



# Kerosene Subsidies in India

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## Summary

- In FY 2013/14, total kerosene subsidies amounted to Rs. 31,256 crore (USD \$5.1bn), representing 19.1% of total fuel subsidies (Rs. 142,470 crore, or USD \$23.4bn).
- Kerosene under-recoveries, which constitute the large majority of total kerosene subsidies, 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.
- The retail price of Public Distribution System (PDS) kerosene is administratively controlled, and has increased only twice between March 2002 and August 2014 (barring minor amendments).
- 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.
- Analysis of household survey data indicates that direct subsidy transfers from kerosene are relatively evenly distributed across income deciles, however subsidized kerosene is subject to high levels of diversion.
- In FY 2012/13, Uttar Pradesh was the largest absolute recipient of kerosene subsidies, followed by West Bengal, Maharashtra and Bihar. Among major states and union territories, Jammu and Kashmir was the highest per capita recipient of kerosene subsidies, followed by Gujarat, Assam and West Bengal.

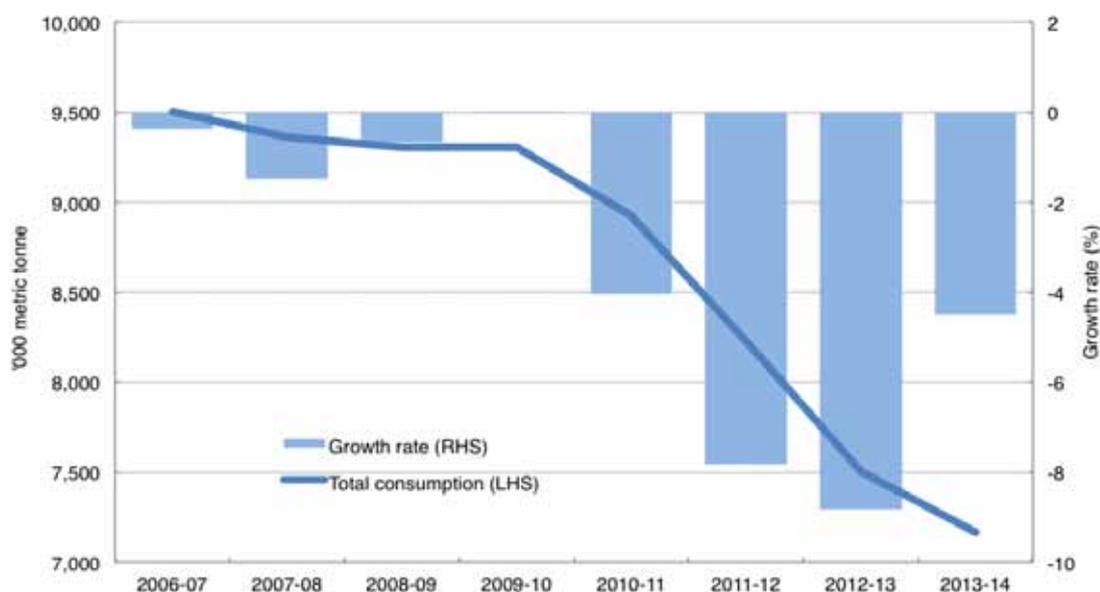
# Kerosene Consumption

Kerosene or SKO (“Superior Kerosene Oil”) is an oil distillate used primarily 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.<sup>1</sup>

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.<sup>2</sup>

Total kerosene consumption has declined substantially in the previous decade, falling from 10.2 million metric tonnes (MMT) in FY 2003/04 to 7.2 MMT in FY 2013/14, a decline of 30% (Figure 1). 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 2).

