

# Policies and Programs to Promote Resilience: Lessons from Bangladesh and Ethiopia

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# Promoting Resilience in Global Food Systems

- Resilience: Concepts and Definitions
  - Presentation focuses on short- to medium-run, not on longer run climate change effects
- Ethiopia:
  - Causes of famines; subsequent reforms
  - Improved household resilience through a targeted safety net (the PSNP)
- Bangladesh
  - Investments in production, trade liberalization and safety nets
  - The 2007-08 world food price shock - international trade restrictions exacerbating the crisis
- Concluding Observations



# Pathways to Increased Resilience

Bangladesh and Ethiopia achieved significant improvements in food security resilience through sustained and appropriate investments and policies, focused on:

- Increased productivity of agriculture
- Improved efficiency of markets (and in Bangladesh, promotion of private sector import trade)
- Large-scale targeted safety nets



# Resilience: Concepts and Definitions

**Resilience:** the capability to anticipate risk, limit impact, and bounce back rapidly through survival, adaptability, evolution, and growth in the face of, sometimes considerable, change.

**Development resilience** is the capacity over time of a person, household or other aggregate unit to avoid poverty in the face of various stressors and in the wake of myriad shocks. If and only if that capacity is and remains high over time, then the unit is resilient.

Barrett and Constanas (2014), p. 14626.



# Resilience: Concepts and Definitions

“... three distinct regimes:

- (i) humanitarian emergency zone (HEZ) within which populations are collapsing toward death
- (ii) chronic poverty zone (CPZ) within which people recover from shocks—either adverse or favorable—to a stable but poor standard of living manifesting capabilities
- (iii) nonpoor zone (NPZ...) within which people are likewise expected to recover from noncatastrophic shocks.

Barrett and Conostas (2014), p. 14626.



# Promoting Resilience in Ethiopia

- Causes of famines
- Policy reforms and investments
- Improved household resilience through a targeted safety net (the PSNP)



# Ethiopia: Causes of the 1984-85 Famine

- **Military conflict:** Massive costs of continuous wars
  - Fiscal costs (budget shares):
    - Defense: 11% in 1974/75; 37% in 1990/91;
    - Health: 6% in 1974/75; only 3% in 1990/91
  - Military labor force: almost 10% of men between 18 and 40 years old
- **Drought and crop failure:** Serious declines in yields
  - A series of below-average rainfall years followed by a drought year was especially damaging



# Ethiopia: Causes of the 1984-85 Famine

- **Government policy**

- Land policy: Private land ownership abolished in 1975; land reforms collectivized smallholders' land; state farms expanded
- Concentration of investment: In the ten-year prospective plan for agriculture (1984-94), only 37 percent of total expenditures to small holders

- **Market failure**

- Licensed private traders required to make 50% of their purchases available to government (AMC) at fixed prices
- Inter-regional movements of grain (and labor) were regulated (and banned during the drought)
- Poor road infrastructure also contributed to a lack of market integration

**Source:** Webb and von Braun (1994).





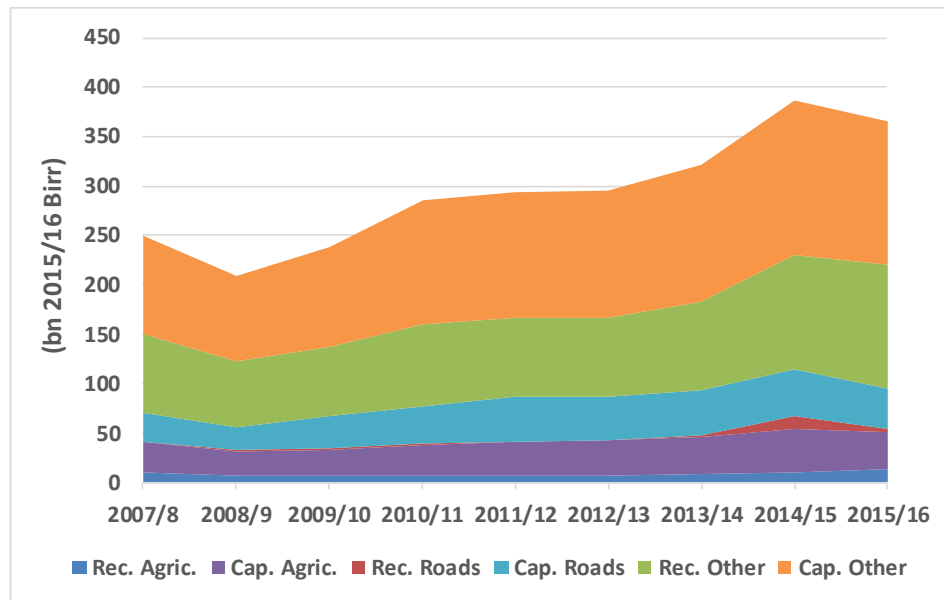
# Ethiopia: Policy Reforms and Major Food Policy Successes

- Policy reforms 1990-93: Liberalization of agricultural labor and grain markets; currency devaluation, removal of restrictions on transport charges
- Large increase in cereal production through agricultural extension, improved seeds and increased fertilizer use
- Development of cereal markets through liberalization of domestic marketing and investments in road infrastructure and telecommunications
- Productive Safety Net Program (PSNP) replaced annual “emergency” appeals for food aid with targeted program linked to public works and household asset building



