



# **Energy Subsidy Reform: Lessons and Implications for India**

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# Outline

1. Global Experience with Subsidy Reform
  - Consequences of Energy Subsidies
  - Magnitude – by Product and Region
  - International Lessons for Subsidy Reform
    - 22 case studies ([www.imf.org/subsidies](http://www.imf.org/subsidies))
2. Subsidy Reform in India (draft IMF WP)
  - Emphasis on Equity Considerations

# Consequences of energy subsidies

1. Depress growth
  - Deter investment in energy sector
  - Crowd out critical public spending
  - Distort allocation of resources to energy-intensive sectors
2. Put pressure on fiscal and current account deficits
3. Create negative externalities
  - Global warming (opposite of carbon *taxes*)
4. Exacerbate inequality (e.g., are regressive)

# Definitions

## 1. Producer subsidies

- Measured against international (reference) price

## 2. Consumer subsidies

- *Pre-tax subsidies*

- If consumer prices < cost of supply

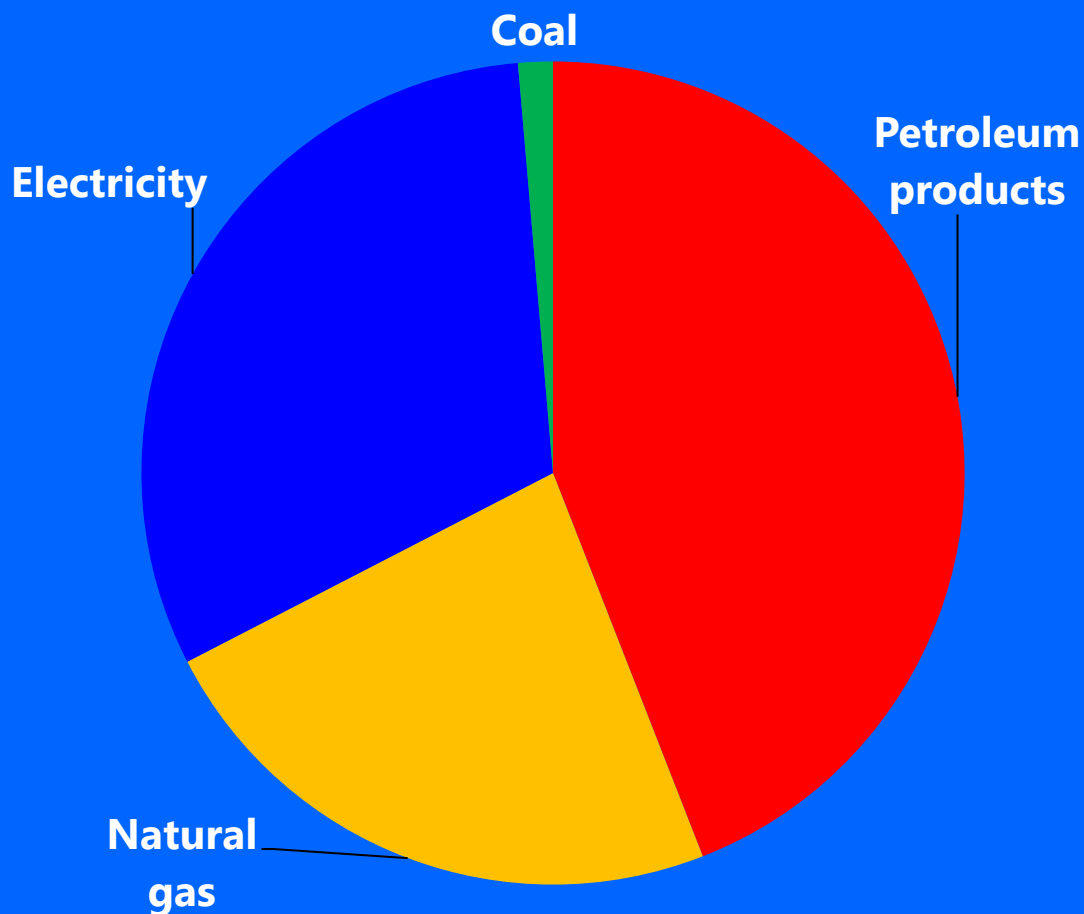
- *Tax subsidies*

- If taxes are below efficient level (including taxes to offset externalities)

- Pre-tax plus tax subsidy = post-tax subsidy

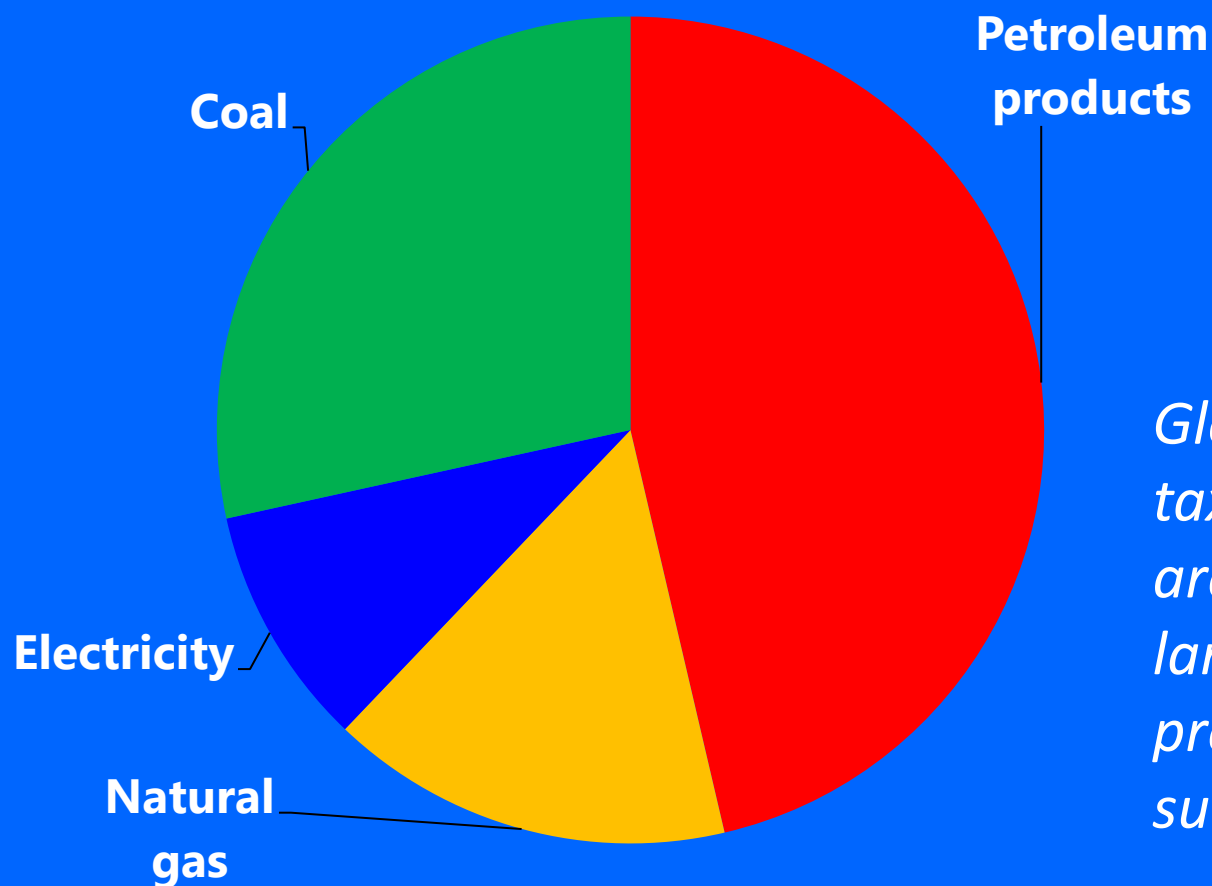
# Magnitude of energy subsidies: Petroleum and electricity dominate pre-tax subsidies

