Food Inflation in India: Diagnosis and Remedies

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Outline: Three points to focus

• Food Inflation: What is the nature & structure of food inflation in India?

• Diagnostics: What drives India’s food inflation?

• Remedies: What can policy makers do to tame food inflation?
Indian Inflation: Trends in WPI

Food inflation higher than overall inflation in UPA II period

Weight in WPI
Food: 24.3%

Avg. Inflation Rt.
Food = 4.1%
WPI = 4.8%

Avg. Inflation Rt.
Food = 5.9%
WPI = 6.1%

Avg. Inflation Rt.
Food = 10.3%
WPI = 7.1%
Nature of Food Inflation

Food articles driving up overall food inflation

Weights in WPI

- Food: 24.3
- Food Articles (FA): 14.34
- Food Products (FP): 9.97

Avg. Inflation Rt.

- Food = 4.1%
- FA = 4.3%
- FP = 3.8%

Avg. Inflation Rt.

- Food = 5.9%
- FA = 6.8%
- FP = 4.7%

Avg. Inflation Rt.

- Food = 10.3%
- FA = 12.2%
- FP = 7.1%
Structure of food inflation: Triennium average of different food components (FY2011/12 to 2013/14)
CPI shows higher inflation in food than is captured in WPI
## CPI v/s WPI weights

<table>
<thead>
<tr>
<th>Item Group</th>
<th>Weights in WPI</th>
<th>Weights in CPI*</th>
<th>Weights in WPI-Food</th>
<th>Weights in CPI-Food*</th>
</tr>
</thead>
<tbody>
<tr>
<td>cereals &amp; cereal substitutes</td>
<td>3.4</td>
<td>14.59</td>
<td>14.0</td>
<td>29.4</td>
</tr>
<tr>
<td>pulses</td>
<td>0.72</td>
<td>2.65</td>
<td>3.0</td>
<td>5.3</td>
</tr>
<tr>
<td>milk &amp; milk products</td>
<td>3.2</td>
<td>7.73</td>
<td>13.2</td>
<td>15.6</td>
</tr>
<tr>
<td>edible oil</td>
<td>3.04</td>
<td>3.9</td>
<td>12.5</td>
<td>7.8</td>
</tr>
<tr>
<td>egg, fish &amp; meat</td>
<td>2.4</td>
<td>2.89</td>
<td>9.9</td>
<td>5.8</td>
</tr>
<tr>
<td>vegetables</td>
<td>1.74</td>
<td>5.44</td>
<td>7.1</td>
<td>10.9</td>
</tr>
<tr>
<td>fruits</td>
<td>2.11</td>
<td>1.89</td>
<td>8.7</td>
<td>3.8</td>
</tr>
<tr>
<td>Food Total</td>
<td>24.3</td>
<td>49.71</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*includes beverages and tobacco
Contributors of Food Inflation (WPI) – highest contribution is from F&V, then eggs, fish and meat, cereals and Milk and MP

- Other Food Articles: 29.1% in 11-12, 23.5% in 12-13, 16.5% in 13-14, 23.0% in 3 year Average
- Condiments & Spices: 23.6% in 11-12, 16.3% in 12-13, 10.4% in 13-14, 19.4% in 3 year Average
- Eggs, fish & Meat: 31.6% in 11-12, 32.7% in 12-13, 47.4% in 13-14, 31.0% in 3 year Average
- Milk: 12.3% in 11-12, 22.2% in 12-13, 23.1% in 13-14, 22.3% in 3 year Average
- Fruits and Vegetables: 23.5% in 11-12, 29.0% in 12-13, 46.5% in 13-14, 39.7% in 3 year Average
- Cereals: 11.4% in 11-12, 27.3% in 12-13, 14.4% in 13-14, 13.5% in 3 year Average
- Pulses: 12.0% in 11-12, 13.0% in 12-13, 21.1% in 13-14, 20.2% in 3 year Average

73.4% HVA perishables
Drivers of food inflation: Hypothesis

- Three main drivers:
  - Cost push: rising farm wages
  - Globalization: rising global food prices and desi farming going global
  - Fiscal and Monetary policies: rising deficit and expanding money supply (M3)
Nominal Farm Wage Index in India
Sharply rising farm wages after 2005–06

Index: Base 2004–05=100

- NDA
  Avg. Annual wage rate growth = 5.5%

- UPA-I
  Avg. Annual wage rate growth = 6.34%

- UPA-II
  Avg. Annual wage rate Growth=19%

Rate Tapering off
Oct 13/Oct 12: 14%
Oct 12/Oct 11: 21%
Transmission of Global food Inflation

export bans hedge the country against global price spikes in the short-run, but convergence in the long-run (desi farming has gone global!)