Figure 1: Annual kerosene consumption (2006/07-2013/14)

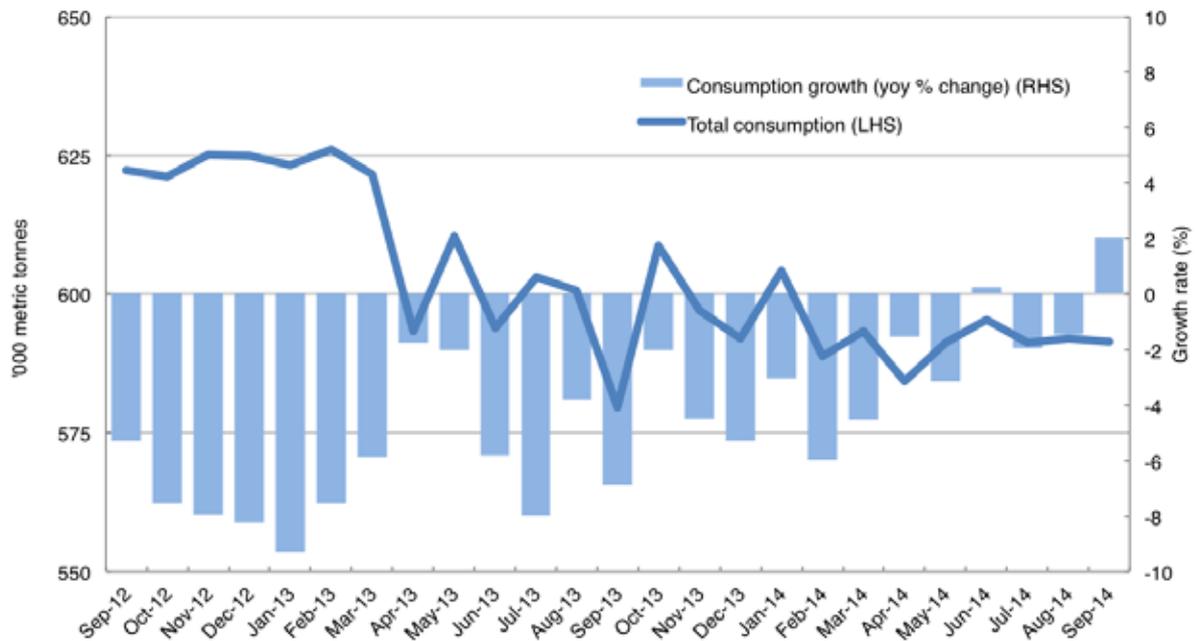


Source: MoPNG (2014a).

<sup>1</sup> Both directly and as an adulterant (primarily for diesel).

<sup>2</sup> 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).

Figure 2. Monthly kerosene consumption (Sept 2012-Sept 2014)



Sources: MoPNG (2014a; 2014f).

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,<sup>3</sup> 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.<sup>4</sup>

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.<sup>5</sup> Total annual PDS kerosene allocations has decreased 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.

<sup>3</sup> With the exception of J&K and Lakshadweep (MoPNG, 2013b).

<sup>4</sup> Note that PDS allocations differ from final PDS consumption due to varying rates of quota utilisation by states.

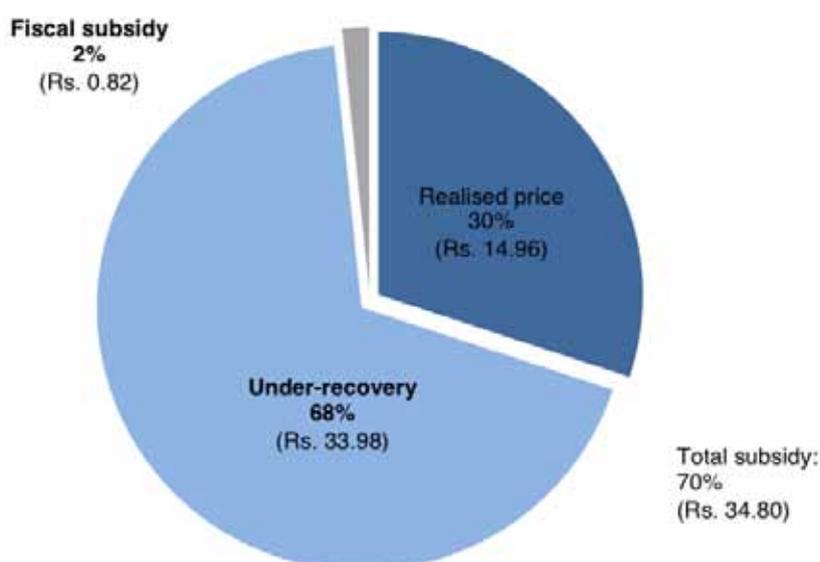
<sup>5</sup> See for example Planning Commission (2011)