Pre – tax: \$480 billion (0.7% GDP, 2.1% revenues)



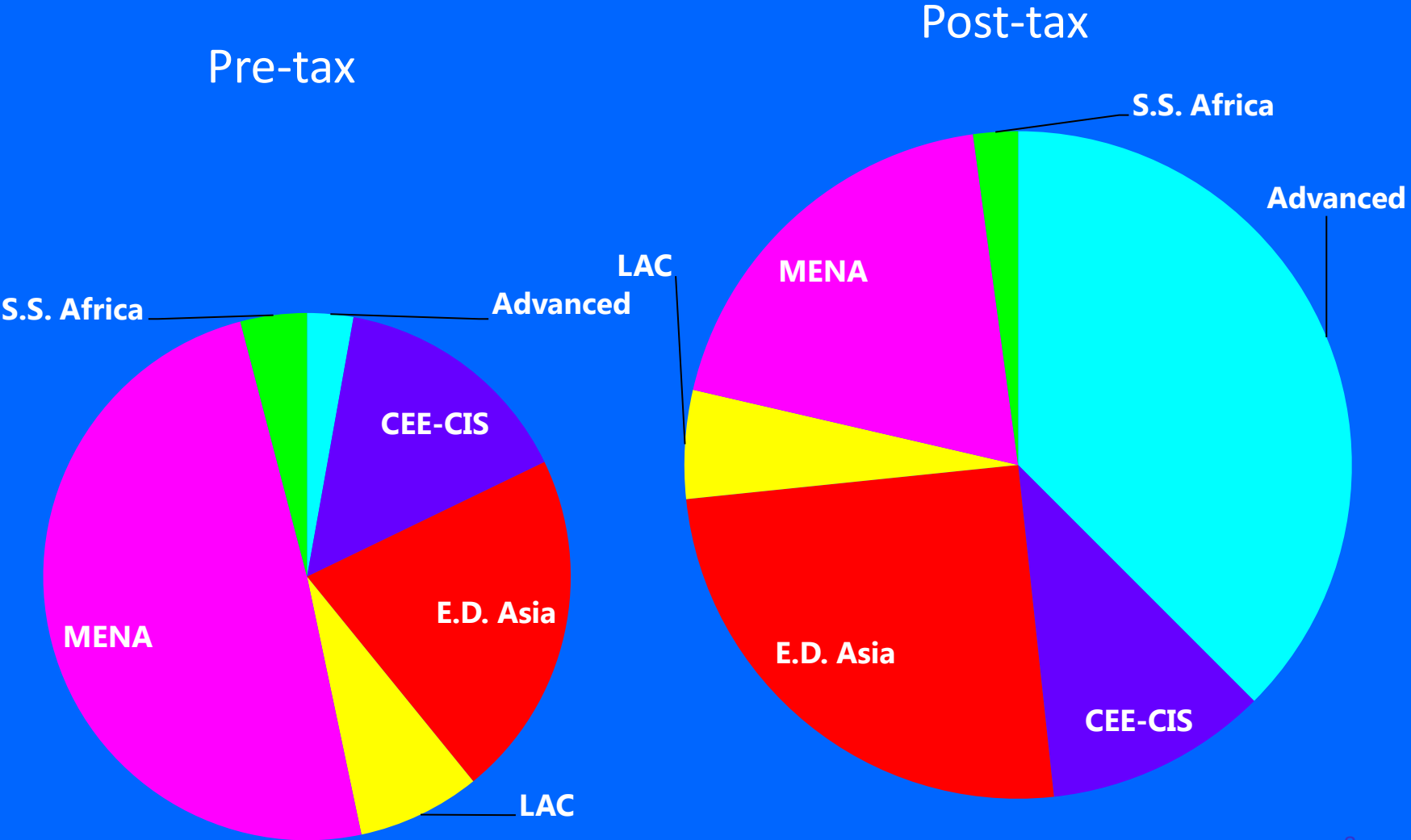
# Magnitude of energy subsidies: Coal is also important for post-tax subsidies

Post – tax: \$1.90 trillion (2.7% GDP, 8.1% revenues)

