmark rate. Note that the final retail price of PDS kerosene differs between states and Union Territories (UT) due to variations in state-levied taxes and other charges.

42 There is no case for the introduction of DBTL on the grounds of equity, administrative efficiency or fiscal responsibility. DBTL does not decouple receipt of subsidy from fuel consumption (subsidy receipt remains contingent on the purchase of LPG), nor does it apply any form of targeting in selecting beneficiaries. The DBTL mechanism reduces the net value of the subsidy to the consumer, increases the administrative cost of delivering the subsidy, exacerbates the regressive distribution of subsidy expenditure, and will not significantly decrease total fiscal outlay (potentially even increasing it). For further analysis see GSI (2014a; 2014b).

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Part Two: Guest analysis

Domestic LPG Subsidy and Distribution in India: From the undeserved to the underserved

Abhishek Jain and Karthik Ganesan (CEEW)

Liquefied Petroleum Gas (LPG) is increasingly becoming a key fuel for domestic cooking and heating in India, especially in urban areas. Among all the refined products consumed in the country, LPG ranks third and accounts for nearly 9 per cent of the energy consumed through derived products, behind high-speed diesel and refinery fuel (Central Statistics Office [CSO], 2013). More than 85% of LPG consumption in India is effectively imported – either through the import of crude or of the product directly.

Nearly 90 per cent of the LPG consumption is accounted for by households (MoPNG, 2013). However, according to the Census 2011, only 28.5% of households stated that LPG was their primary cooking fuel, while the figures on domestic connections suggest that nearly 47.5% of households had LPG connection in 2010-11[i44] . This clearly indicates that there is a continued dependence on traditional fuels, not just by households that do not use LPG, but also by a large number of households that use them to supplement their LPG consumption.

India has a universal subsidy provision on domestic consumption of LPG, which is not 'means-tested'. Currently, every domestic LPG connection, irrespective of its economic or social status, is entitled to 12 subsidized cylinders (of 14.2 kg each) per annum, and any consumption beyond that has to be purchased at unsubsidised prices.[45] Prior to September 2012, there was no cap on the consumption of subsidized LPG cylinders.

In 2013-14, the overall level of subsidy provided by the government for domestic LPG consumers was a staggering INR 48,362 crore (USD $7.9bn)[46]. CEEW analysis suggests that if connection targets under the Oil Sector Vision-2015 are met (i.e., LPG coverage to 75% population by 2015), if average consumption remains at levels that are currently seen, and if there is no change in the cap of subsidized cylinders available to all households, the subsidy bill on LPG is likely to increase by 70 per cent by 2015 and would amount to nearly 5.7 per cent of the estimated non-plan expenditure of the government for the year 2014-15.

Has LPG subsidy achieved its objectives?

The simple (and obvious) rationale for the continued subsidy on household LPG consumption has been to insulate LPG consumers from domestic inflation and international price volatility associated with petroleum products. An analysis of cooking fuels used in households across the country was carried out using household expenditure data from the 68th Round of the National Sample Survey. The outcomes of the study suggest that the current subsidy mechanism has clearly not achieved its intended objectives. The following are four key findings that result from our analysis:

1. The richest 30% of Indian households receive more than 50% of total subsidy expenditure. In addition, there is a large rural-urban divide in the consumption of LPG and hence the aggregated share of subsidy received. Nearly two-thirds of the distributors and LPG consumers are in the urban areas.
2. The current cap (of 12 cylinders) is set at a level well beyond the average consumption of households (estimated at approximately 7 cylinders) and subsidises wasteful consumption, leaving a significant scope of diversion to unintended uses and users.
3. Despite the LPG subsidy, the lower income groups spend a disproportionately higher share of their monthly expenditures on procuring cooking energy.
4. The LPG subsidy along with the current distribution arrangements has not succeeded in facilitating a transition from traditional fuels to LPG, especially for the poor. Traditional fuels such as firewood, animal dung, agricultural wastes, etc. continue to be widely used and contribute to the majority of the energy needs of the poor. The negative externalities associated with the consumption of these fuels also fall squarely on these poor households and further add to their economic burden.

LPG subsidy in its current form is intended to make the fuel more affordable. However, the interventions to improve the adoption of LPG in rural households (and the urban poor) must also focus on improving physical access to it, i.e., to increase the penetration and availability of fuel in all areas and to raise awareness about the health and local environmental benefits of transitioning to the use of LPG. In recent years, schemes such the *Rajiv Gandhi Gramin LPG Vitaran Yojana* (RGGLVY launched in 2009) have attempted to increase the LPG penetration in rural areas through small size and low cost

distribution models. The scheme has met with moderate success but more robust methods are needed to make universal LPG access a reality.