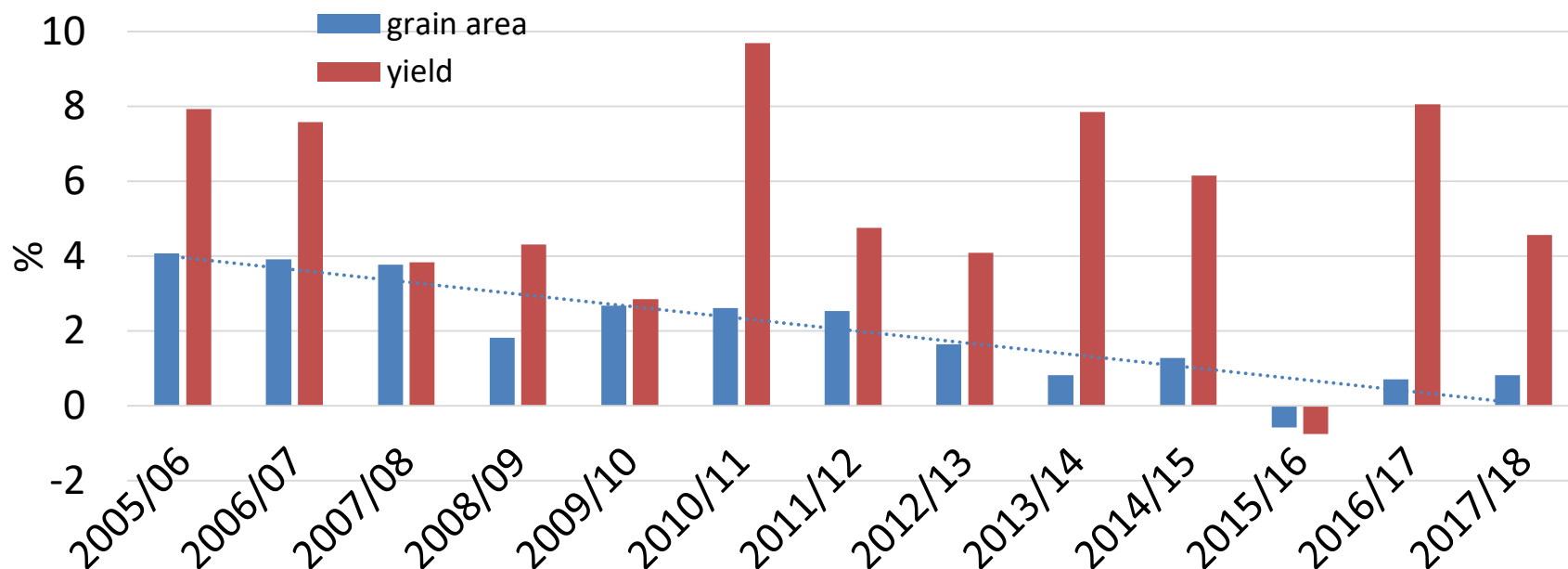
# Ethiopia: Public Spending 2007/08 – 2015/16

- **Ethiopia has invested heavily in the rural economy**
  - Agriculture and roads accounted for 13.9 and 15.8 percent of public expenditures in 2014/15
- Agricultural expenditures grew by an average of 10.1 percent per year from 2009/10 to 2014/15. Road expenditures grew even faster – 13.0 percent/year.



	2009/10	2014/15	Annual Growth
<b>Agriculture</b>	33.3	53.7	10.1%
<b>Recurrent</b>	6.4	10.0	9.3%
<b>Capital</b>	26.8	43.7	10.2%
<b>Roads</b>	33.2	61.2	13.0%
<b>Other</b>	172.6	271.9	9.5%
<b>Total</b>	239.1	386.8	10.1%
<b>Agriculture share</b>	13.9%	13.9%	0.0%
<b>Roads share</b>	13.9%	15.8%	0.4%