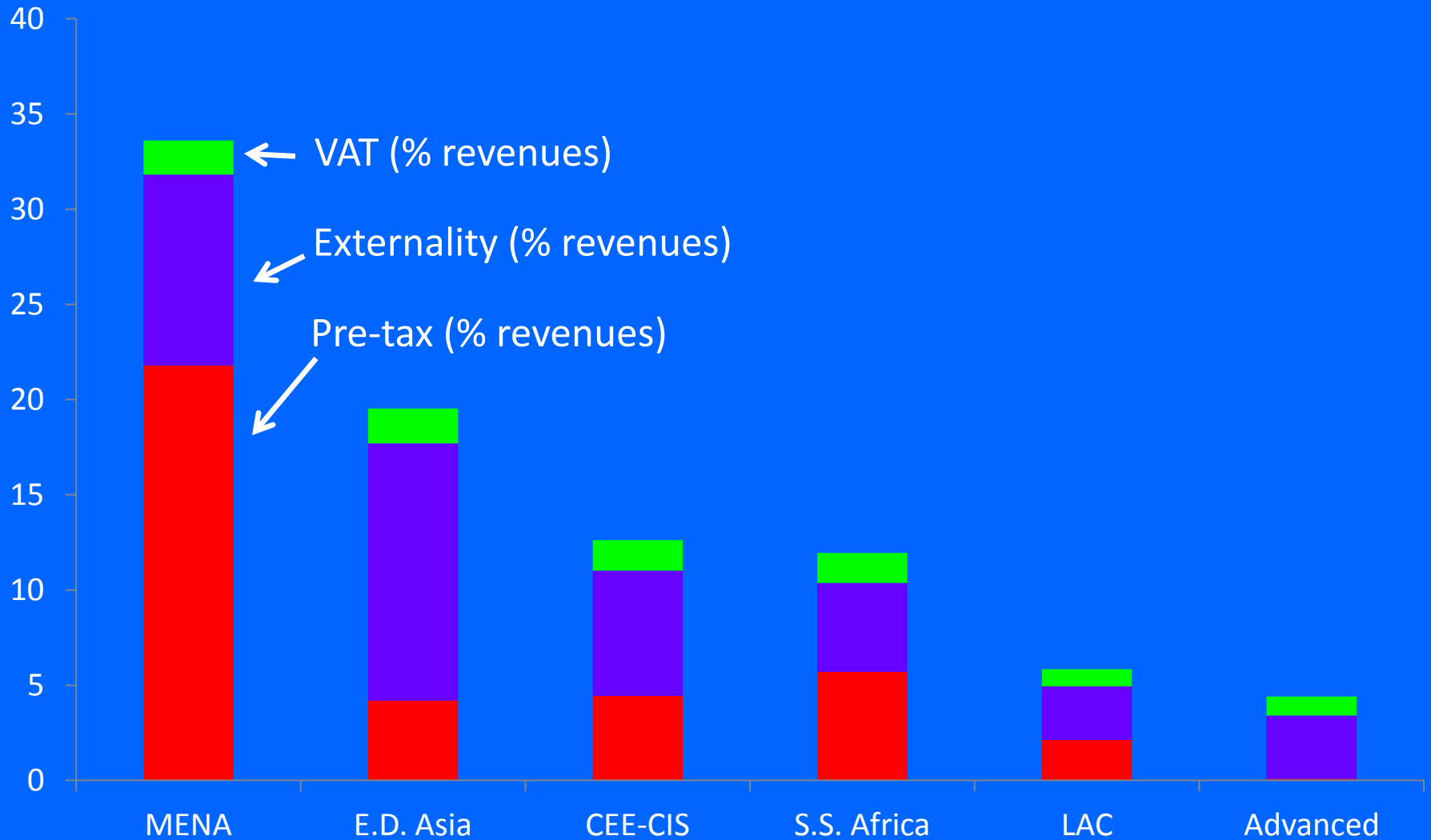


*Globally: post-tax subsidies are 4 times larger than pre-tax subsidies*

# Middle East dominates pre-tax subsidies, but advanced economies account for 40 percent of post-tax subsidies



# Under-pricing for externalities accounts for a large share of post-tax subsidies across all regions





# International Lessons for Subsidy Reform

- Based on 22 case studies
  - All 5 regions of the world
  - 28 reform episodes:
    - 12 successes, 11 partial successes, 5 failures
    - Uganda is one (success)



Six key reform ingredients

# Six Key Reform Ingredients

## 1. Comprehensive reform plan

- Clear long-term objectives
- Assess impact of reforms (who wins, loses)

## 2. Extensive communication strategy

- Transparency about size of subsidies
- Consult w/ stakeholders about benefits of reform

## 3. Appropriately phased, sequenced price hikes

- Allow time to adjust, build safety net
- Sequence increases differently across products
  - ✓ Petrol & diesel, then LPG, then kerosene

# Six Key Reform Ingredients

## 4. Improve efficiency of state-owned firms

- Depoliticize, set performance targets, introduce competition if appropriate

## 5. Target mitigating measures to protect the poor

- Targeted cash transfers are preferred
- Expand other programs if cash transfers impossible

## 6. Depoliticize price (tariff) setting

- Automatic, rules-based price mechanism
  - ✓ May involve price smoothing
- Autonomous body to oversee price setting

# Case Study: Ugandan Electricity Sector

**Background:** Power sector reformed in late 1990s

**Problem** (as of 2011-12): Politicization: “Independent” regulator left tariffs unchanged for 10 years

- ➔ -- Subsidy (mainly on-budget) > 1% GDP  
-- Little investment in sector (load shedding)

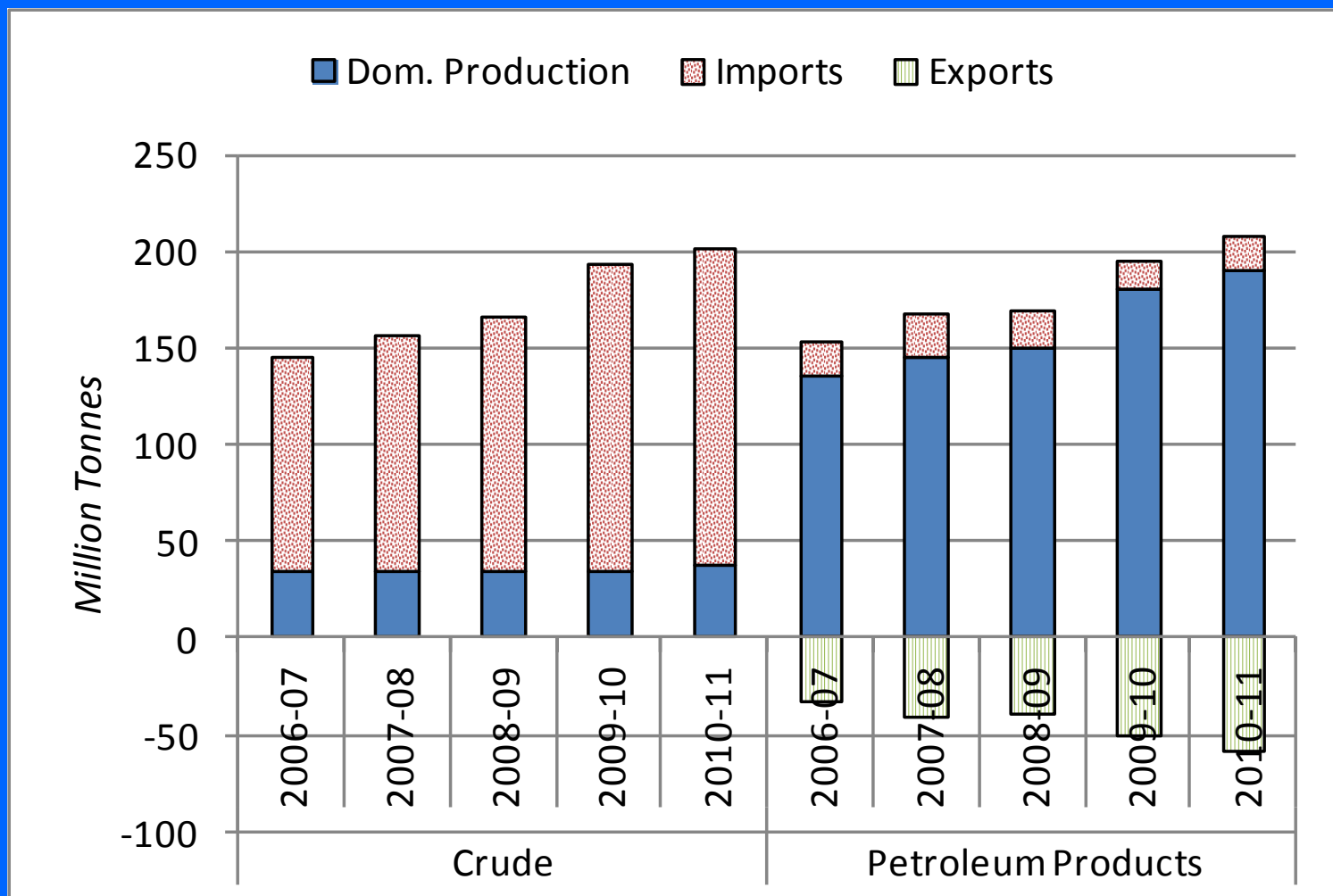
**Solution:** Broad discussion of *incidence of benefits*  
(only better-off families had power)

