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POLICY REFORMS IN FERTILIZER INDUSTRY

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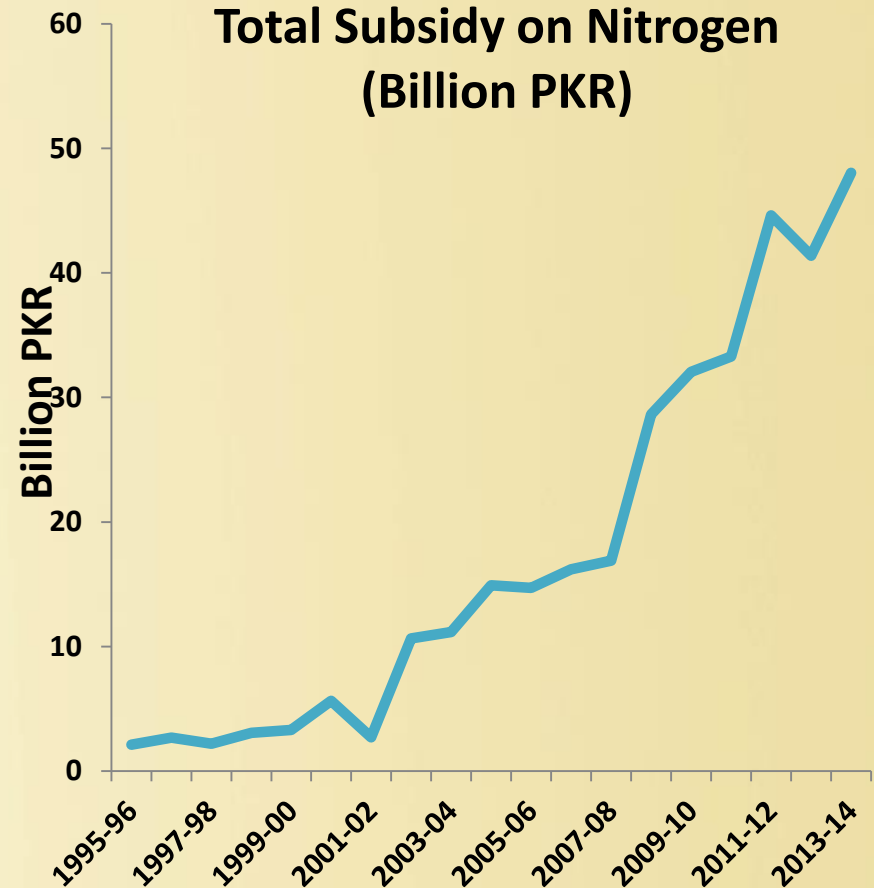
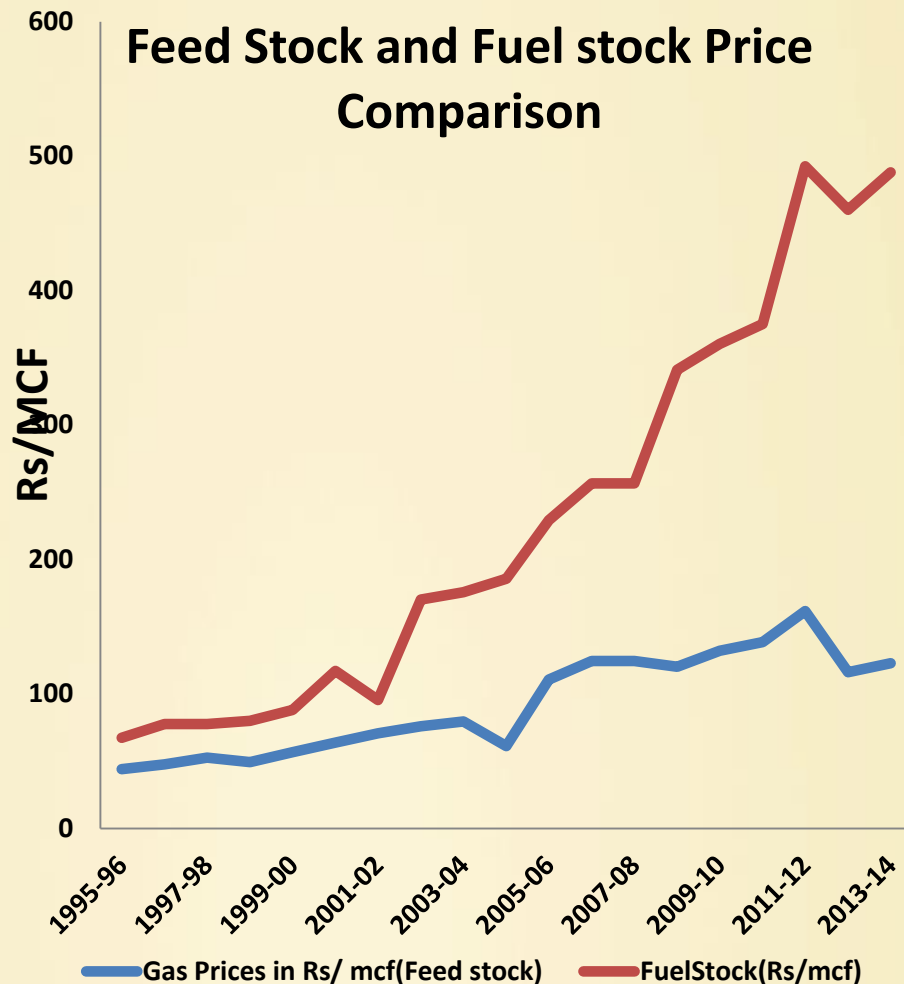
POLICY ISSUES