## Kerosene Subsidy Expenditure

In FY 2013/14, total kerosene subsidies amounted to Rs. 31,256 crore (USD \$5.1bn), representing 19.1% of total fuel subsidies (Rs. 142,470 crore, or USD \$23.4bn).<sup>6</sup> Barring minor amendments to dealer commissions and other adjustments, the retail price for PDS kerosene has increased only twice between March 2002 and August 2014.<sup>7</sup> In the most recent financial year, PDS kerosene retailed at a fixed price of Rs. 14.96 per litre relative to an average total cost of Rs. 49.76<sup>8</sup>, representing a subsidy of Rs. 34.80 per litre (or approximately 69.9% of total cost).

The retail price of PDS kerosene is currently subsidized through two mechanisms: Oil Marketing Company (OMC) “under-recoveries,” and direct fiscal subsidies. The central government regulates the price at which the public sector OMCs - Oil Corporation Limited (IOCL), Bharat Petroleum Corporation Limited (BPCL) and Hindustan Petroleum Corporation Limited (HPCL) - can sell certain petroleum products,<sup>9</sup> 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).<sup>10</sup> These under-recoveries constitute the large majority of current PDS kerosene subsidies, representing over 97% of total kerosene subsidy expenditure in FY 2013/14 (see Figure 3 below).

**Figure 3. PDS kerosene price breakdown**



Source: Calculated from MoPNG (2014d).

Driven by consistently elevated international oil prices and a substantial decline in the value of the rupee, in FY 2013-14 the average unit under-recovery on the sale of PDS kerosene was Rs 33.98 per litre (2012/13: Rs 31.16) (MoPNG, 2014d). Despite falling levels of total consumption, OMC under-recoveries for PDS kerosene reached a record Rs 30,575 crore (USD \$5.0bn) in FY 2013/14 (see Figure 4 below), with PDS kerosene accounting for 18.4% of total “sensitive product” under-recoveries (including diesel, kerosene and LPG) of Rs 139,869 crore (USD \$23bn) (MoPNG, 2014b).

<sup>6</sup> 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 tonnes of kerosene to Bhutan (Press Trust of India, 2013), incurring a subsidy of approximately Rs. 18 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).

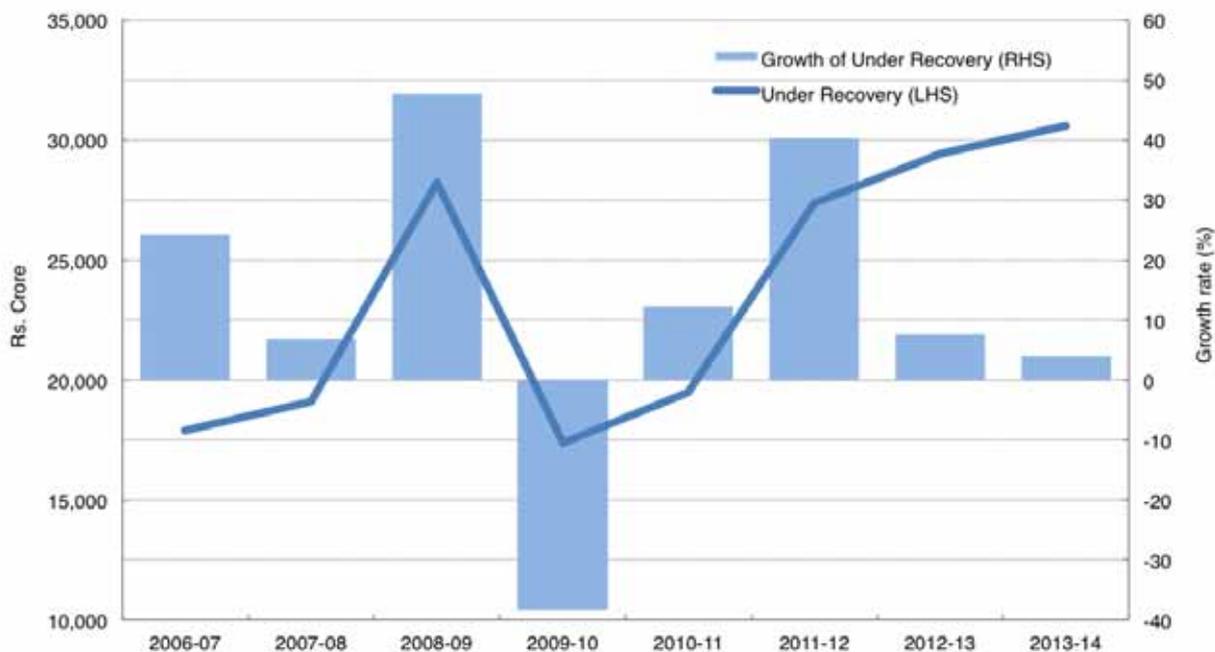
<sup>7</sup> Increasing by Rs. 3 per litre in June 2010 and Rs 2 per litre in May 2011.