# Ethiopia: Agricultural Crop Area and Yields



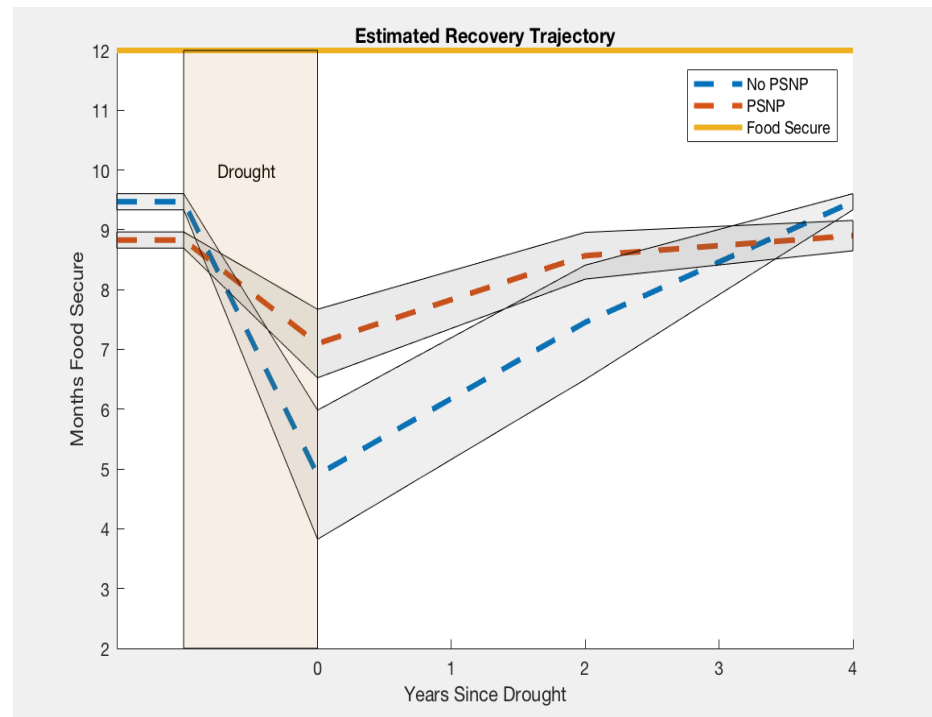
- Increases in area cultivated, labor use, use of fertilizer and improved seeds, and total factor productivity (TFP) accounted for much of the **8.3 percent annual average crop output growth from 2004/05 to 2015/16**.
- Growth in crop output slowed to 6.7 percent per year in the second part of this period, however, as growth rates of most major inputs declined (except fertilizer).



# Ethiopia's Productive Safety Net Programme (PSNP): Impacts on Poverty, Vulnerability and Resilience

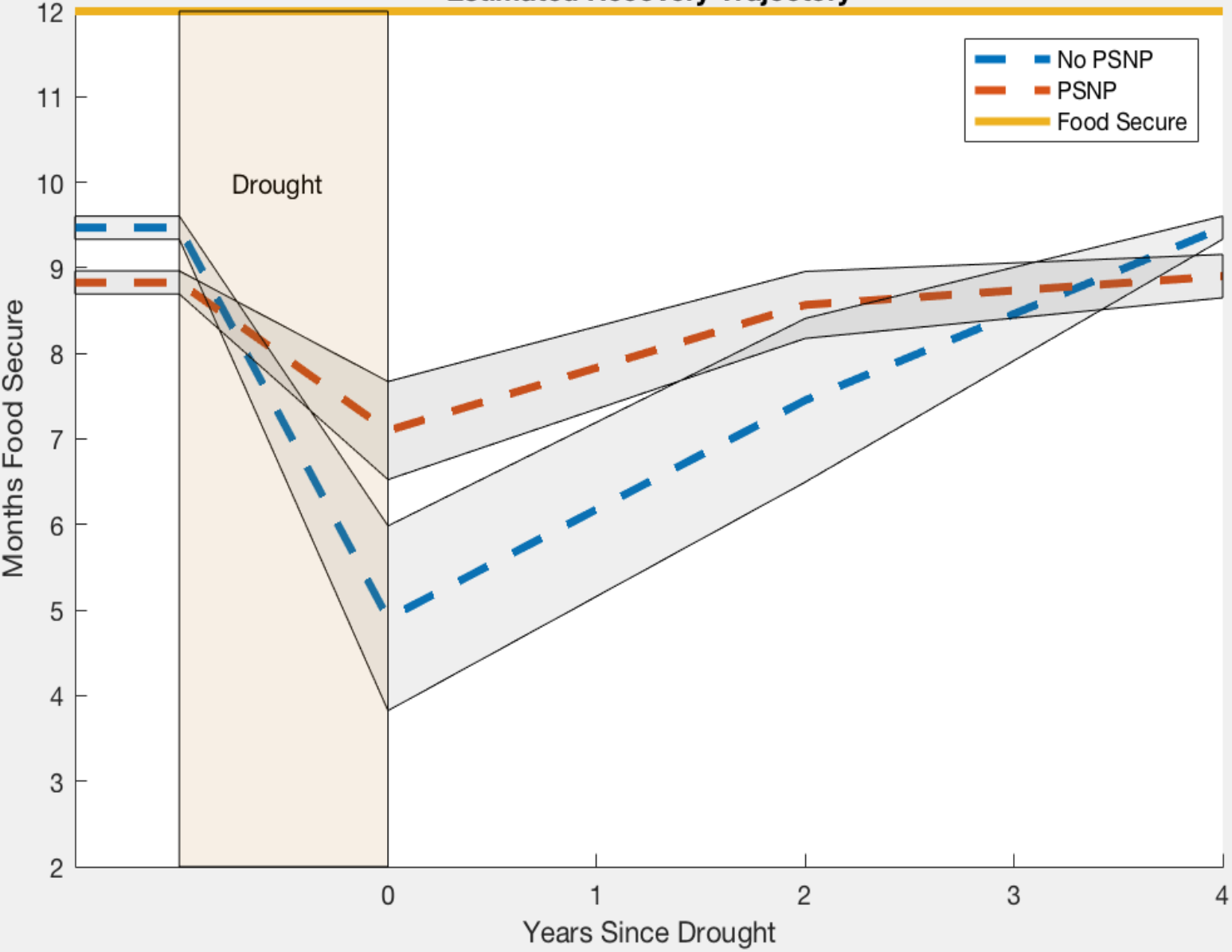
## PSNP transfers...