- ➔ One-off tariff hike & independent tariff setting mechanism



# India: Background on Fuel Sector

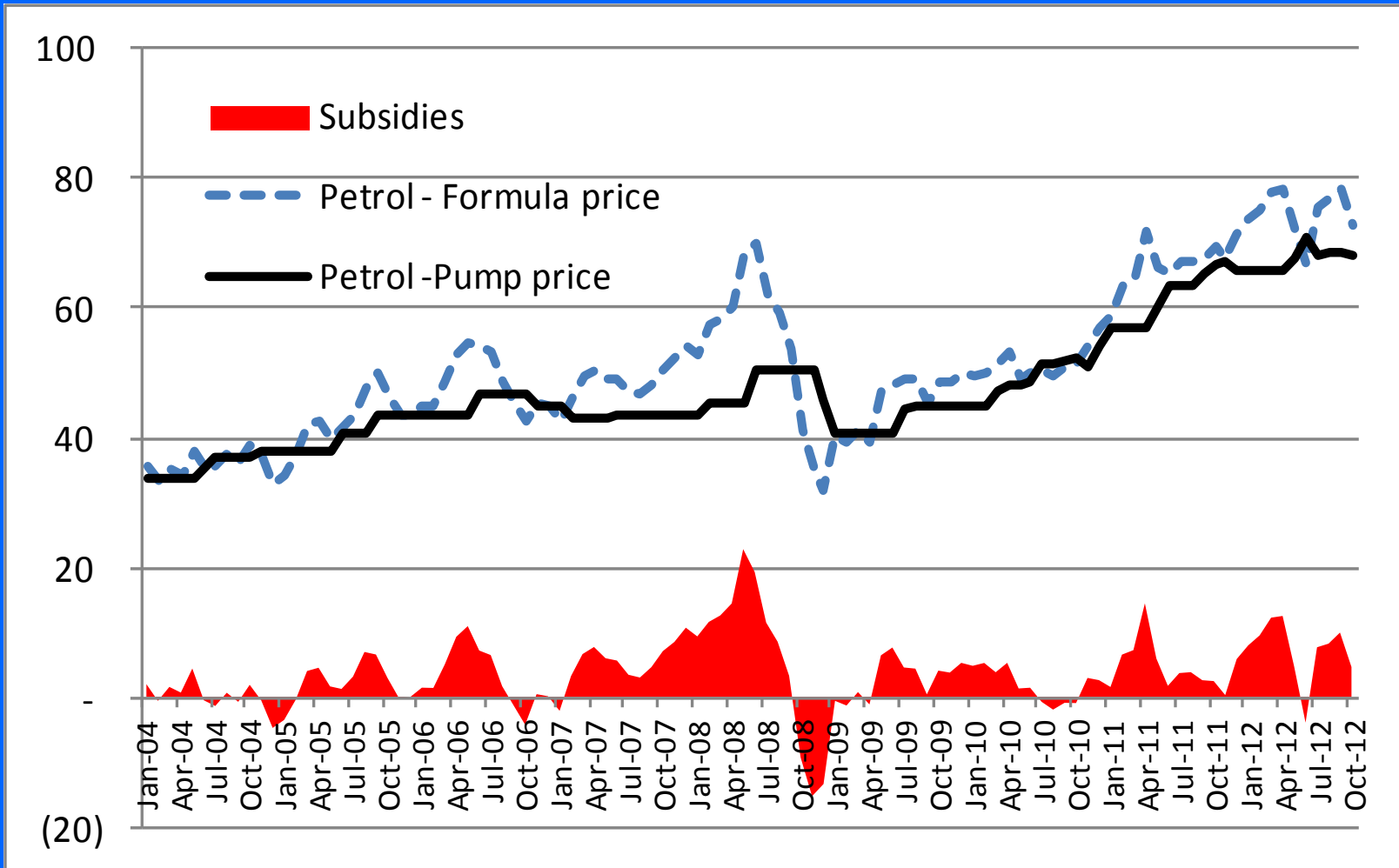
## Crude Oil and Petroleum Products: Production, Imports, and Exports



Source: Ministry of Petroleum and Natural Gas

# India: Evolution of Fuel Product Prices & Subsidies

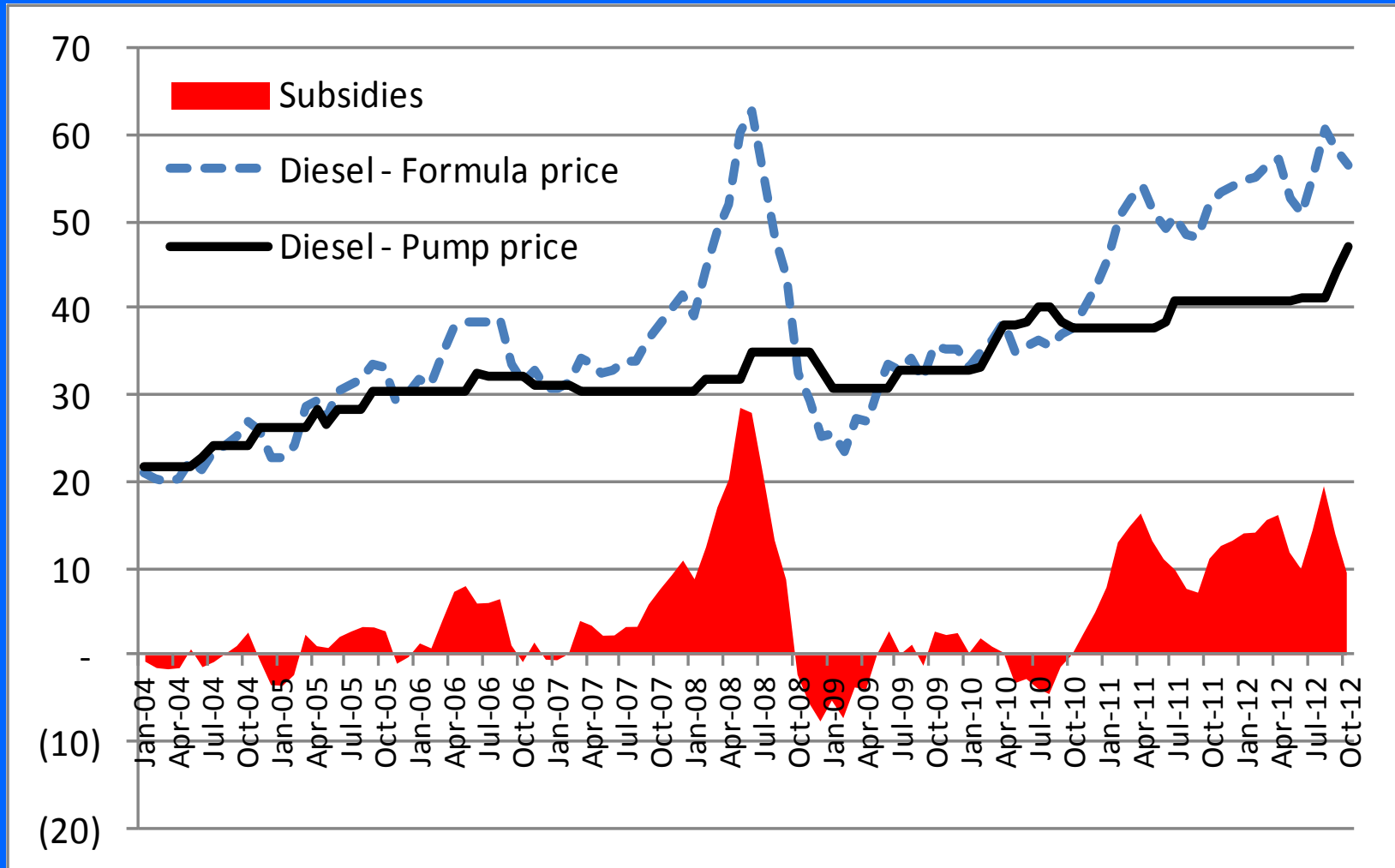
## Petrol (rupees/liter)