<sup>8</sup> 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.

<sup>9</sup> Currently PDS kerosene and domestic LPG.

<sup>10</sup> Subsequent to the realization of under-recoveries by the OMCs, the government then applies an ad hoc burden-sharing mechanism, distributing 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) - primarily Oil and Natural Gas Company Limited (ONGC), and to a lesser extent Oil India Limited (OIL) and Gas Authority of India Limited (GAIL). Note that in addition to recorded under-recoveries on the sale of kerosene, the OMCs also incur further (uncompensated) borrowing costs due to delays in receipt of compensatory payments.

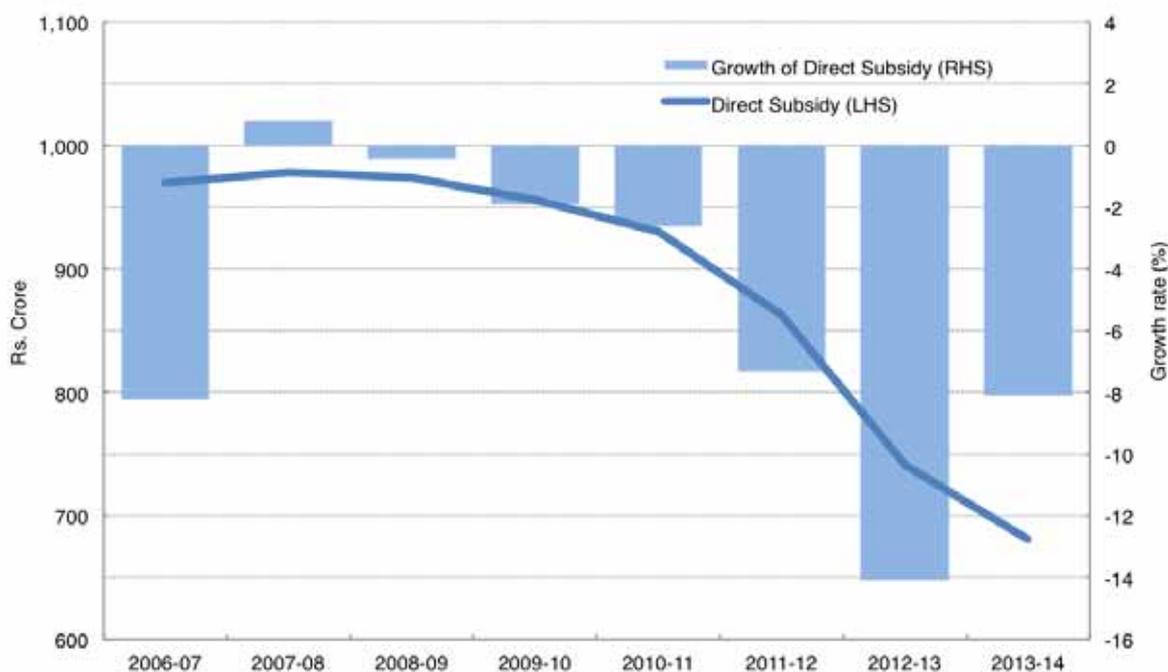
**Figure 4. Kerosene under-recovery (2006/07-2013/14)**



Source: MoPNG (2014b).

