

DATA BRIEF

Estimating the Impact of Price Reforms on Kerosene Subsidy Expenditure in India

Kieran Clarke
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India is one of the world's largest consumers of kerosene, and provides subsidized access to the fuel for eligible households through the nationwide Public Distribution System (PDS). Subsidized (or "PDS") kerosene is allocated and financed by the Union government, with distribution managed by state governments.¹ PDS kerosene is allocated to states quarterly,² and is provided to them at a fixed price, with the difference between this price and the (variable) product cost financed by the Union government.³

Due primarily to the rapid and prolonged fall in international oil prices, total subsidy expenditure on kerosene has fallen sharply in recent years, from Rs. 31,255 crore (USD 4.7 billion) in FY 2013/14 to Rs. 24,804 crore (USD 3.7 billion) in FY 2014/15 and Rs. 11,496 crore (USD 1.7 billion) in FY 2015/16.⁴ In addition, the Union government has for several years (and across successive administrations) pursued a policy of progressively reducing the total volume of PDS kerosene available, with the total volume of PDS kerosene allocated to the states falling by 4 per cent in FY 2010/11, 7.9 per cent in FY 2011/12, 8.5 per cent in FY 2012/13, 4.3 per cent in FY 2013/14, 1.2 per cent in FY 2014/15 and 3.2 per cent in FY 2015/16. The current administration appears to be planning a significant percentage reduction in the final FY 2016/17 allocation, with the revised Q1-3 FY 2016/17 allocation representing a 16.5 per cent reduction relative to the same period in the previous year (and the rate of reduction in allocation increasing in each quarter of FY 2016/17).⁵

While the volume of subsidized kerosene supplied has been reduced significantly in the last five years, the retail price for kerosene had remained largely unchanged over the period (with the last significant price increase occurring in June 2011). In late June 2016, the central government directed the state-owned Oil Marketing Companies (OMCs) to increase the subsidized price of kerosene by Rs. 0.25 per litre on July 1, 2016 (equivalent to approximately 1.9 per cent of the per litre subsidy for July 2016).⁶ On August 10, 2016, the Ministry of Petroleum and Natural Gas (MoPNG) confirmed that it intended

¹ This includes, within certain parameters, the determination of beneficiary allocations and eligibility criteria.

² With allocations announced in the second half of the month preceding the start of the relevant quarter.

³ In addition to financing these "under-recoveries" through various mechanisms, the central government also previously provided a fixed Rs. 0.82 per litre fiscal subsidy and a freight subsidy for remote areas; however, these schemes were effectively discontinued as of end FY 2013/14 and end FY 2014/15 respectively.

⁴ Including fiscal and freight subsidy as applicable.

⁵ A percentage of the reduction recorded from Q2 FY 2016/17 onwards reflects the voluntary reduction of allocation by states under a central government initiative to partially compensate them for the surrender of allocated kerosene over a certain threshold: for example, Karnataka voluntarily surrendered 31,898 kl (28 per cent of its Q2 allocation, for which it will reportedly receive budgetary compensation of approximately Rs. 70 crore (USD 10 million).

⁶ Which would otherwise have been Rs. 13.37 per litre (the reported per litre under-recovery of Rs. 13.12 as of July 1, 2016 incorporates the initial Rs. 0.25 increase).

to allow the OMCs to raise the price of subsidized kerosene by Rs. 0.25 per litre every month for a period of 10 months from July 1, 2016.⁷ The government stated that the price increases represented the implementation of a decision taken in 2010 (under the previous UPA administration) to increase kerosene prices periodically “in line with the growth in per capita agricultural GDP at nominal price,” and that the pending price increase (calculated at Rs. 3.23 per litre) would be implemented in a staged manner in order to reduce the impact on consumers of a one-time increase.⁸ On September 15, 2016 the government increased the rate of the scheduled Rs. 0.25 per litre price increases to every fortnight, with the reported intention of maintaining this rate of increase until “at least” the end of the current financial year⁹ (representing a cumulative increase of at least Rs. 4 per litre, as against the previously announced cumulative increase of Rs. 2.5 per litre).

Unlike the fiscal impact of reductions in the volume of subsidized kerosene allocated, which is dependent on oil prices and can therefore only be accurately calculated retrospectively, the scheduled nature of the price increases and the allocation-based method of distributing PDS kerosene make it possible to calculate with a substantial degree of accuracy the full-year fiscal impact of these price increases. As only Q1-Q3 FY 2016/17 allocations are currently publicly available, Q4 FY 2016/17 allocations are projected as equal to Q3 FY 2016/17 allocations¹⁰ (although Q1-Q3 FY 2016/17 allocations indicate that the government may be planning a significant additional reduction in kerosene allocations in Q4). Quarterly uplift levels relative to allocation for FY 2016/17 are assumed to be equivalent to the full-year uplift level for FY 2015/16 (98.29 per cent), which was slightly lower than in previous years.¹¹

On the basis of these allocation and uplift projections, the initially announced schedule of price increases (10 monthly increases of Rs. 0.25, representing a total increase of Rs. 2.5) would have resulted in a net reduction in kerosene subsidy expenditure of approximately Rs. 557.8 crore (USD 83 million) in FY 2016/17 (full calculations provided below).¹²