Source: IMF staff estimates based on authorities' data

# India: Evolution of Fuel Product Prices & Subsidies

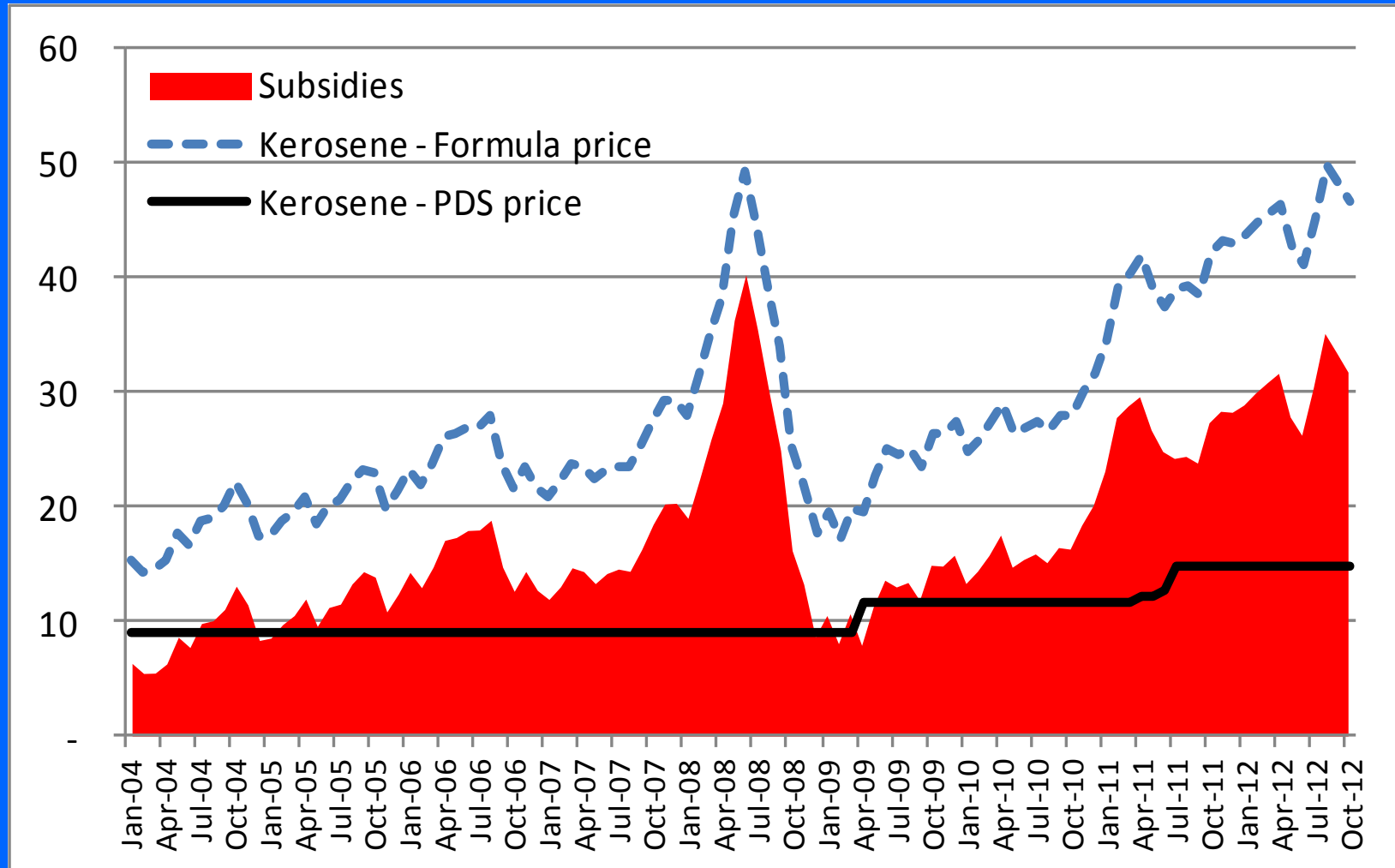
## Diesel (rupees/liter)