Direct fiscal subsidies are direct budgetary expenditures applied on a unit basis. The fiscal subsidy is administered as a flat-rate subsidy (currently Rs. 0.82 per litre), and has remained unchanged since FY 2004/05. In FY 2013/14, direct subsidies declined by 8.8% to Rs. 681 crore (USD \$112m), reflecting a continued reduction in the total consumption of subsidized kerosene by volume (see Figure 5 below).

**Figure 5. Kerosene direct subsidy (2006/07-2013/14)**

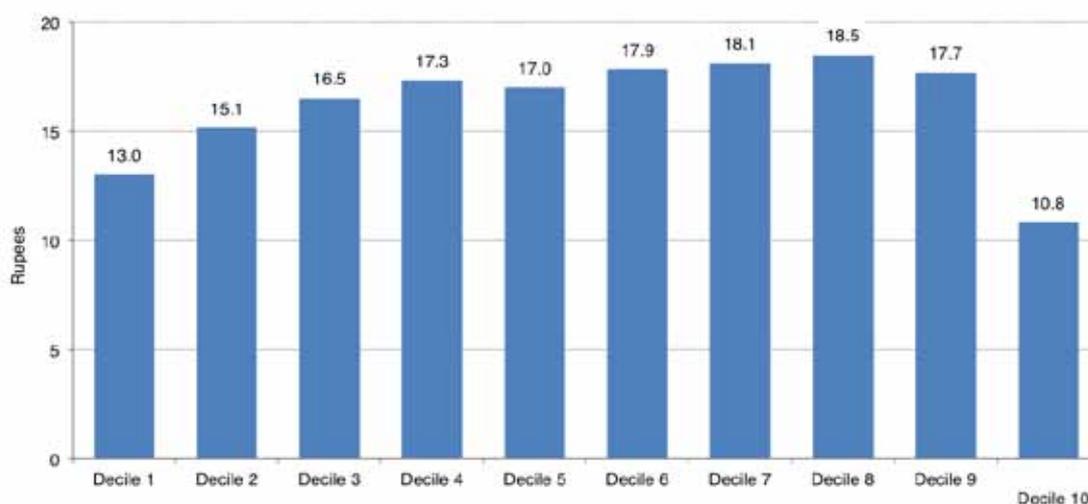


Source: MoPNG (2014c).

## Kerosene Subsidy Distribution

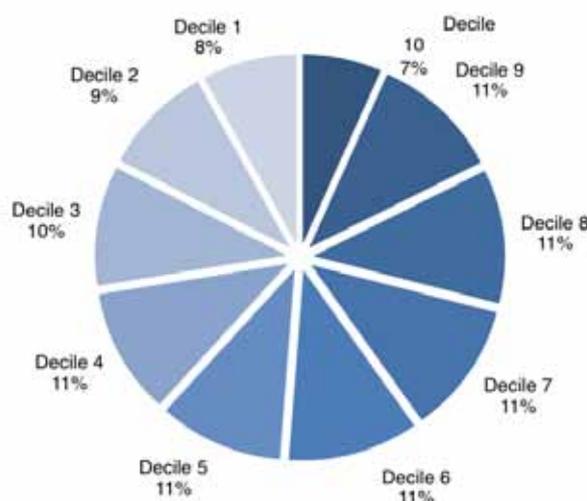
Previous analysis of household survey data has indicated that direct subsidy transfers from kerosene are relatively evenly distributed across national income deciles.<sup>11</sup> Figures 6 and 7 below outline the estimated amount and relative distribution of direct subsidy transfers by decile obtained from the NSSO's 66th Round.<sup>12</sup>

**Figure 6. Social distribution of kerosene subsidies (Rs. per capita direct transfer per month by decile) (2009/10)**



Source: Anand et al (2013)