Tapering off

Index– WPI(2004/05) and FAO (02/04)

WPI-Food  FAO-Food
Fiscal Deficit (FD) and Money Supply (M3)

FD (combined) went up by 132% in 2008/09. FD and M3 growth rates since 2008/09 highly correlated (r=0.7)

“Part of Global Stimulus by G–20”
Models Explaining Indian Food Inflation* (adjusted R square 0.99)

Log Food (WPI) Index = $-0.176$
\[+0.27 \text{ Log FAO Food Index (T-1)} \quad (3.9)\]
\[+0.26 \text{ Log Farm wage (nominal)Index T} \quad (2.1)\]
\[+0.21 \text{ Log FD (T-1)} \quad (3.2)\]

Log Food (WPI) Index = $0.046$
\[+0.336 \text{ Log Farm wage (nominal)Index T} \quad (5.8)\]
\[+0.163 \text{ Log M3 (T-1)} \quad (6)\]
\[+0.131 \text{ Log FAO Food Index (T-1)} \quad (3.7)\]

• Models individually checked for the Granger Wald Test, and the endogenous variables in each model are seen to jointly Granger cause log Food (WPI).

Adjusted R square for each model is 0.99. t-values in parenthesis
Is MSP causing food inflation?

But MSP responding to rising costs of prod. & global prices (In 2007-08 & 2008-09, MSPs of W&R raised by avg. 20% p.a.)
Domestic wholesale prices, MSP v/s international prices of rice

Source: World Bank for International prices and DES for Domestic wholesale prices
Note: Rice (Thailand), 25% broken, WR, milled indicative survey price, Government standard, f.o.b. Bangkok
Quarters refer to marketing year (Oct-Sep)
Domestic wholesale prices, MSP v/s international prices of wheat

Note: 1. Wheat (US) No.1 HRW, export price delivered at US Gulf port for prompt or 30 days Shipment.
2. Wheat (US) No.2, SRW, export price delivered at US Gulf port for prompt or 30 days Shipment.
4. Domestic Prices of wheat in Punjab
Indian MSPs v/s some other comparable countries

MSP of Rice and Wheat for Selected Countries
(US$/MT) – 2013*

<table>
<thead>
<tr>
<th>Country</th>
<th>MSP (US$/MT)</th>
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<tbody>
<tr>
<td>Thailand</td>
<td>695.2</td>
</tr>
<tr>
<td>Philippines</td>
<td>594.6</td>
</tr>
<tr>
<td>China-Japonica</td>
<td>494.1</td>
</tr>
<tr>
<td>China-Indica</td>
<td>444.7</td>
</tr>
<tr>
<td>Indonesia</td>
<td>408.4</td>
</tr>
<tr>
<td>India</td>
<td>320.3</td>
</tr>
<tr>
<td>Vietnam</td>
<td>297.3</td>
</tr>
<tr>
<td>China</td>
<td>388.7</td>
</tr>
<tr>
<td>Pakistan</td>
<td>282.6</td>
</tr>
<tr>
<td>India</td>
<td>225.9</td>
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</tbody>
</table>

Legend:
- Rice Price US$/MT
- Wheat Price US$/MT
What can policy makers do?

- Containing farm labor costs
  Good News: Deceleration in farm wage growth (from 21% to 14%...)

Going forward:
- Dovetailing MGNREGA with agri-operations (especially lab intensive, like rice transplantation, to contain cost of production)?
- MGNREGA for check dams/water harvesting to boost agri-productivity, reduce costs
- Incentivize farm mechanization to contain lab costs
Global Food Inflation

Good News:
◦ Global food price increases tapering off since Feb 2011 (Global G–20 stimulus being calibrated down, especially by US)

Going forward:
◦ Liberalize trade policy – lower and rationalize tariffs for food items where inflation is high

Ex. rice attracts duty of 70–80%; meat, including poultry, milk and milk products, vegetables and fruit generally has 30% duty, though fresh apples attract 50 per cent; poultry meat, cut in pieces, attracts a duty of 100 per cent, though uncut meat has a duty of 30%!
Fiscal Management

- Contain fiscal deficit—Tackle three F’s—fuel, food, and fertilizer subsidies

- Direct cash transfers can save at least 30% subsidy bill

- Redirect farm subsidies to farm investments—Almost 80% of the public expenditure going to agriculture is in the form of input subsidies (fertilizers, power, irrigation) and only 20% as investments in agriculture

- Redirect consumption doles to infrastructure investments
Other policies that can help...

- Continue offloading of grains from FCI granaries; Revamp FCI
- Create efficient value chains connecting farmer groups with processors and organized retailers; Reform APMC
- Encourage food processing of perishables
- Promote Warehouse receipt systems, futures,
- Better monitoring of price data…and quick actions