- **Oligopolistic Sector**
- **Subsidy on feed gas costing PKR 41-49 billion annually**
- **Little benefit of subsidy to farmers**
- **GST on fertilizer is recent added cost to farmers**
- **GIDC to extract some of the gas subsidy is not effective, and partly being passed on to farmers**
- **No subsidy on P and K**
- **Public sector control on urea import**

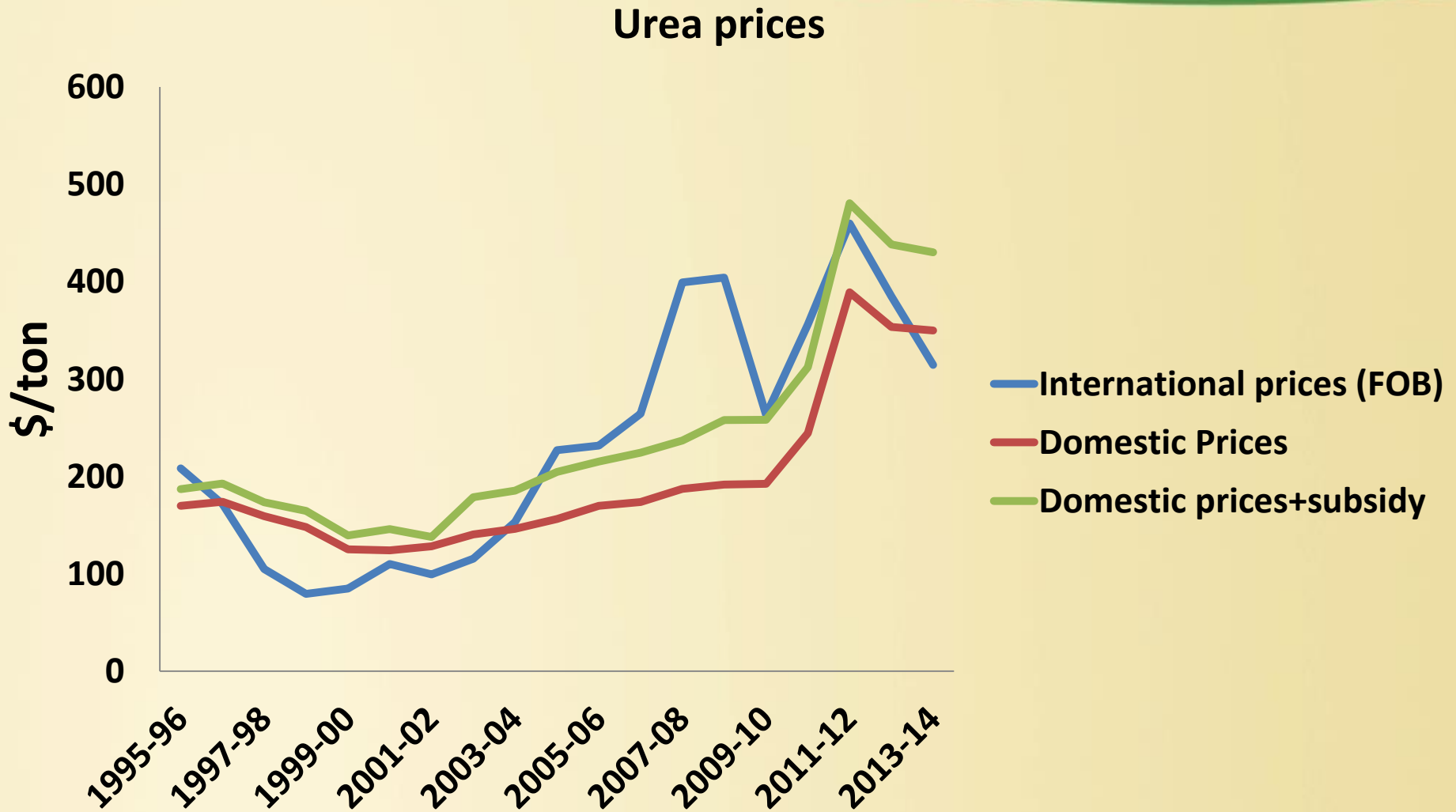
FERTILIZER POLICY

“It is the intent of this policy to provide investors in new fertilizer plants in Pakistan a gas price that enables them to compete in the domestic market with fertilizer exporters of the Middle East so that indigenous production is able to support the agricultural sector’s requirement by fulfilling fertilizer demand.”

Ballooning Subsidy on Feedstock gas



DO FARMERS BENEFIT FROM SUBSIDY?