**Figure 7. Social distribution of kerosene subsidies (% of total direct transfer by decile) (2009/10)**



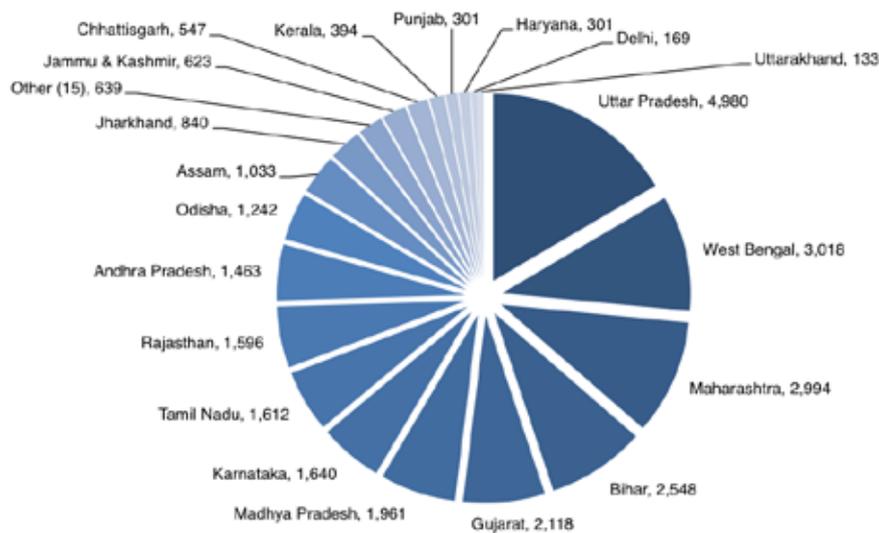
Source: Anand et al (2013).

In FY 2012/13,<sup>13</sup> 10 states - Uttar Pradesh, West Bengal, Maharashtra, Bihar, Gujarat, Madhya Pradesh, Karnataka, and Tamil Nadu, Rajasthan and Madhya Pradesh - together accounted for over 75% of total kerosene subsidy transfers. Figure 8 below outlines the aggregate subsidy transfer and percentage of total subsidy expenditure for the 20 largest kerosene subsidy recipient states.<sup>14</sup>

<sup>11</sup> Anand et al (2013). See also Datta (2010).

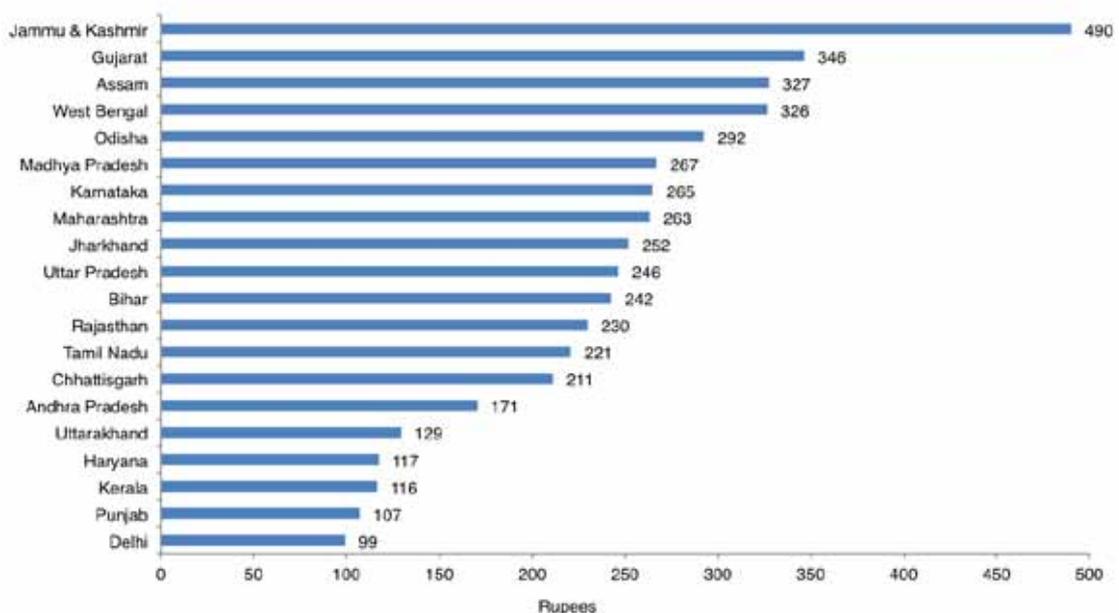
<sup>12</sup> Covering the period from mid-2009 to mid-2010.

