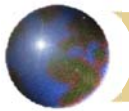


Food price stabilization: Lessons for eastern & southern Africa

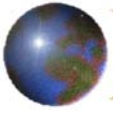
Nicholas Minot (IFPRI)

Presented at the Comesa policy seminar
“Risk Management in African Agriculture”
on 6-7 September 2010 in Lilongwe, Malawi
under the Comesa-MSU-IFPRI African Agricultural Markets Programme (AAMP)



Outline

- ✦ Food price instability
 - ❖ Definition and measurement
 - ❖ Magnitude of food price instability
 - ❖ Causes
 - ❖ Effects on households
- ✦ Principles of buffer stocks
- ✦ Experience with food price stabilization
 - ❖ Ethiopia
 - ❖ Uganda
 - ❖ Kenya
 - ❖ Tanzania
 - ❖ Malawi
 - ❖ Zambia
 - ❖ Mozambique
- ✦ Conclusions



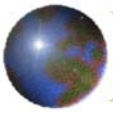
Food price instability – Definition and measurement

Definition

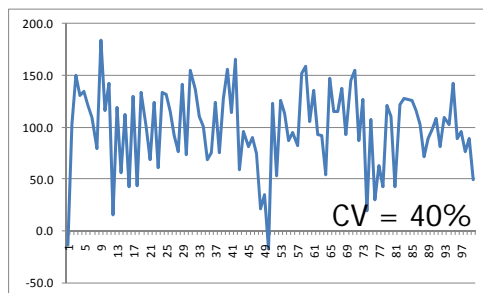
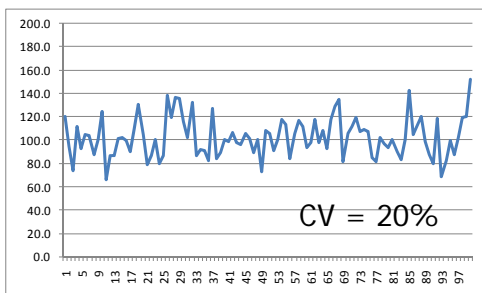
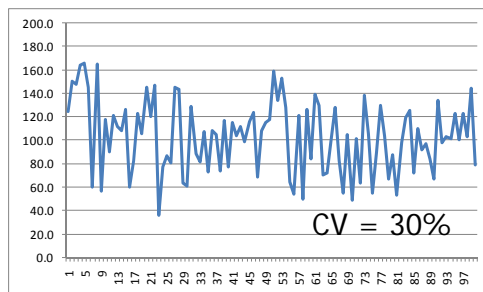
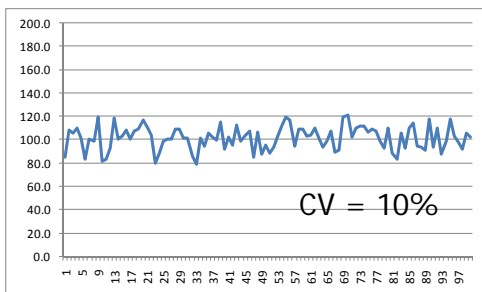
- ▣ Variability in price of food over time
- ▣ Usually focus on staple food
- ▣ May be producer, wholesale, or consumer price
- ▣ May be daily, monthly, or annual

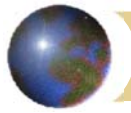
Measurement

- ▣ Coefficient of variation = $CV = \text{standard deviation}/\text{average}$
- ▣ Adjusted coefficient of variation = CV with correction to remove effect of time trend

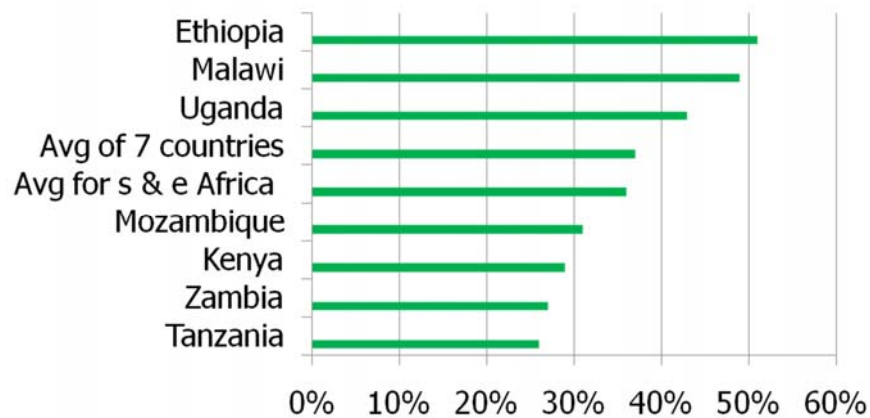


Food price instability – Definition and measurement

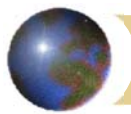




Food price instability – Magnitude of food price instability

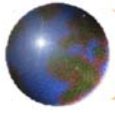


By comparison, for six Asian countries, the CV for rice prices ranged from 12% in Bangladesh to 25% in the Philippines