Source: IMF staff estimates based on authorities' data

# India: Evolution of Fuel Product Prices & Subsidies

## Kerosene (rupees/liter)

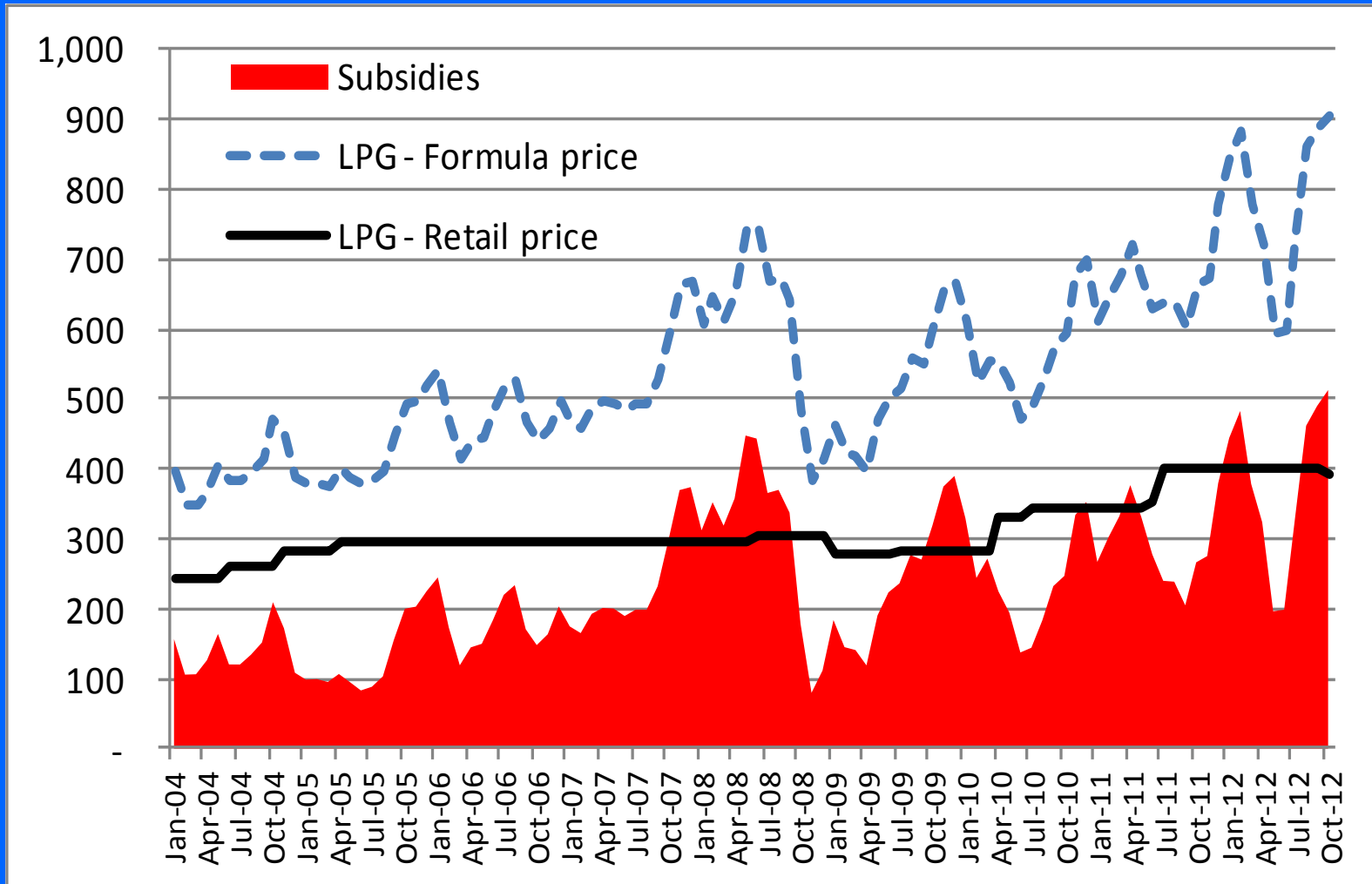


Source: IMF staff estimates based on authorities' data



# India: Evolution of Fuel Product Prices & Subsidies

## LPG (rupees/14.2 kg gas cylinder)



Source: IMF staff estimates based on authorities' data

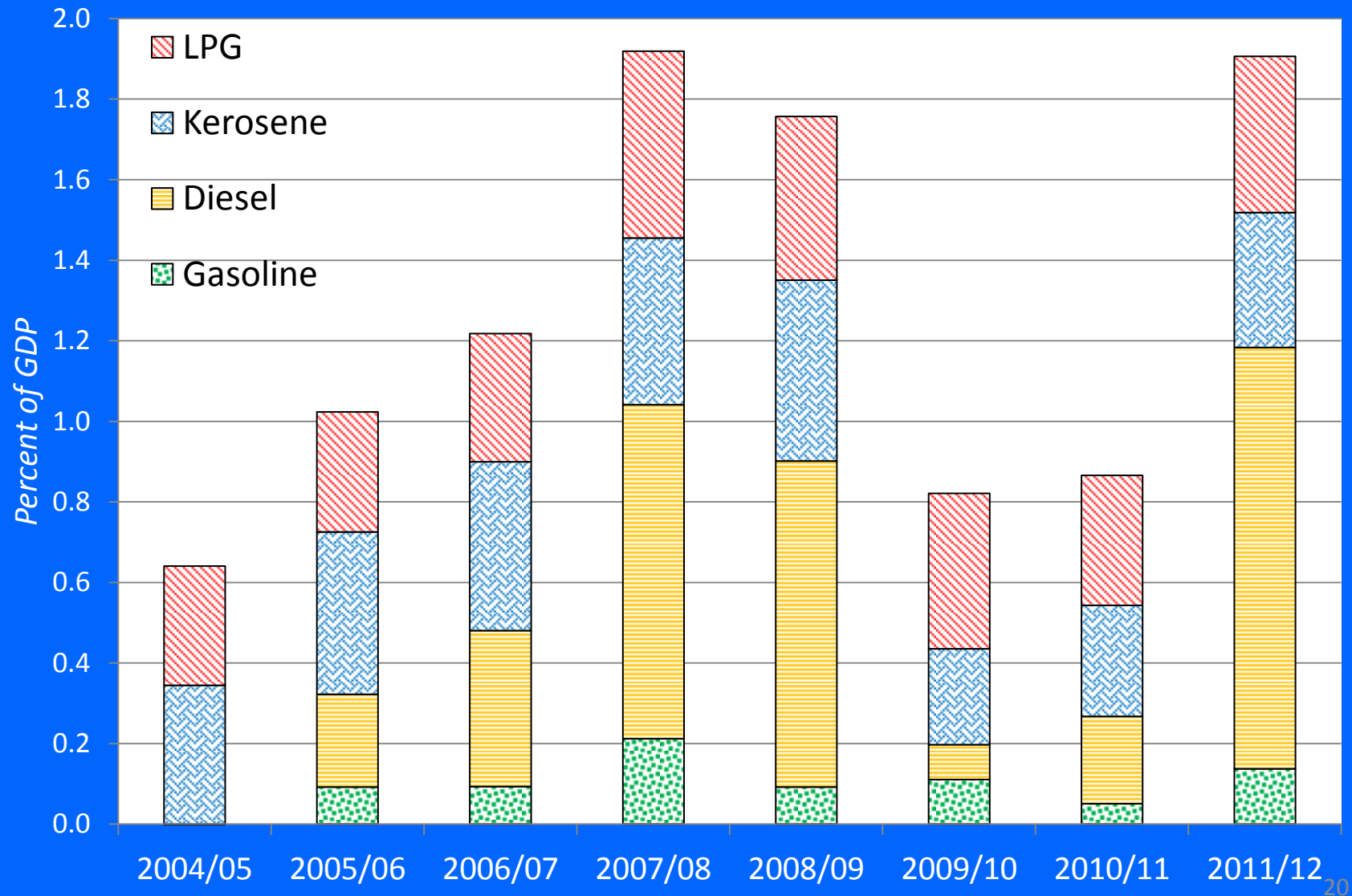
# India: Under-pricing of Fuel Products

(November 2012, rupees /liter or /cylinder)

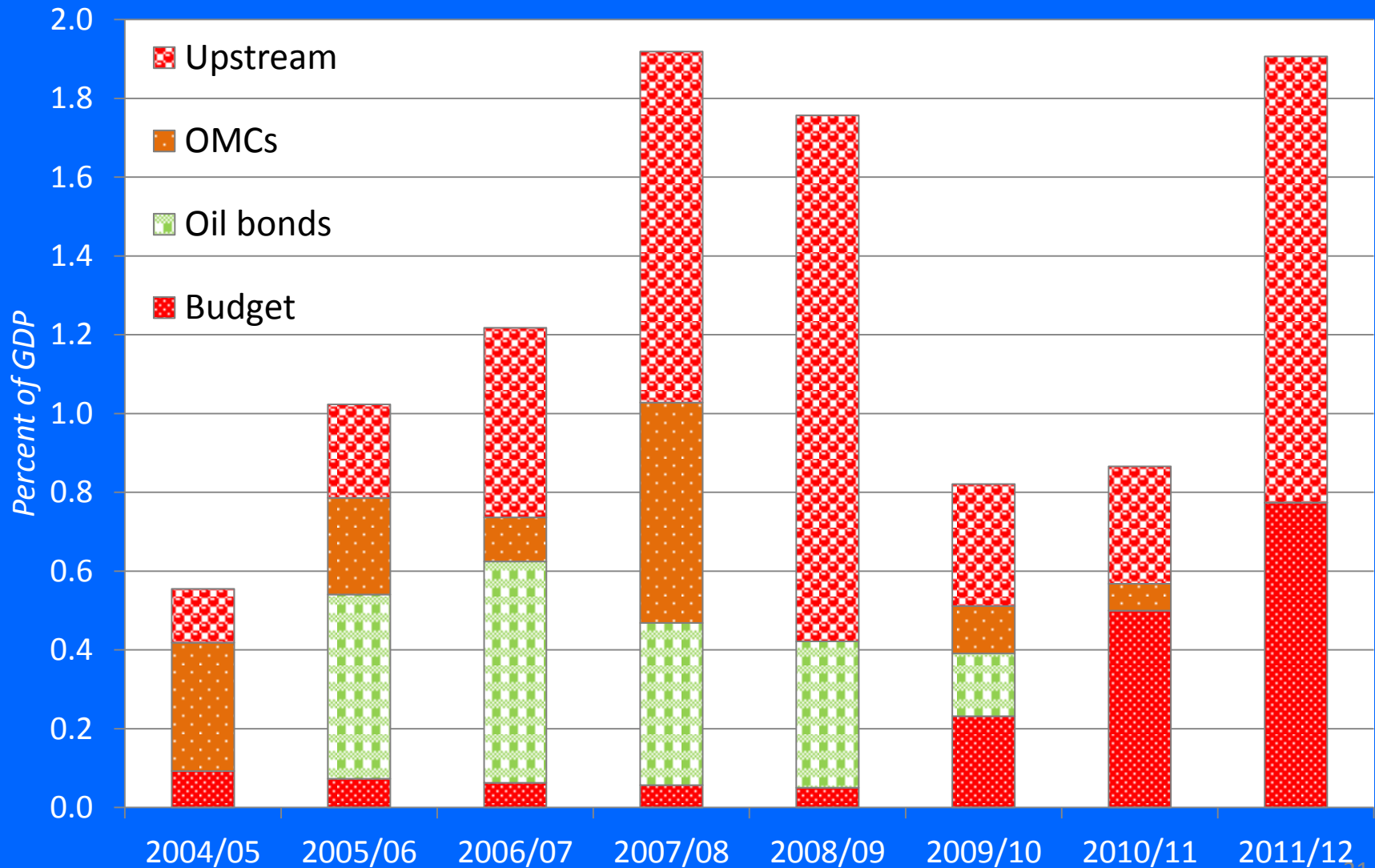
	Import Parity Price	Regulated Price	Difference	Percent of Regulated Price
Kerosene	46.9	14.8	32.1	217.4
LPG	911.5	410.5	501.0	122.1
Diesel	57.0	47.2	9.8	20.9
Petrol	72.7	68.1	4.7	6.8