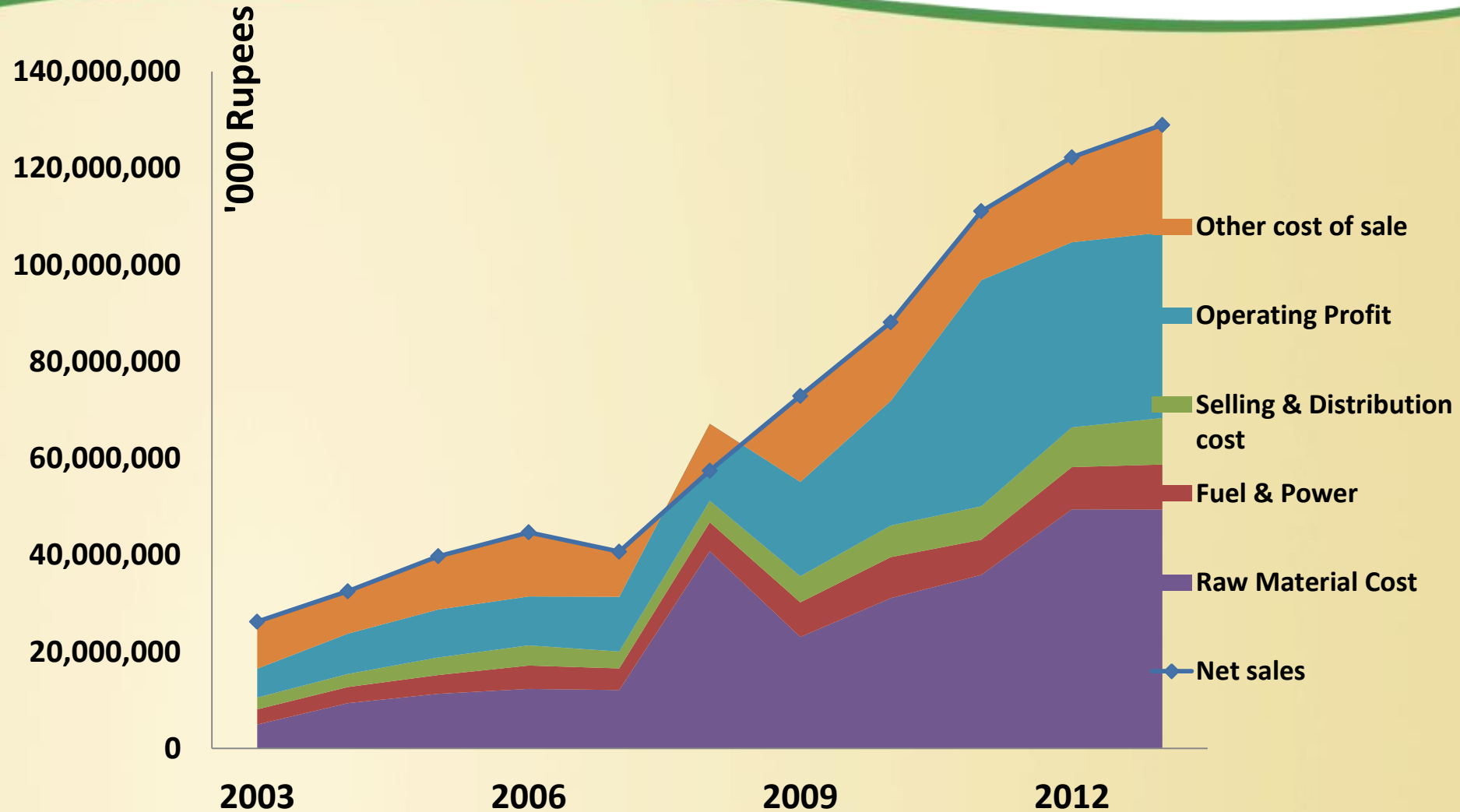
Source: Authors' estimates based on NFDC (2014)

Firm-level cost analysis

| Description | With subsidy | | Without subsidy | |
|-------------------------|-------------------------|------------|------------------------|------------|
| | Average cost (Rs/50 kg) | Percentage | Average cost (Rs/50kg) | Percentage |
| Cost of raw feed gas | 154 | 14 | 610 | 40 |
| Cost of fuel gas | 146 | 13 | 146 | 9 |
| Operation & Maintenance | 156 | 14 | 156 | 10 |
| Other manufacturing | 30 | 3 | 30 | 2 |
| Other costs | 164 | 15 | 164 | 11 |
| Depreciation | 32 | 3 | 37 | 2 |
| Producers profit | 240 | 22 | 400 | 26 |
| Total cost | 1109 | 100 | 1543 | 100 |
| GST | 157 | | 262 | |
| Total cost | 1079 | | 1805 | |

Source: NFDC 2014

Trends in Cost and Profit Structure of Fertilizer Industry (FFBL + FFC)