With regard to awareness generation, there have been sporadic efforts in specific pockets by entities such as Hindustan Petroleum to raise awareness and demonstrate the superiority of LPG as a cooking fuel compared to other options. The *Rasoi Ghar* scheme, which provides for community kitchens using LPG, and the *Suraksha Sanchetna Abhiyan* information campaign on LPG conservation and benefits, have shown positive benefits according to the studies that evaluated them.

The Road Ahead

Based on the analysis of the subsidy disbursal mechanism and the current reach of LPG distribution, it is suggested that all three elements of *affordability, availability* and *awareness* be focused on simultaneously. This will effectively achieve the stated objectives of LPG subsidy in the country. Our key recommendations to this effect are three fold:

1. Rationalization of subsidies by reducing the subsidy cap limit, and subsequent introduction of differentiated subsidy provision.
2. Improvement of LPG availability in rural areas through innovative approaches such as extension counters, mini-distribution agencies, and rural supply chains.
3. Awareness generation among the rural population about health and associated benefits of LPG consumption over inefficient usage of tradition solid fuels, to facilitate its greater adoption and usage.

Evidence from literature and our analysis of household consumption patterns suggest that it is desirable to limit the proportion of household expenditure on cooking energy consumption to 6 per cent (a normative affordability limit). The poorest households in the country today spend close to 8 per cent of their expenditure on cooking energy while the richest spend as little as 2 per cent. In order to reduce this disparity in outlay for various economic strata it is recommended that the *top 10-15 per cent of Indian population (by income) can be excluded from the subsidy provision for domestic LPG. For the bottom ~30 per cent of the population, which roughly translates to the Below Poverty Line (BPL) population of the country, the subsidized price of domestic LPG must be lowered in order to enable higher levels of adoption*. The population that does not belong to either group will witness a marginal increase in the price of LPG (based on the current price of crude).

The wealthy households that are to be excluded from subsidy provision under this proposal can be identified through diverse metrics such as income tax status, ownership of four-wheeler passenger vehicles, ownership of luxury assets (SECC database) or via Know Your Customer (KYC) exercise to be conducted by OMCs. It is also likely that there will be the least resistance from this group to any proposals to decrease or withdraw subsidies.

A recent announcement by the government has indicated a move to fix the subsidy on offer per cylinder as opposed to the prevailing practice of fixing the price of subsidized LPG (CCEA, 2014). This move is aimed at containing the subsidy outflow when global oil prices rebound from the current lows. While it is a strategic move to implement such a mechanism when oil prices are low and more palatable for the average consumer, this does not address any of the issues that have been raised with regard to the inequity in disbursal of subsidy. It is merely a short-term fix for a chronic ailment, which will result in an adverse impact on the affordability for poor households once global crude prices rise.

In order to improve availability and to increase the reach of LPG, novel mechanisms like the use of self-help groups (SHGs) and existing rural supply chain and extension counters of distribution agencies can be used for delivery purposes. The requisite training, information provision and initial exposure to the commodity (and the stoves) are imperative to increase adoption and usage, especially among rural households.

The underlying objective of equitable LPG provision is to provide clean and affordable cooking energy to all. Only when the three dimensions - affordability, availability and awareness - are effectively addressed can India achieve equitable LPG provision (global crude supply and prices constraints notwithstanding).

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Direct Transfer of Subsidies: Case of pilot project in Kotkasim, Alwar[ii]

Anjali Ramakrishnan, Madhura Joshi and Anmol Soni (TERI)

Over 30 per cent of the households in India have no access to modern lighting fuel. With electrification yet to reach every village, kerosene is a key source of lighting for these households. In certain cases, kerosene is also used as a cooking fuel, either for igniting biomass or in kerosene stoves. To help meet lighting demand in poor communities, kerosene is supplied at subsidized rates through the government-sponsored Public Distribution System (PDS). There is a need to enhance efficiency in the delivery mechanism to ensure that the subsidies reach their intended population and to reduce leakages. The reduced demand will also help decrease the subsidy burden on the government and on oil marketing companies (OMCs).

The central government provides kerosene to state governments based on the LPG and piped natural gas coverage, the per capita allocation of kerosene in the state, and the quantity lifted by the respective state in the previous year. OMCs then supply the allocated kerosene to state distribution systems by making it available at fair price shops (FPS) and oil depots. Broadly, it is the responsibility of states to ensure that subsidized kerosene reaches its intended final consumers. The under-recovery on the sale of kerosene currently stands at Rs. 34.80 per litre, with total under-recoveries of Rs. 31,256 crore in FY 2013-14.