Source: IMF staff estimates

# India: Fiscal Cost of Fuel Subsidies

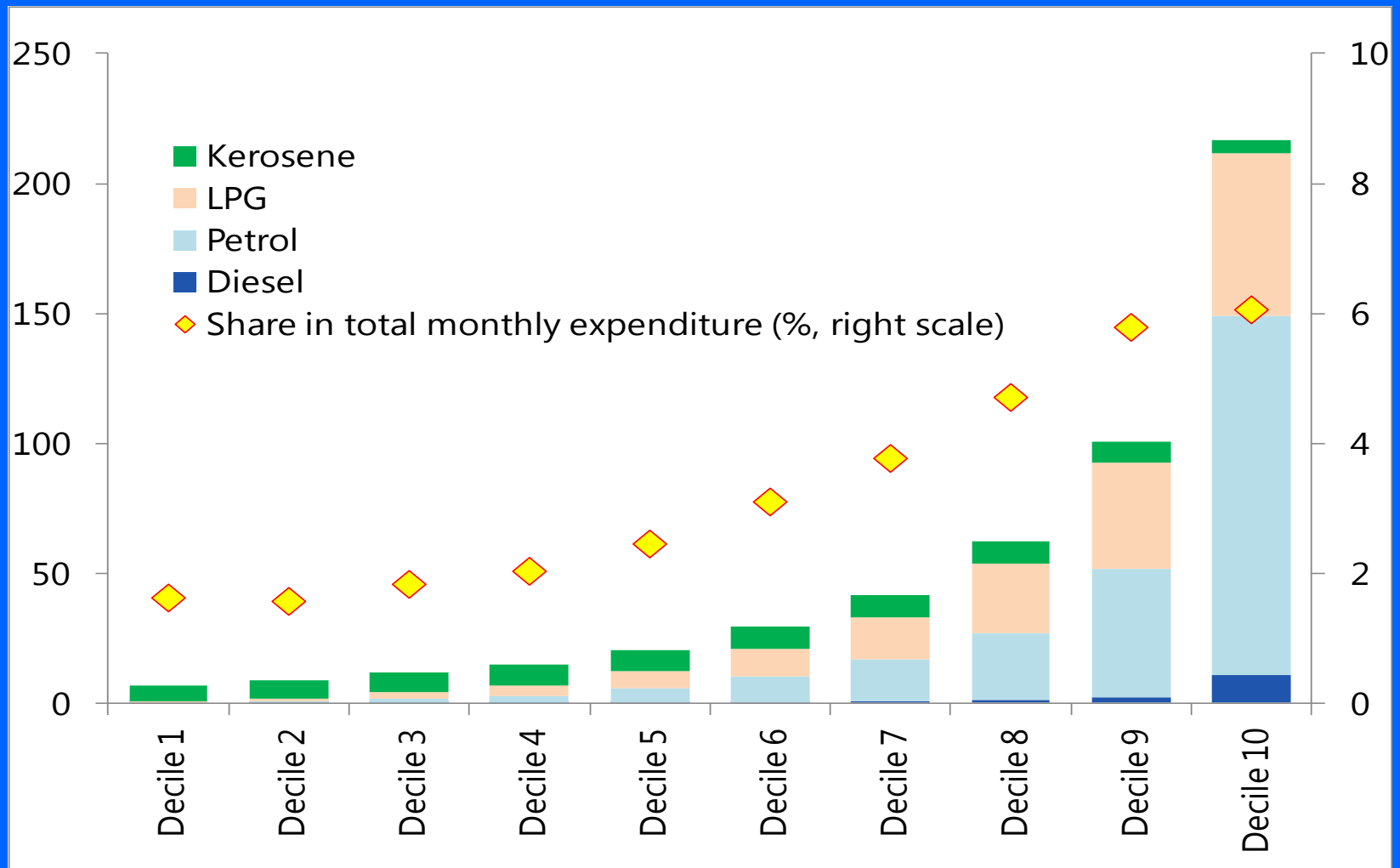


# India: Financing of Fuel Subsidies



# India: Who spends what on fuel?

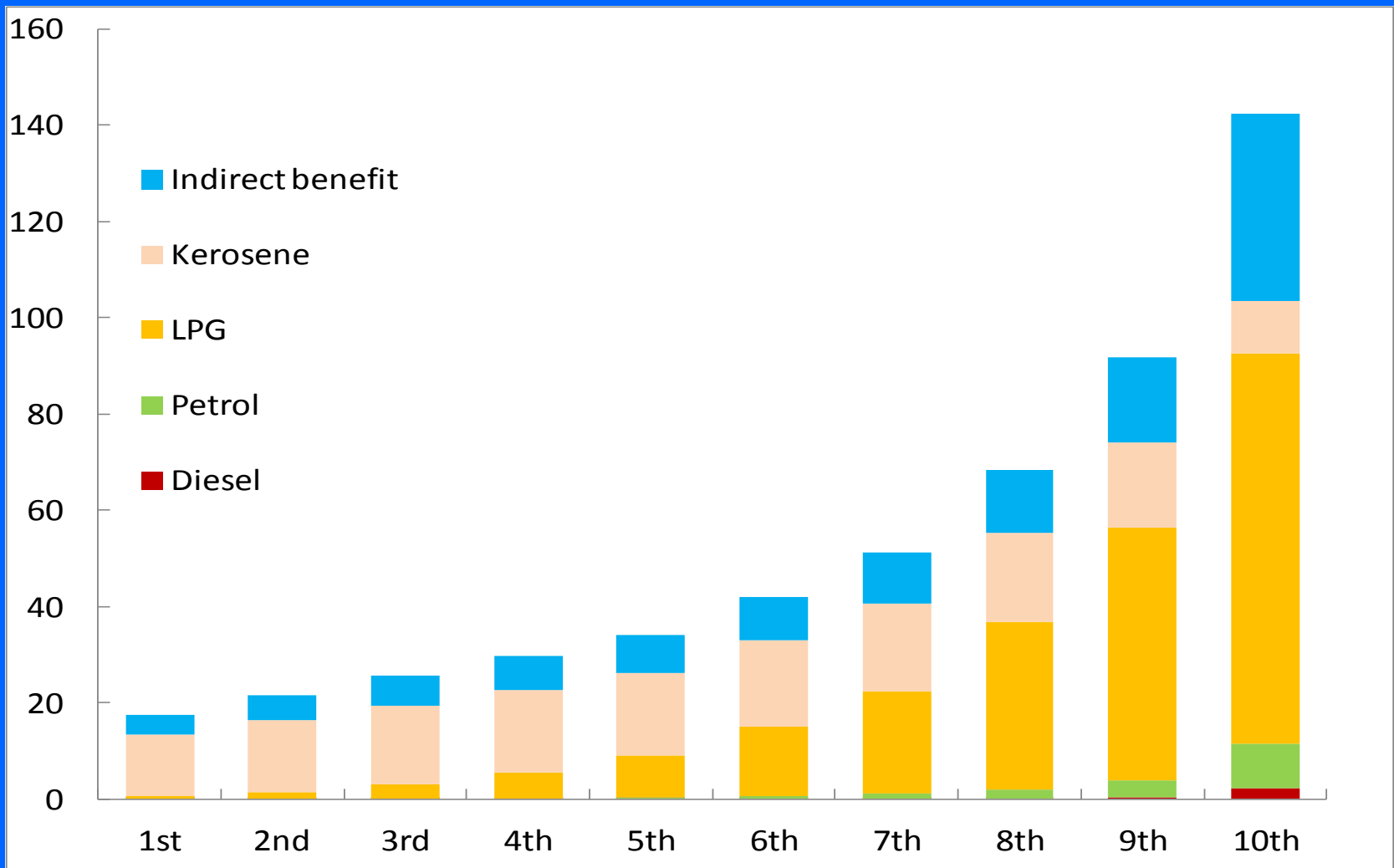
## Composition of HH Fuel Spending by Income Group, 2009-10 (Rupees per capita/month)