- Reduce **poverty** (food gap) by half a month;
- Reduce **vulnerability** (the expected food gap), given a drought has occurred, from 4.14 months to 1.8 months (57% decline)
- Increase **resilience**: Reduce food gap by a further 1.75 months after a drought and reduce the time to recover from 4 years down to 2 years



**Source:** Analysis of PSNP survey data from 2006-14; Knippenberg and Hoddinott, (2016 manuscript).

### Estimated Recovery Trajectory

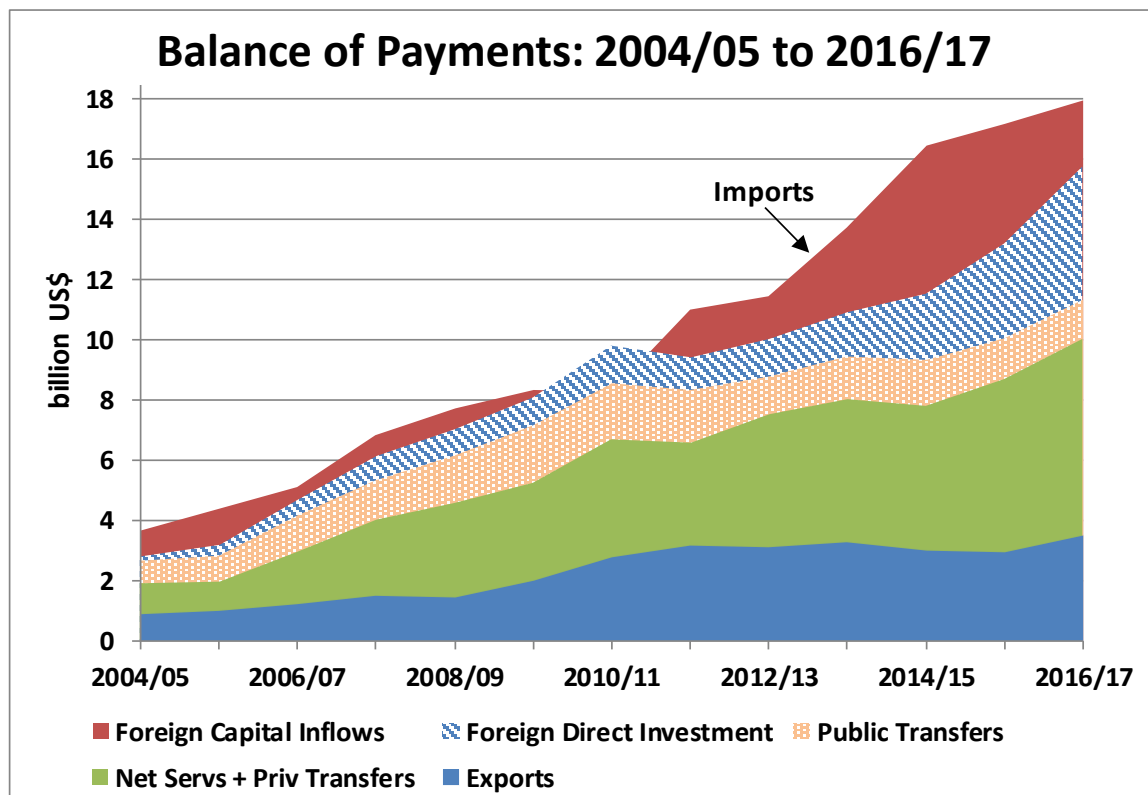


Source: Analysis of PSNP survey data from 2006-14; Knippenberg and Hoddinott, (2016 manuscript).