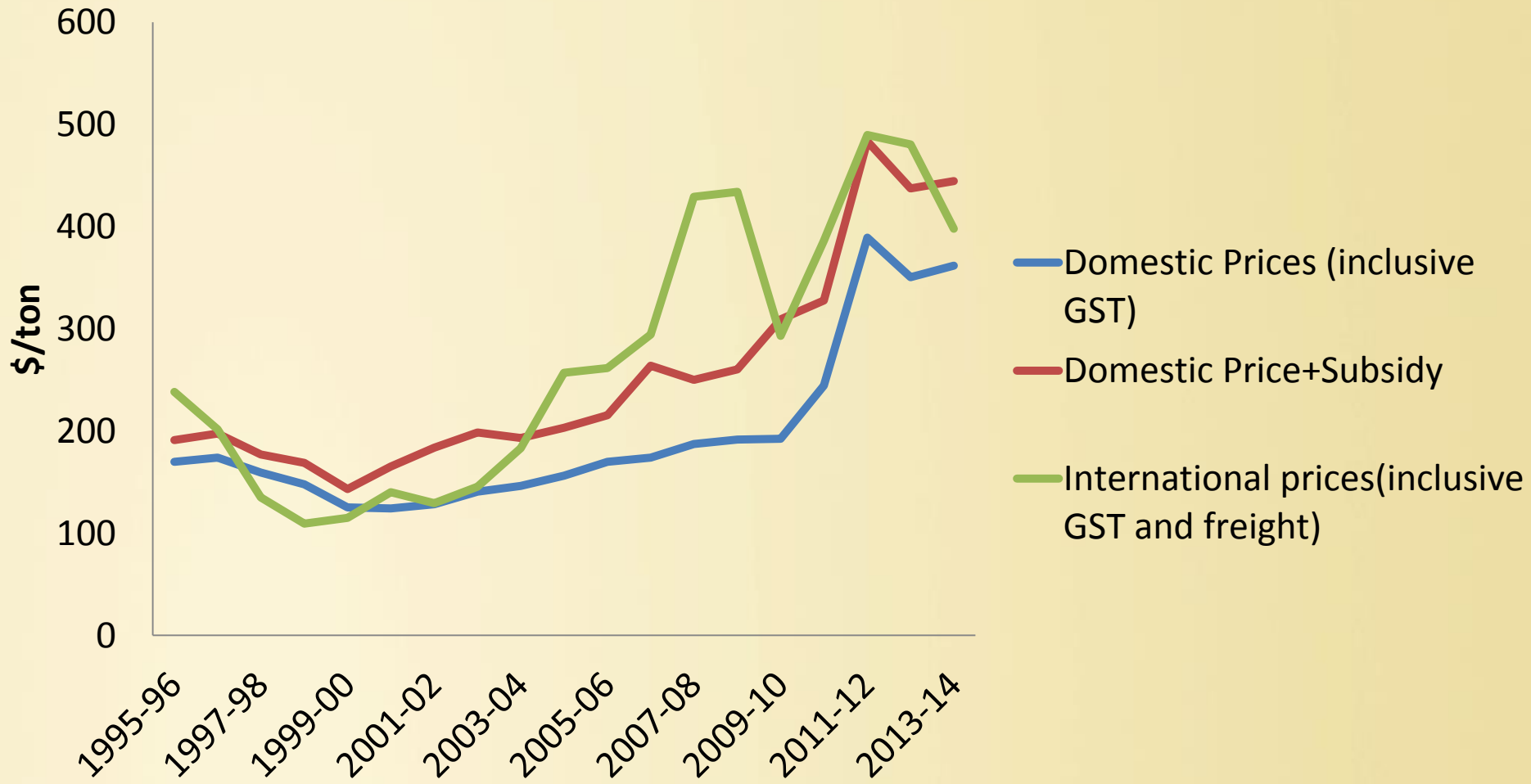
COST AND PROFIT STRUCTURE OF FERTILIZER INDUSTRY IN PAKISTAN

| FFC+FFBL+Engro | 2010 | 2011 | 2012 | 2013 | Average |
|------------------------------------|-------------|-------------|-------------|-------------|----------------|
| Operating Profit margin (%) | 30 | 43 | 29 | 31 | 33 |
| Net Profit After Tax (%) | 20 | 27 | 15 | 17 | 20 |

Source: Annual Reports of FFC, FFBL and Engro.