<sup>13</sup> The most recent year for which consumption data disaggregated by state is available.

**Figure 8. Total subsidy expenditure on kerosene (Rs. crore) (2012-13)**

Sources: Calculated from MoPNG (2014b; 2014c; 2013a)

On a per capita basis, small hill and island states and union territories were the largest beneficiaries of kerosene subsidies, with Sikkim receiving the highest per capita subsidy (Rs. 718 per capita)<sup>15</sup>. Among large states, Jammu and Kashmir was the highest per capita recipient of kerosene subsidies at Rs. 490 per person,<sup>16</sup> followed by Gujarat (Rs. 346), Assam (Rs. 327) and West Bengal (Rs. 326) (see Figure 9 below). Delhi - which has since ended the formal provision of kerosene through the PDS system<sup>17</sup> - was the lowest per capita recipient of kerosene subsidies among major states and UTs in FY 2012/13 at Rs. 99 per capita.

**Figure 9. Per capita kerosene subsidy expenditure (top 20 by population) (2012-13)**

Sources: Calculated from MoPNG (2014b; 2014c; 2013a); Census of India (2011).

14 Note that the methodology used to calculate state-level subsidy transfers assumes a uniform distribution of subsidized and non-subsidised kerosene consumption across states, and does not account for inter-state or cross-border diversion.

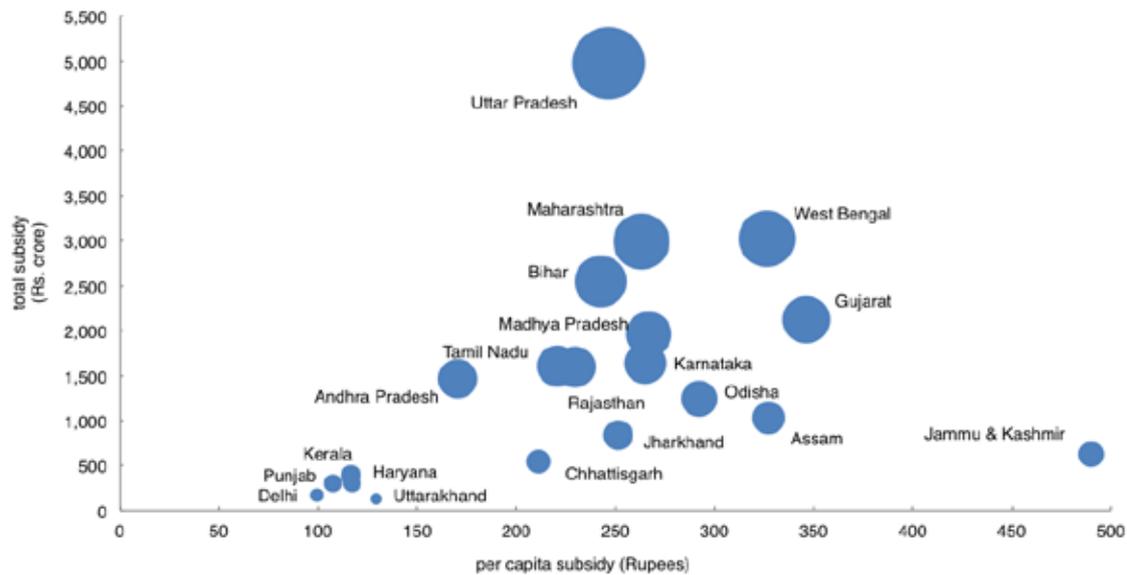
15 As with several border states, this may include a component of cross-border leakage.

16 Note that this may include a significant amount of consumption by (non-state origin) police and military personnel.

17 PDS kerosene imported from neighbouring states is still reported to be widely available in the parallel market – see for example Jain (2014); Kant (2014).

18 Frequently with official collusion and political patronage—see for example Ramu (2014); Sharma (2012); Deshpande (2011); Dutta (2011); Indian Express (2011); Ramachandran (2005a; 2005b); and Outlook (2005).