Table 1: Total avoided expenditure due to initial kerosene price increase schedule (FY 2016/17)

Month	Monthly increase (Rs.)	Total increase (Rs.)	Monthly consumption (litres)	Total avoided expenditure (Rs. cr)
Apr-16	0	0	675,720,181	0
May-16	0	0	675,720,181	0
Jun-16	0	0	675,720,181	0
Jul-16	0.25	0.25	629,823,896	15.75
Aug-16	0.25	0.5	629,823,896	31.49
Sep-16	0.25	0.75	629,823,896	47.24
Oct-16	0.25	1	475,181,358	47.52
Nov-16	0.25	1.25	475,181,358	59.40
Dec-16	0.25	1.5	475,181,358	71.28
Jan-17	0.25	1.75	475,181,358	83.16
Feb-17	0.25	2	475,181,358	95.04
Mar-17	0.25	2.25	475,181,358	106.92
Total				557.78

⁷ Parliamentary answer provided in the Rajya Sabha to Unstarred Question 2753 on 10th August 2016.

⁸ The difference between the Rs. 3.23 per litre figure and the total announced increase of Rs. 2.50 per litre was not addressed.

⁹ Saikia, S. (2016, September 17). Kerosene price to rise 25 paise every fortnight. *Financial Express*. Retrieved from <http://www.financialexpress.com/economy/kerosene-price-to-rise-25-paise-every-fortnight/380202/>

¹⁰ Subject to adjustment on the basis of projected uplift (98.29 per cent).

¹¹ 98.92 per cent in FY 2014/15 and 99.00 per cent in FY 2013/14.

¹² Note that these calculations assume uniform monthly monthly uplift and sale within each quarter, and do not take into account the (minor) effect of the price increase on compensation payments to states for voluntary surrender of subsidized kerosene quota.

Assuming an additional 10 per cent reduction in the total volume of subsidized kerosene allocated relative to the projected FY 2016/17 allocation, this schedule of increases would have resulted in a net reduction in kerosene subsidy expenditure of approximately Rs. 1,522.7 crore (USD 227 million) in FY 2017/18.

The revised schedule of price increases (the exact duration of which is unclear, but appears to include 13 fortnightly increases of Rs. 0.25 prior to the end of the financial year, representing a total increase of at least Rs. 4) will, on the basis of the allocation and uplift projections outlined, result in a net reduction in kerosene subsidy expenditure of approximately Rs. 850.8 crore (USD 127 million) in FY 2016/17 (full calculations provided below). This represents an additional net reduction in kerosene subsidy expenditure of approximately Rs 293 crore (USD 44 million) in FY 2016/17 relative to the initial price increase schedule announced, and is equivalent to approximately 7.4 per cent of total subsidy expenditure on kerosene in the previous year (Rs. 11,496 crore).

Table 2: Total avoided expenditure due to revised kerosene price increase schedule (FY 2016/17)

Month	Monthly increase (Rs.)	Total increase (Rs.)	Monthly consumption (litres)	Total avoided expenditure (Rs. cr)
Apr-16	0	0	675,720,181	0
May-16	0	0	675,720,181	0
Jun-16	0	0	675,720,181	0
Jul-16	0.25	0.25	629,823,896	15.75
Aug-16	0.25	0.5	629,823,896	31.49
Sep-16	0.25	0.75	314,911,948	23.62
Sep-16	0.25	1	314,911,948	31.49
Oct-16	0.25	1.25	237,590,679	29.70
Oct-16	0.25	1.5	237,590,679	35.64
Nov-16	0.25	1.75	237,590,679	41.58
Nov-16	0.25	2	237,590,679	47.52
Dec-16	0.25	2.25	237,590,679	53.46
Dec-16	0.25	2.5	237,590,679	59.40
Jan-17	0.25	2.75	237,590,679	65.34
Jan-17	0.25	3	237,590,679	71.28
Feb-17	0.25	3.25	237,590,679	77.22
Feb-17	0.25	3.5	237,590,679	83.16
Mar-17	0.25	3.75	237,590,679	89.10
Mar-17	0.25	4	237,590,679	95.04
Total				850.76

Assuming an additional 10 per cent reduction in the total volume of subsidized kerosene allocated relative to the projected FY 2016/17 allocation, and no further price changes in FY 2017/18, this schedule of price increases will result in a net reduction in kerosene subsidy expenditure of Rs. 2,436.4 crore (USD 363 million) in FY 2017/18, representing an additional net reduction in subsidy expenditure of Rs 916.3 crore (USD 137 million) in FY 2016/17 relative to the schedule of price increases initially announced.

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IISD Head Office

111 Lombard Avenue, Suite 325
Winnipeg, Manitoba
Canada R3B 0T4

Tel: +1 (204) 958-7700
Website: www.iisd.org
Twitter: @IISD_news

GSI

International Environment House 2
9 chemin de Balexert, 1219 Châtelaine
Geneva, Switzerland

Tel: +41 22 917-8683
Website: www.iisd.org/gsi
Twitter: @globalsubsidies