While the PDS system aims to ensure kerosene accessibility at affordable rates, the wide margin between the market price and the subsidized retail selling price incentivized the diversion of kerosene to the black market. There have been, therefore, long-standing demands for a system that better controls delivery of kerosene subsidies: a direct cash transfer has been mooted as one of the possible options by policy-makers, the government, and development agencies.

In December 2011, the Government of Rajasthan, with support from the central government, launched a pilot scheme in Kotkasim, Alwar, Rajasthan to test a system of direct transfers to the bank accounts of ration cardholders as a means of distributing PDS kerosene subsidies. As per the scheme, the monthly allocation of 3 litres to every ration cardholder is supplied at a market rate (which equals the depot rate plus state-level taxes). The subsidy amount (as determined by the state authorities) is then transferred to the bank accounts of the ration cardholder on a quarterly or monthly basis. This requires every beneficiary to have an operating bank account with any of the designated banks under the scheme.

The Energy and Resources Institute (TERI), supported by the International Institute for Sustainable Development (IISD), undertook a study to assess and evaluate the efficacy of the pilot project in Kotkasim. The study focused on whether the households had access to the subsidy and examined ease of access, the impact on household expenditure, and achievement of policy objectives. It concluded with an analysis of the implications that emerged from the pilot for the kerosene subsidy system and provided recommendations for implementation of such schemes in the future.

The process of evaluation involved meetings with scheme participants, including district officials, bank officials and fair price shop (FPS) dealers. Based on key interviews and pre-fieldwork activities (multiple brief visits to villages to test awareness about the scheme), a beneficiary questionnaire was designed and administered in 160 households in four villages. Alongside the primary survey, the research team also conducted focus group discussions to get a better understanding of the issues faced by the households.

The evaluation shows that since the commencement of the scheme, the sale of kerosene at the FPSs for the Kotkasim block fell drastically (from 82 kilolitres (Kl) in November 2011 to 54 Kl in February 2012) over the period of the scheme. A part of this decline can be assuredly attributed to the scheme's success in curbing leakage of kerosene to the black market. However, it is important to point out the high level of electricity access in the area also suggested a relatively high price elasticity of kerosene as a source of energy, as a result of accessible alternatives to kerosene consumption.

While the total usage of kerosene declined, more critical issues were faced in the households' access to and understanding of the scheme. The study showed that the high upfront cost of kerosene, poor access to banking facilities, and the overall uncertainty associated with the timely transfer of subsidy also contributed to households reducing their kerosene consumption. The distance from the bank, the time required there, the need for multiple trips (when the transfer of subsidy was delayed), and the lack of understanding of the banking system and the role of banks came across as some of the biggest challenges of implementation. The lack of a grievance redress mechanism was one of the missing links required to help solve these issues. On the other hand, the large number of zero-balance no-frills accounts opened for the scheme led to an increased burden for the small-capacity bank branches. For the viability of any electronic payment scheme, increasing the reach of the banking systems would be crucial.

The impact of the scheme on the FPS dealers - the crucial medium for the success of the scheme, was notably adverse. The reduction in sales of kerosene drastically reduced their earning from the total commission on kerosene,

which significantly affected their attitudes towards implementing the scheme. Until recently, their commission on the sale of kerosene in Rajasthan was Rs. 0.9/litre, insufficient to meet their costs. This was later raised to Rs. 2.7/litre. Since these dealers end up being the first point of contact and information for the households, it is important that their concerns are also addressed.

Poor understanding of the scheme's functionality and lack of clarity on the objectives of the scheme was apparent in the households, demonstrating the need for better communication and information to be provided to build public awareness.

Recommendations

For the scheme to successfully meet its goals in Alwar and elsewhere, the following adjustments and improvements would likely have to be made:

1. Adequate planning time and preparation of a structured system for information dissemination must be assured well before launch of the scheme.
2. The opening of bank accounts for *all* beneficiary households should take place before launch of the scheme.
3. Access to banking facilities must be extended in villages to avoid multiple trips to the bank and additional time costs borne by the households in accessing the subsidy. A possible adoption of the Banking Correspondent (BC) Model might be considered.
4. Incentives (higher commissions, access to information) should be provided for FPS dealers to productively participate as a central focal point in the roll-out and management of cash transfer schemes for kerosene in order to ensure their optimal penetration. Involving local stakeholders in the implementation process can significantly boost awareness among households by giving them a local source of reliable information.
5. Digitization of fuel purchases (recorded through the household ration card) and dealer transactions over time can ensure permanent and tamper-proof maintenance of records.

Reducing "leakages" in the current public distribution system is crucial; however, it is equally important to ensure that the new system does not bring about additional challenges and welfare impacts for the households that end up leaving them, quite literally, in the dark.