# Ethiopia: Macro-economic Resilience Concerns

## Reliance on Capital Inflows

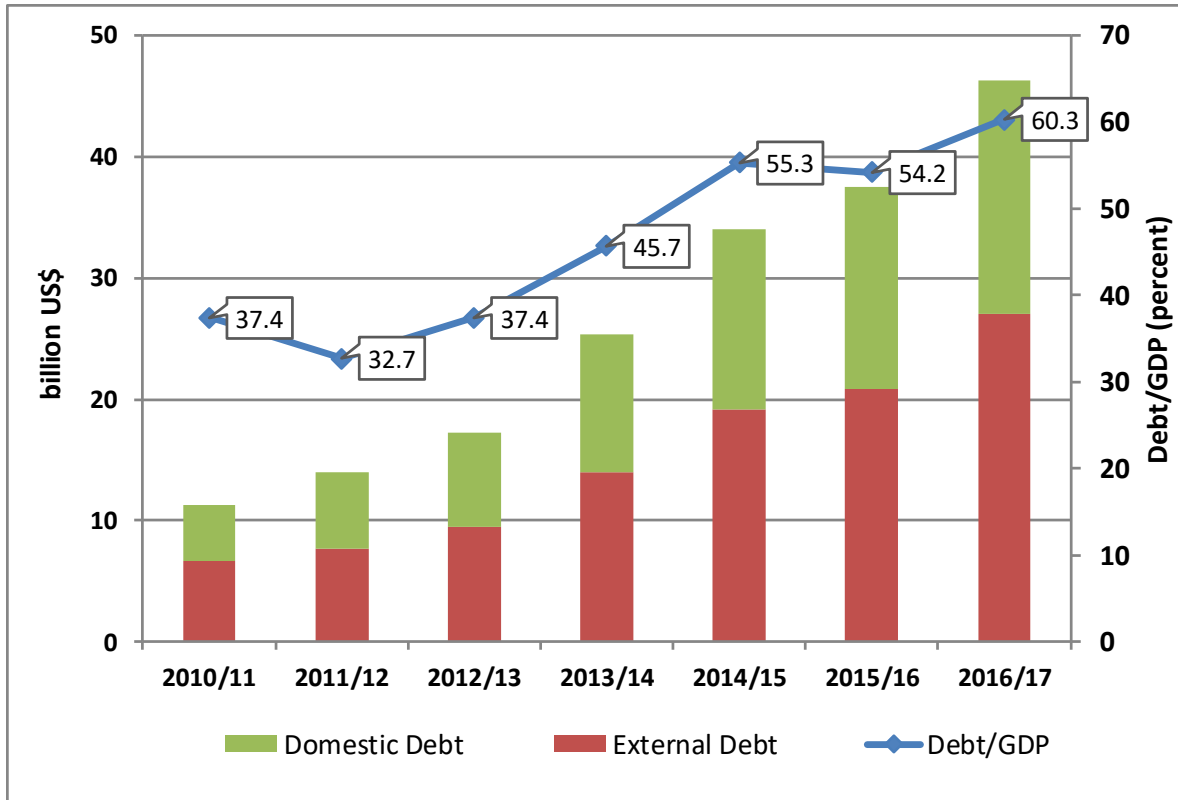


- Total goods imports in 2016/17 (US\$18bil.) were 2.2x 2004/05 levels
- Foreign capital inflows, private transfers and FDI together were US\$14bil. in 2016/17 (75.6% of merchandise imports).
- Merchandise exports accounted for only 19.4% of total foreign exchange net inflows.



# Ethiopia: Macro-economic Resilience Concerns

## Domestic and External Debt



- Both external and domestic debt quadrupled between 2010/11 and 2016/17
- External debt reached \$27bil. in 2016/17
  - Equal to 35% of GDP.
- Debt-to-GDP ratio rose by 60%-points
  - 37% in 2010/11
  - 60% in 2016/17

Further substantial increases in foreign debt as a share of GDP could become unsustainable.



# Promoting Resilience in Bangladesh

- Investments in cereal production
- Trade liberalization
- Safety nets
- The 2007-08 world food price shock - international trade restrictions exacerbating the crisis