OPENING FERTILIZER IMPORTS

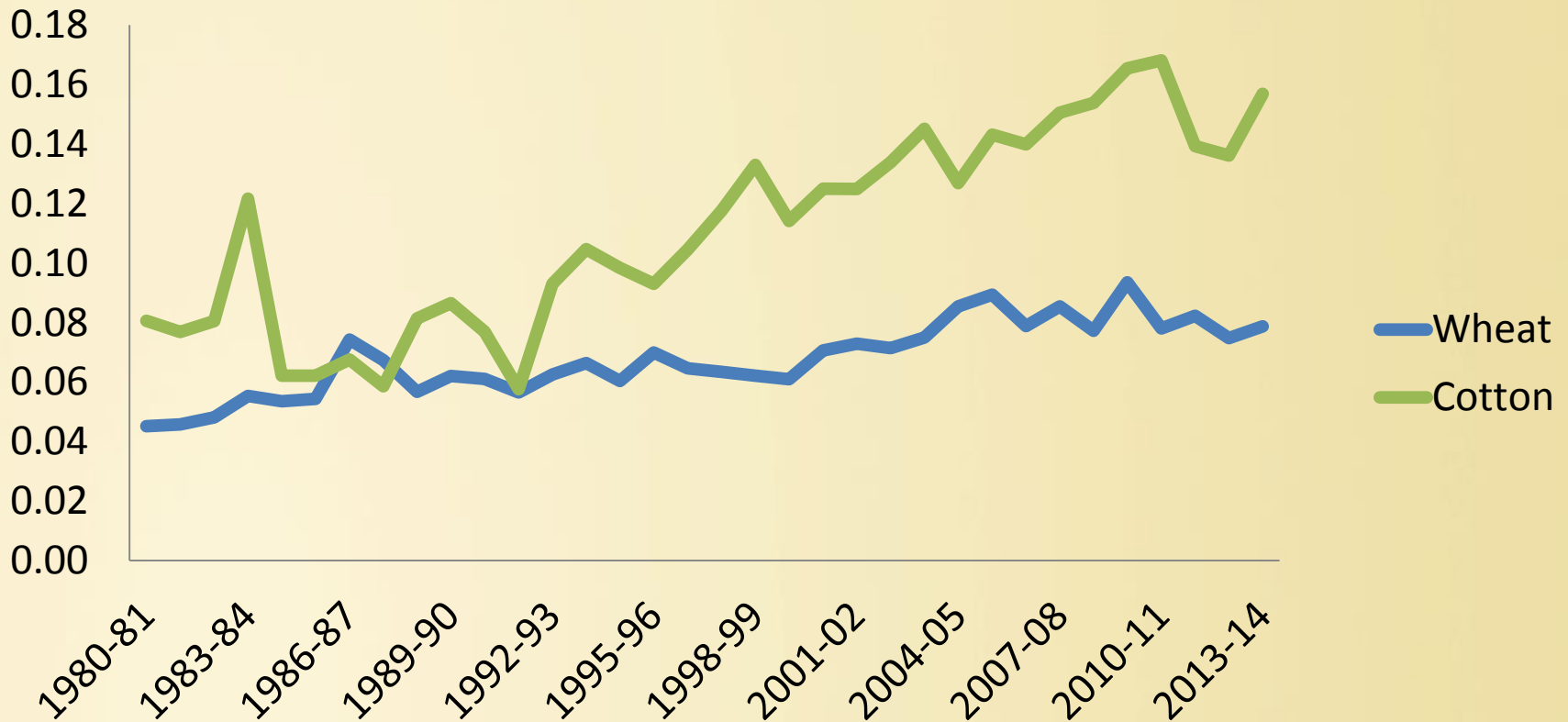
Urea Prices



Source: Authors' estimates based on NFDC (2014)