**Figure 10. Total vs. per capita kerosene subsidy (top 20 by consumption) (2012-13)**

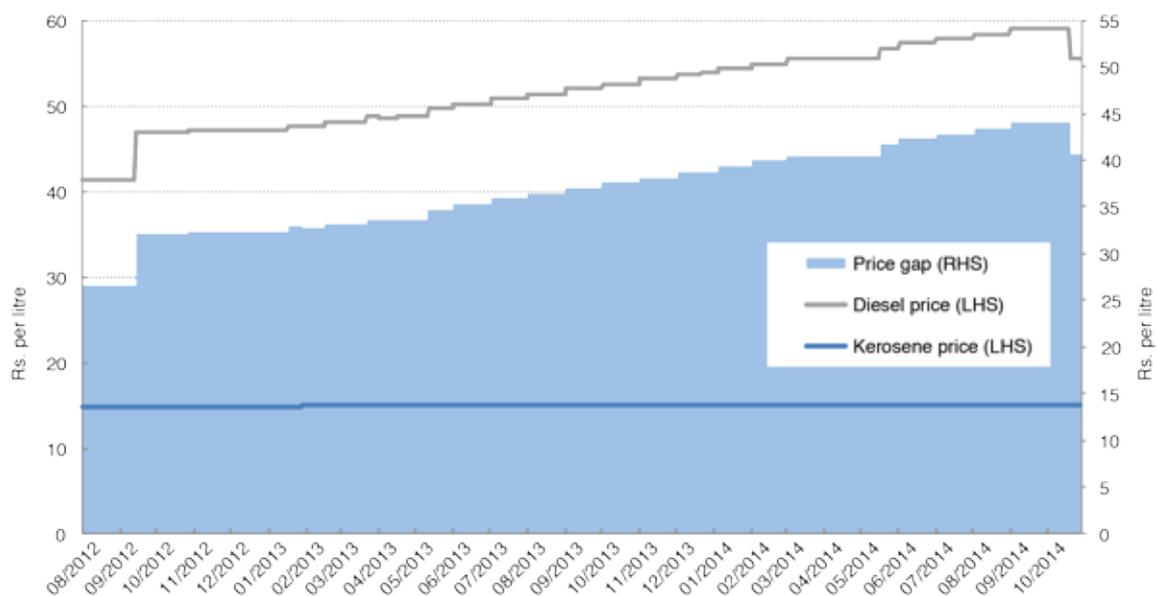


Sources: Calculated from MoPNG (2014b; 2014c; 2013a); Census of India (2011).

PDS kerosene is subject to high levels of diversion to the parallel market, both for sale to households and for a range of non-household uses (primarily as a diesel adulterant or substitute).<sup>18</sup> A recent analysis of PDS allocations and household survey data from the NSSO's 68th Round estimates total PDS kerosene leakage to parallel markets in 2011/12 at approximately 45% of total allocation, with a wide variance between states.<sup>19</sup>

In addition to the existing drivers of PDS kerosene diversion, the successful reform of diesel subsidies undertaken since September 2012 has significantly increased the price differential between PDS kerosene and diesel - expanding by 65% in the past two years, from Rs. 26.49 in August 2012 to a record high of Rs. 44.01 in September 2014 (see Figure 11 below)<sup>20</sup> - further increasing the incentives for PDS kerosene diversion to the parallel market.

**Figure 11. PDS kerosene and retail diesel price differential (Aug 2014-Oct 2014)**



Sources: MoPNG (2014e; 2014g).

<sup>19</sup> Gupta (2014). This is consistent with earlier estimates of leakage rates using a similar methodology – for example, Gangopadhyay et al (2005) estimate levels of leakage in 1993/4 and 1999/2000 at 49% and 50% respectively. An internal government assessment reported in August 2014 estimated that 3.87 billion litres of PDS kerosene (or around 33% of total supply) was diverted to non-household uses, and that Rs. 11,910 crore of unaccounted income was generated in 2011-12 through the use of PDS kerosene as an adulterant for diesel (Mehra, 2014).

<sup>20</sup> The differential subsequently fell to Rs. 40.64 in mid-October following decontrol of diesel prices.

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