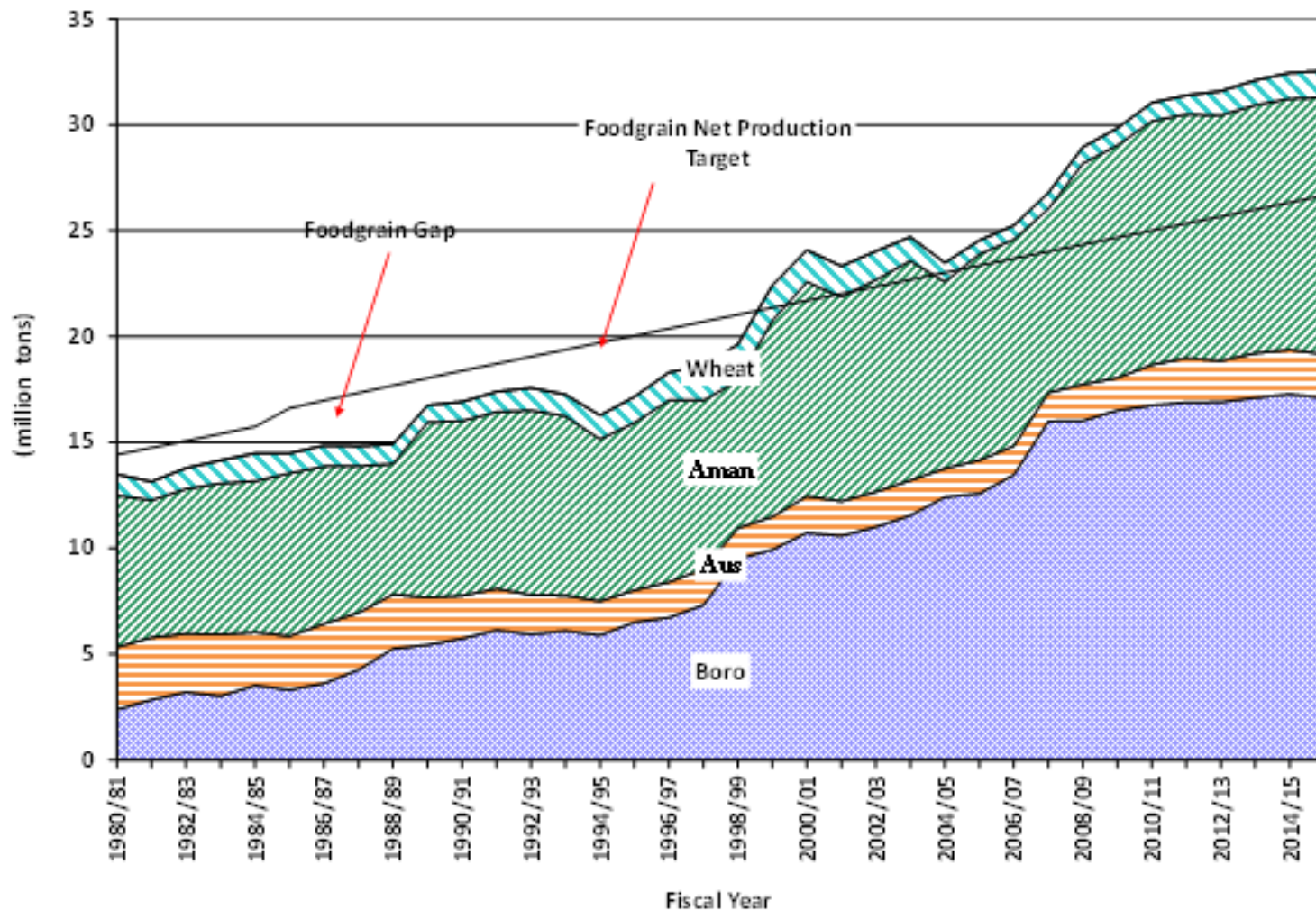




# Bangladesh: Green Revolution Investments

- Major investments in cereal production (and rural infrastructure)
  - Green revolution technology: small-scale irrigation, fertilizer, seeds
  - Rice production more than doubled from independence in 1971 to 1999/2000. Winter (boro) season rice reduced seasonal price variability
  - Sharp declines in the real price of rice from the early 1980s to the late 1990s that benefited all poor net consumers of rice.

# Bangladesh: Net Cereal Production and the Food Gap 1980/81 to 2015/16



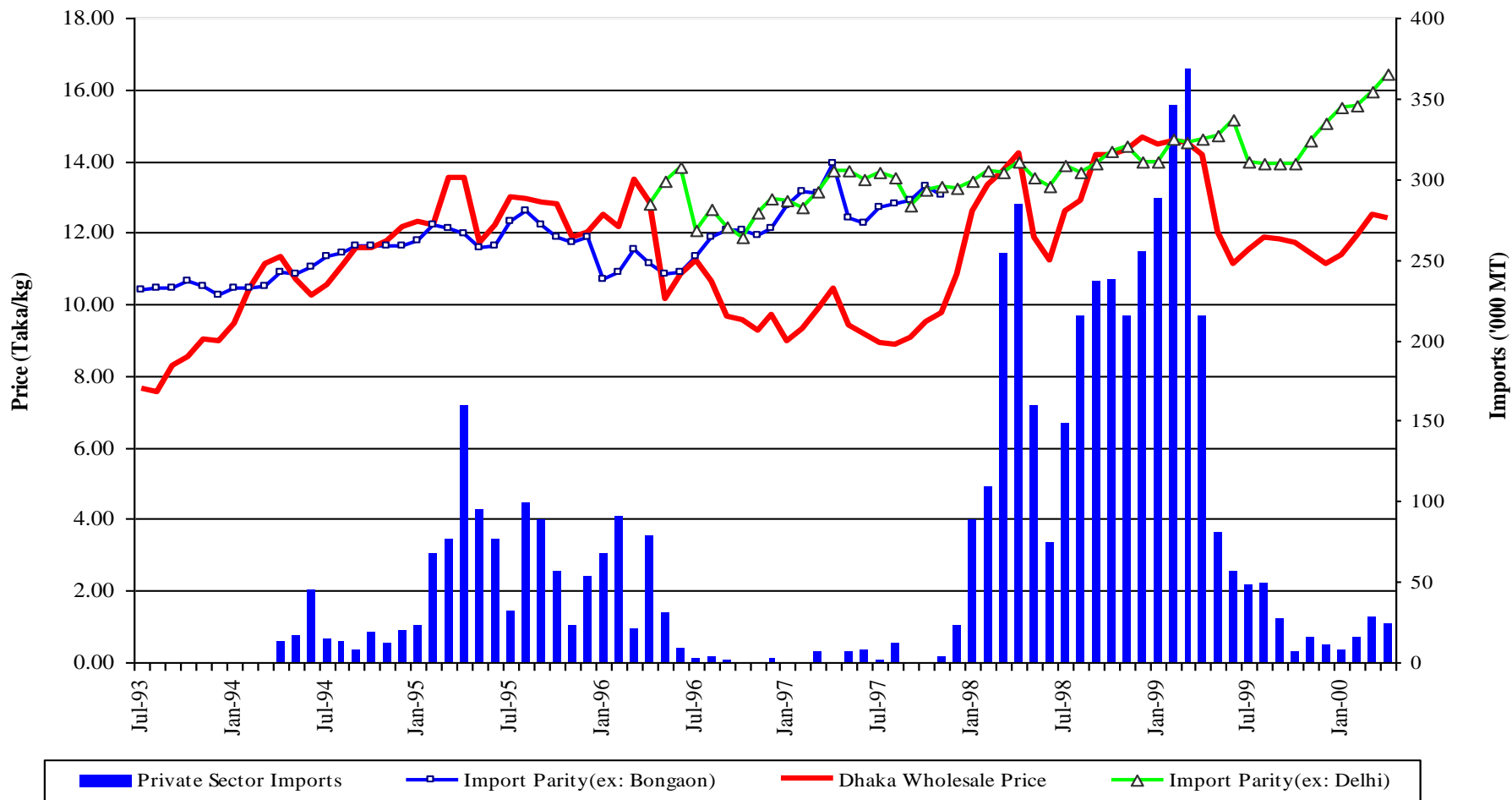
Source: Food Planning and Monitoring Unit (FPMU) data.