DECLINING FERTILIZER EFFICIENCIES

Ratio of Fertilizer use/Yield



EQUILIBRIUM DISPLACEMENT MODEL

Crop market

$$Q_i^s = f(P_i^f, P_j^f, P_k, T_i); Q_i^d = h(P_i, P_j, C_i)$$

$$Q_i^d = Q_i^s + I_i$$

$$I_i = l(P_i);$$

$$P_i = P_i^f (1 + t_i); P_i^f = P_i^w (1 + z_i)$$

Fertilizer Market

$$Q_k^s = m(Q_g, P_g, P_k^f, Q_{po}, P_{po}); Q_k^d = r(P_k, Q_i^s)$$

$$Q_k^d = Q_k^s + I_k$$

$$I_k = v(P_k);$$

$$P_k = P_k^f (1 + t_k); P_k^f = P_k^w (1 + z_k)$$

MODEL SIMULATION

| Variables | Change from 2013-14 values | |
|--|----------------------------|------------|
| | Removing Subsidy | Plus R & D |
| Factory Price of Urea (excl. GST, PKR/bag) | 158 | 207 |
| Farmer Price of Urea (Incl. GST, PKR/bag) | 186 | 243 |
| Domestic Demand of Urea (000t) | -578 | -420 |
| Domestic Supply of Urea (000t) | -696 | -574 |
| Imports of Urea (000t) | 118 | 154 |
| Cost of Urea Imports (b PKR) | 15 | 20 |
| Crop Production Gain/Loss (b PKR) | -7 | 58 |
| Trade surplus/deficit (b PKR) | -1 | 6 |
| Over all Farmer Benefit (b PKR) | -11 | 32 |
| Change in GST (b PKR) | 1 | 3 |
| Savings from subsidy (b PKR) | -47 | -47 |
| Investment in R&D | 0 | 12 |
| Total Change in Gov. Revenue (b PKR) | 46 | 35 |
| Manufacturers Gas Expense (b PKR) | 38 | 40 |
| Over all Manufacturer Benefit (b PKR) | -46 | -40 |
| Overall Social Benefit (b PKR) | -18 | 74 |

Source: Authors' estimates based on EDM model

RECOMMENDATIONS

- **Review the fertilizer policy to address all stakeholders interest and promote efficient manufacturing and use**
- **Implement GIDC effectively**
- **Deregulate the urea imports**
- **Continuously monitor the international market fertilizer prices**
- **Adjust the import subsidy, GST and GIDC on all fertilizers accordingly**
- **Promote efficient fertilizer products and efficient application methods through research**

ADVANTAGES OF THE NEW POLICY

- **Increase government revenue by Rs. 35 billion**
- **Government may create fiscal space for the agriculture sector, especially R&D**
- **Create opportunity to substitute gas with other sources of energy**
- **Improve fertilizer use efficiency**
- **Reduce seasonal and annual fluctuation in fertilizer availability with private sector imports.**



THANK YOU!

Overview of the sector

- Processing firms: 8
- Value of fertilizer: USD 3.57 b (2013-14)
- Production in million tonnes (% utilization)
 - N = 2.64 (65.2%)
 - P = 0.46 (82.9%)
 - K = 0.011 (58.8%)
- Off take in million tonnes (% Imports)
 - N = 3.18 (22%)
 - P = 0.88 (49%)
 - K = 0.024 (59%)

Overview of the sector

| Intervention | Consumer | Farmers | Manufacturer | Government | Social Benefit |
|--|-----------------|----------------|---------------------|-------------------|-----------------------|
| Removing Subsidy on Feedstock Gas | | | | | |
| Removal of GST | | | | | |
| Removal of subsidy and GST | | | | | |
| Increase quantity of Natural Gas | | | | | |
| Subsidizing DAP and Removal of Gas Subsidy | | | | | |
| Investing on R&D and Removal of Gas Subsidy | | | | | |