Source: IMF staff estimates based on 2009-10 HH Socio-Economic Survey

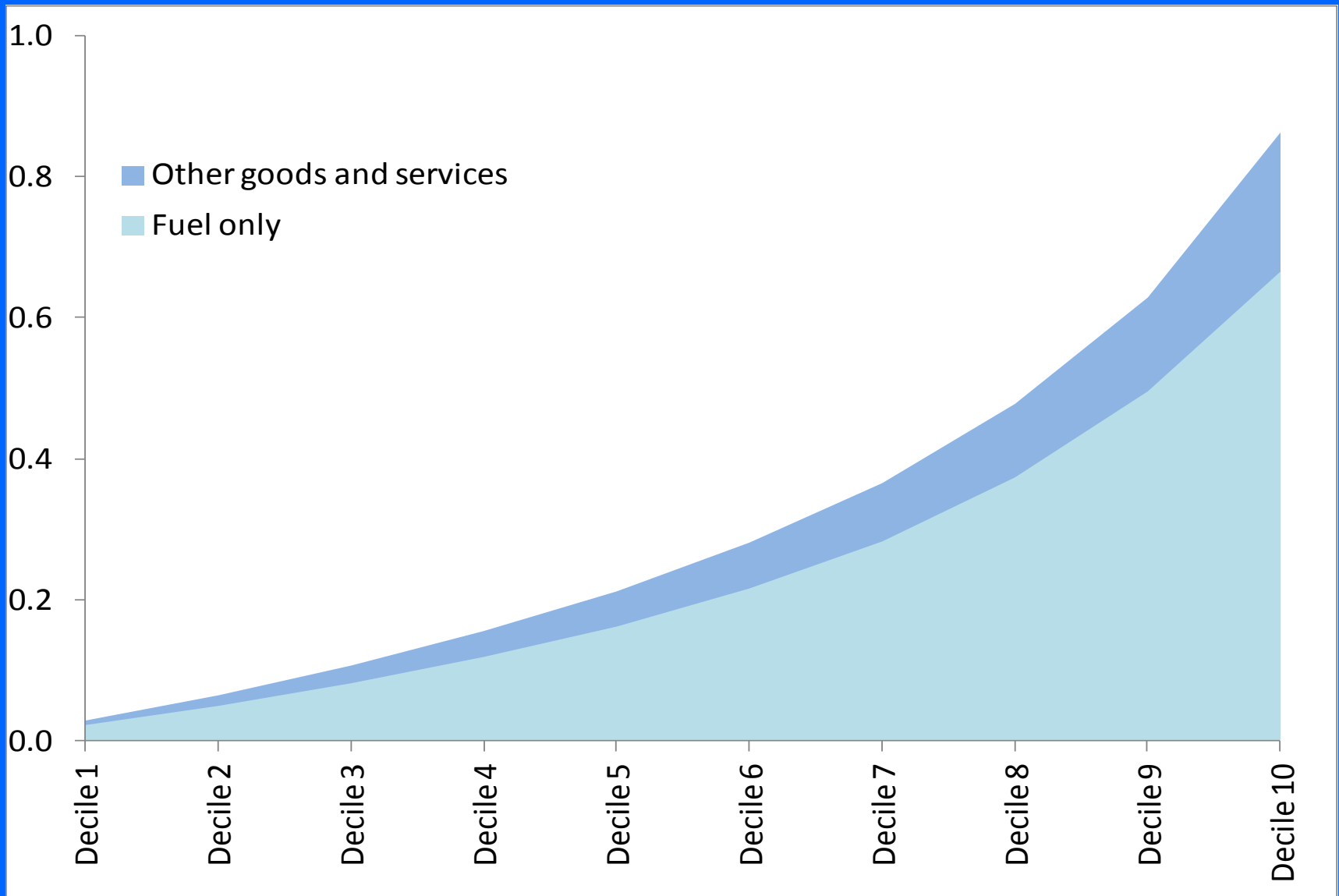
# India: Who benefits most from fuel subsidies?

## Welfare Loss from Subsidy Reform by Income Group (Rupees per capita/month)



Source: IMF staff estimates based on 2009-10 HH Socio-Economic Survey

# Cumulative Fiscal Cost of Compensating HHs for Subsidy Reform (in 2009-10: Percent of GDP)



Source: IMF staff estimates based on 2009-10 HH Socio-Economic Survey

# India: Progress is being made

- Kelkar Commission recommendations aligned with most of 6 key reform ingredients
- Petrol already mostly unsubsidized; diesel price increased significantly – monthly path
- LPG cylinders limited per household, pilot
- Roll out of Aadhaar-based direct cash transfers is in pilot phase, to be rolled out across India
- Kerosene subsidy seen as delicate – poverty impact could be significant



# India: Assessing subsidy reforms—to discuss:

Comprehensive reform plan?

- Senior officials have spelled out ultimate goals, but sequencing, winners/losers not well understood by public

Extensive communications strategy?

- PM, FM have made reform plans clear for diesel, less so for LPG and kerosene

Gradual, sequenced reforms?

- Clear, sensible strategy: began with petrol, now diesel (gradual), then other products

# India: Assessing subsidy reforms—to discuss:

Improvements in SOE efficiency?

- SEBs are raising power tariffs, but more work is needed

Targeted social safety net?

- Impressive effort to introduce direct cash transfers based on UID

Depoliticize price setting?

- Mostly done at state level, so picture is mixed across India

# Thank you

“Both goals of expanding new investment and achieving energy efficiency require a more rational pricing policy, aligning India’s energy prices with global prices. This cannot be done immediately, but we need to outline a phased programme for such adjustment and then work to develop support for making the transition.”

**Prime Minister's Address to the Nation**

**December 31, 2011**



Want to know more?

[www.imf.org/subsidies](http://www.imf.org/subsidies): on energy subsidy reforms

[www.imf.org/asia](http://www.imf.org/asia): on our work in Asia Pacific

[www.imf.org/india](http://www.imf.org/india): on IMF analysis of India

# References & materials

IMF Fiscal Affairs Dept  
project, with IMF  
African and Middle East  
and Central Asian Depts

Includes case studies of  
22 countries

Available at:

[www.imf.org/subsidies](http://www.imf.org/subsidies)

Draft IMF working paper:  
“The Fiscal and Welfare  
Impacts of Reforming  
Fuel Subsidies in India,”  
by R. Anand, D. Coady,  
A. Mohommad, V.  
Thakoor, & J. P. Walsh



*Comments welcome!*