# Bangladesh: Trade Policy Reforms Leading to Increasing Price Stability

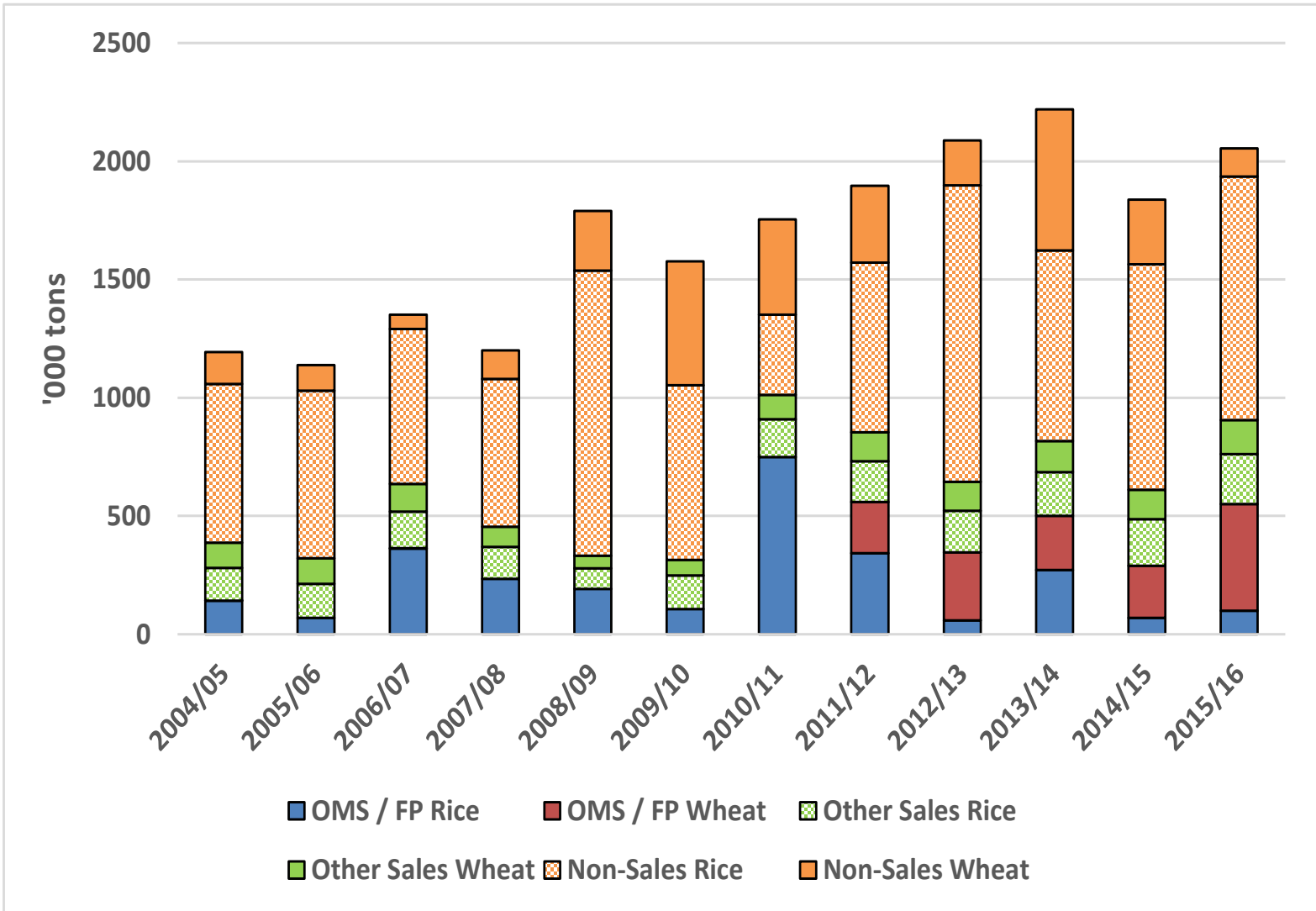
- Bangladesh liberalized its import trade in rice in the early 1990s.
- In years of relatively poor harvests in the mid- to late 1990s, import parity prices provided a price ceiling for Bangladesh domestic market prices.
- Following the 1998 flood, private sector imports exceeded 200 thousand tons/month for seven consecutive months, stabilizing domestic prices at import parity (based on India **wholesale market** prices plus transport and marketing costs).

# Bangladesh: Rice Prices and Private Sector Imports, 1993-2000



Source : Dorosh (2001).