Notes

i This calculation would hold assuming that multiple connections within the same household do not exist.

ii This article is based on the TERI (2014). *Evaluation of the Pilot Project on Direct Transfer of Kerosene Subsidies in Kotkasim, Alwar*. Geneva: International Institute for Sustainable Development. Available at: http://www.iisd.org/gsi/sites/default/files/ffs_india_kerosene_alwar_final.pdf

The Last Word

The Unstable Political Economy of Natural Gas Pricing in India

Subhomoy Bhattacharjee (Indian Express)

The Modi administration has decided to raise India's natural gas prices, taking effect November 1, 2014. This was surprising both for the comprehensive nature of the decision and for the fact that the government was willing to court significant political risks in doing so. In one move, the government has removed import parity in gas which was accelerating cost pressures for downstream gas consumers, despite the attractions that such price-setting mechanisms offered for investments in exploration. The decision by the cabinet committee on political affairs came before a revised deadline set for November 15, 2014 expired and was part of a series of quick steps the Modi administration took to reform the energy sector in recent days (as discussed throughout this paper).

It was in the cards that the government would revise diesel prices after it was finished with two critical state assembly elections on October 15, 2014. But the revision in gas prices was frankly more difficult since the UPA government (and now even the BJP government) was building up an alternate subsidy on natural gas usage to deflect political criticism on phasing out diesel subsidies and eventually those on LPG and kerosene. The pricing of natural gas is consequently a political economy decision in India, carrying the same baggage as that for fuel products. It has become more complicated, as the Indian Supreme Court in September has cancelled all allocations of coal blocks since 1993, which could affect domestic coal prices. As 60 per cent of India's power stations use coal, the pressure to keep the price of natural gas (which powers 9 per cent of India's power stations) flat increased.

These are developments which were not even factored in as key energy sector financing or subsidy risks by analysts when finance minister Arun Jaitley wrote his budget in July this year. Reports discussed two other risks. The first was that the monsoons could fail and engender a runaway demand for diesel to run the generator sets for irrigating rain-dependent crops. The other was that trouble in the Middle East could push crude prices up significantly. In the end, neither of these came to fruition. Reserve Bank of India Governor Raghuram Rajan pointed to these encouraging developments in recommending that the government eliminate the administered pricing of diesel.

The government has now taken three decisions on natural gas. It has adopted a new formula to decide on the appropriate price for gas produced in India. It has made this price applicable for all private and state owned gas extraction companies reducing complexity and finally announced an incentive scheme for investments in deep sea or in the difficult North East region.

The new price of US$5.6/million British thermal units (mmBTU)—despite being far lower than private and public sector oil companies had wanted—is nevertheless 33% higher than previously. It has also moved India much closer to market-based pricing of natural gas and capped the risk of creating additional subsidies in this sector, complementing the reform in diesel markets. For investments in deep sea acreage where most domestic gas reserves are located, the government will offer an additional premium. But instead of moving to a price of US$8.4/mmBTU - as was likely to have occurred under the original Rangarajan pricing formula - that could have significantly increased the price of piped cooking gas, power and fertilizer, this is a pragmatic compromise.

But the subsidy problem is not over. Natural gas now accounts for 7% of India's total energy consumption, making it the third-most consumed fuel after coal and petroleum. The striking aspect of this ranking is the speed at which it has moved to the third position, and close to 30 per cent of it is imported. India began to import natural gas from 2004 as an obvious substitute for costlier imported naptha and also for coal whose domestic supply was far below demand. International prices of natural gas were soft and expected to remain so. The imports topped up domestic production by Indian companies like ONGC, which was at that stage flaring gas. At that time, the government encouraged downstream companies to switch to natural gas as feedstock backed by cheap imports and by reports that RIL had discovered substantial gas deposits.

An estimate of the scale of import growth is the projected expansion of port re-gasification plans. The current national capacity of 936 billion cubic feet (Bcf) (as per U.S. government Energy Information Administration [EIA] numbers) will almost double this decade. The expansion at Dahej will raise its capacity from 480 to 720 Bcf by 2016. India is now the world's fourth-largest importer of natural gas. Domestic production will not be anywhere close to making up this import deficit in the short to medium terms, especially as the supply response to higher prices will take time. The earliest estimate for RIL-BP consortium to ramp up capacity to 767 Bcf is 2020, for example.

Going ahead, domestic prices would be revised every six months. But with rising demand India has to rely on Asian (and even costlier Australian) gas. Despite the removal of import parity pricing from the recent price revision, the gulf in price between domestic and imported prices still exist. Who will pay the difference between higher import prices and the price of domestic supply? Will it be passed on to the consumers, and the strategically and socially important power and fertilizer sectors in particular? This is something which the current reforms have not been made clear, and which remains a difficult question for government to answer.

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