The Global Food Crisis

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World Food Prices

A real turn-up
IMF food prices, 2000=100

Shooting up
Grain prices, $ terms, January 2nd 2007=100

Sources: IMF; US Bureau of Economic Analysis
Sources: Chicago Board of Trade; Jacksons
World Food Prices

- Food crisis occurred in many countries simultaneously – political protests in 30
- May have reduced purchasing power of urban and rural poor by 20%
- 1.5 billion on 1-2$/day – World Bank estimated food price increases would push at least another 100 million in poverty
Key Drivers of Food Prices

◆ Complex set of forces combined to push up prices:
  ■ Global changes in demand and supply
  ■ Depreciation of the dollar
  ■ Growth in production of bio-fuels
Demand and Supply

- Rapid growth in developing countries – shift from cereals to animal protein
- Slowdown in agricultural productivity growth – change from surplus to shortage, stocks tight
- Weather shocks (Australia) in 2006/07 exacerbated price impact of low stocks
- Export policies also made situation worse (Argentina, China, India, Ukraine, Vietnam)
Changing food demand

More people, more grain; more money, more meat

World wheat demand and population growth
% increase on previous year

World meat consumption and GDP growth*
% change on previous year

Source: Goldman Sachs

*Estimates based on GDP per person
Agricultural productivity

- Investment in agricultural research in developing countries has fallen since 1980s
- New investment will only generate payoffs through higher yields after 5-10 years
- Policies to allow adoption of existing technologies may have a more rapid payoff
Declining Stocks

Chart 4
Falling inventories
Strong demand has been a key factor underlying dwindling inventories of major food crops.
(demand for major food crops; year-on-year changes; million metric tons)

Inventory cover days (right scale)

<table>
<thead>
<tr>
<th>Year</th>
<th>Corn used in U.S. ethanol production (left scale)</th>
<th>China (left scale)</th>
<th>Other emerging and developing economies (left scale)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990-95(^1)</td>
<td>120</td>
<td>120</td>
<td>0</td>
</tr>
<tr>
<td>1995-2000(^1)</td>
<td>100</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>2000-05(^1)</td>
<td>80</td>
<td>80</td>
<td>0</td>
</tr>
<tr>
<td>2006</td>
<td>60</td>
<td>60</td>
<td>0</td>
</tr>
<tr>
<td>2007</td>
<td>40</td>
<td>40</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: U.S. Department of Agriculture.
\(^1\) Period average.
US Dollar and Commodity Prices

- Depreciation in dollar may have raised prices:
  - Falling dollar reduced returns on dollar-denominated assets in foreign currencies, making commodities more attractive asset
  - Dollar depreciation risked US inflation, prompting move to commodities as hedge against inflation
  - Dollar depreciation led to easing of monetary policy in other economies, stimulating demand for commodities
Bio-fuels and Food Prices

- Surge in US ethanol production set in context of Federal bio-fuels mandate and other policies
- 2004-07, most of increase in global corn production (55 million tons) went into US ethanol production (50 million tons)
- Growing demand for ethanol was driven by high oil prices, which then affected corn prices: $2.26/bushel at $40/barrel → $6.33/bushel at $120/barrel (Farm Foundation, 2008)
Bio-fuels and Food Prices

- Various estimates of impact of bio-fuels on food prices: (i) USDA, 2-3%, (ii) IMF, 20-30%, (iii) World Bank, 65%

- World Bank (2008) estimate: 140% increase in food price index (2002-08): 15% (energy/fertilizer prices), 20% (US$), 105% (bio-fuels and related effects of stocks, land-use, speculation, and export controls)

- While cause(s) of increase in food prices complex, appears to have been connection between food and fuel
What Happened to Food Crisis?

- July-December 2008, prices fell by 40%
- Farmers harvested 2.3 billion tonnes
- Demand stagnated as world economy fell into recession
- However – by June 2009, food prices had rebounded by 33%, despite forecast of another large crop this year
What Happened to Food Crisis?

**Ripening seeds**
Cereal stocks and production, tonnes bn

<table>
<thead>
<tr>
<th>Stocks</th>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.8</td>
<td>2.3</td>
</tr>
<tr>
<td>0.7</td>
<td>2.2</td>
</tr>
<tr>
<td>0.6</td>
<td>2.1</td>
</tr>
<tr>
<td>0.5</td>
<td>2.0</td>
</tr>
<tr>
<td>0.4</td>
<td>1.9</td>
</tr>
<tr>
<td>0.3</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Source: UN Food and Agriculture Organisation

*Forecast

**Oil fuelled**
Commodity prices, February 3rd 2009 = 100

- Oil
- Soyabean
- Sugar
- Beef
- Maize
- The Economist Food Index

Source: The Economist
What Happened to Food Crisis?

- Is world food crisis returning?
- Why food price inflation in a recession?

Cyclical reasons:
- rebuilding of global grain stocks
- ethanol competitive again
- import costs kept down by fall in dollar
- grain demand in emerging economies
What Happened to Food Crisis?

- *Long-run* trends – continued world population growth, urbanization and changes in diet

- World population expected to increase from 6.7 billion to 9 billion by 2050

- By 2050, there will have to be a 70% increase in world food production

- Need yield increases in poor countries where current crop yields are very low
What Happened to Food Crisis?

- Farmers in many poor economies did not get higher prices in 2008.
- Increase in cereals output came mostly from rich countries - costs of food crisis borne by the poor.
- Price rises in 2008 not just a bubble, but real mismatch of demand and supply.
- Current price increases suggest nothing has fundamentally changed.