# Bangladesh: Public Foodgrain Distribution Channels, 2004/05 – 2015/16



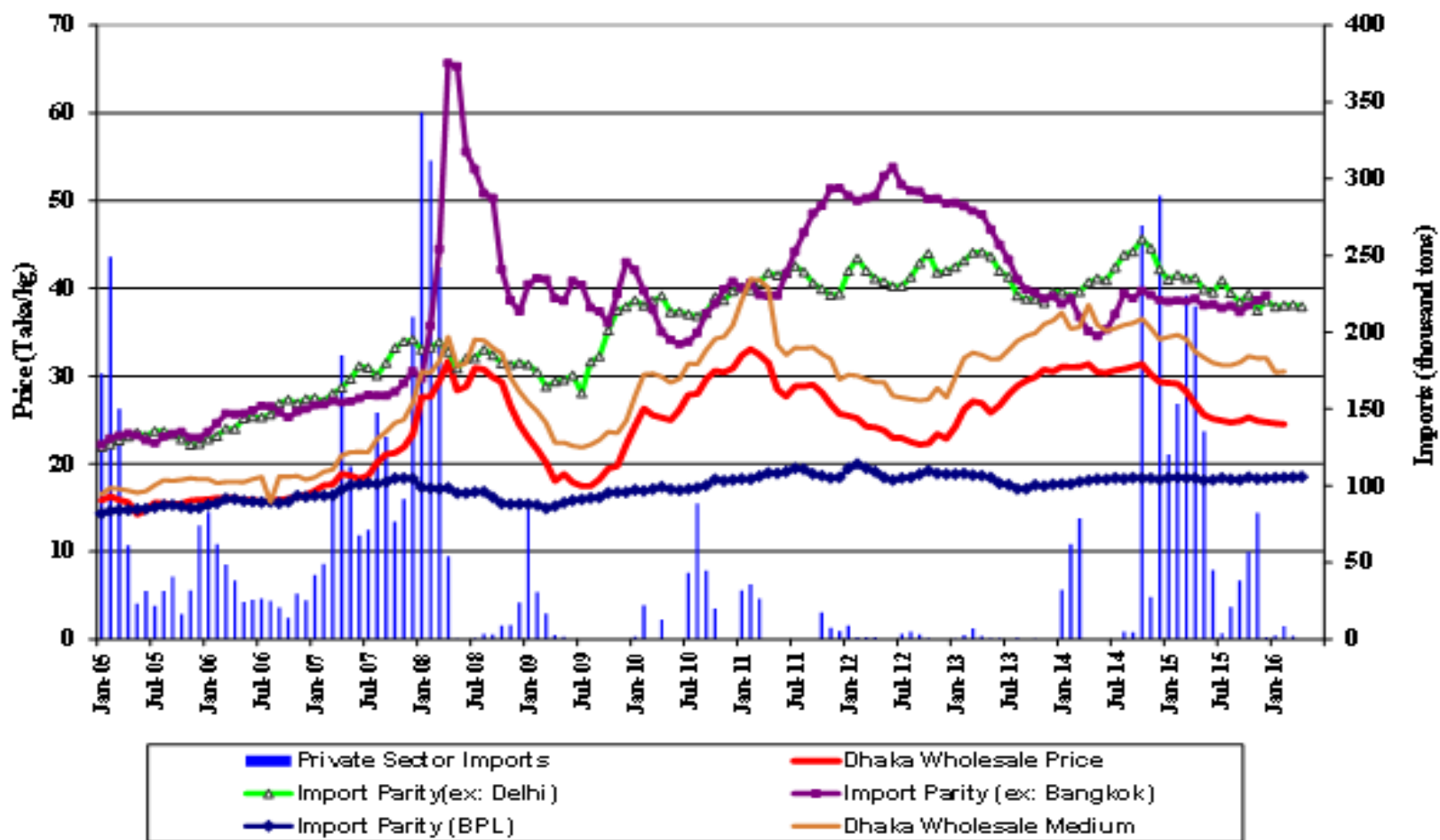
Source: Food Planning and Monitoring Unit (FPMU) data.



# Bangladesh: The World Price Shock of 2007/08

- In late 2007, world prices of rice and other cereals increased sharply as major exporters cut back export supplies.
- India initially banned private exports of non-basmati rice, but Bangladesh later negotiated a fixed volume of imports at a set price
- Bangladesh private sector imports from August 2007-April 2008 reached were 1.6 mn tons. Nonetheless, domestic prices in Bangladesh rose sharply.

# Bangladesh: Rice Prices and Private Sector Imports, 2005-16



Source: Calculated from Food Planning and Monitoring Unit (FPMU) data.



# Bangladesh: Renewed Emphasis on Public Stocks After the World Price Shock

- Since the 2007/08 world food price shock and temporary disruption of rice imports from India, government policy has shifted towards **lesser reliance on international markets**.
- **Public cereal stocks** have been increased, along with domestic procurement and public distribution (including a return to rationed sales).
- There are plans for **investments** in expanded grain storage and drying facilities that would enable storage of rice for longer periods without major quality deterioration.
- Nonetheless, **private sector imports** of rice and wheat continue on a large scale.





# Concluding Observations

## Policies for Increasing Resilience

- Promotion of improved technology (seeds, fertilizer and irrigation)
  - Increased irrigation (as in small-scale private tubewells in Bangladesh) can help reduce seasonality of production and prices.
- Promoting efficient markets can benefit producers in surplus areas and consumers in deficit areas.
  - Private sector international trade can help stabilize prices after major production shortfalls.
- Well-targeted safety nets can enable poor consumers to maintain consumption in the face of price and income shocks.



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