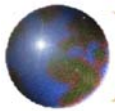
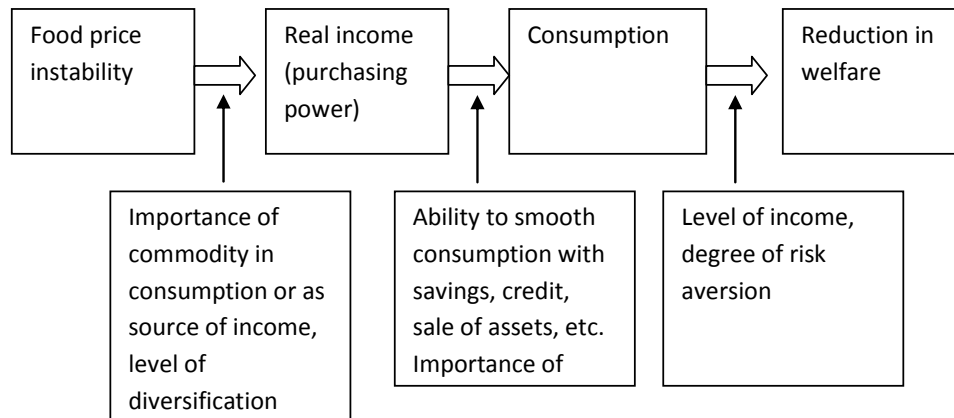
Food price instability – Causes

- ✦ Variation in domestic supply of commodity
 - ❖ Particularly non-tradable commodities: maize, bananas, root crops
 - ❖ Seasonality in prices
 - ❖ Differences in size of harvest
 - ❖ Small production instability can cause large price instability
- ✦ Variation in world price of commodity
 - ❖ Usually just tradable commodities: wheat, rice, etc
 - ❖ Large effect in 2007-08 but generally little effect
 - ❖ Only 13 of 62 food prices in Africa showed significant link to world prices
- ✦ Policy shocks
- ✦ Variation in demand (e.g. holidays)
- ✦ Changes in closely related markets
- ✦ Speculative bubbles



Food price instability – Effects on households

- ✦ Only affects households if it causes variation in income and consumption

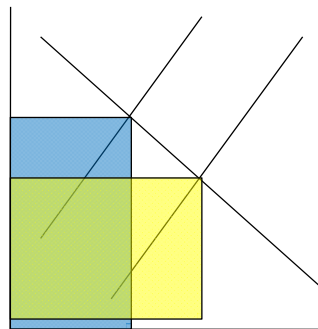


Food price instability – Effects on households

- ✦ For farmers, price stabilization may actually *destabilize* income

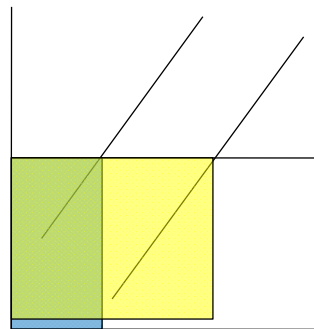
No price stabilization

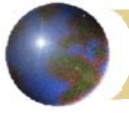
In bad year, high price offsets low output; in good year, low price but high output



With price stabilization

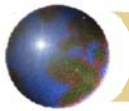
Variation in output not offset by changes in price. More income instability.





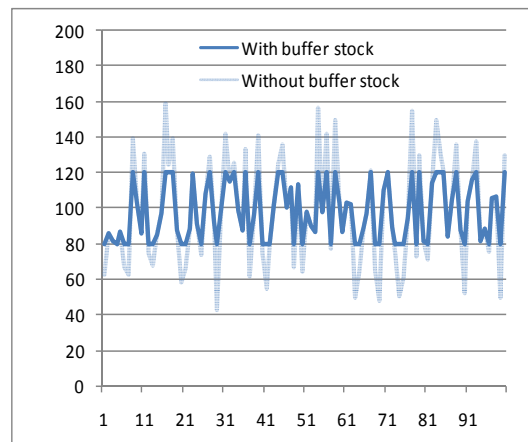
Food price instability – Effects on households

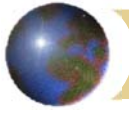
- ✦ Estimates of welfare impact of price stabilization usually small – about 0-4% of household income
 - ❖ Numerous studies confirm: Newbery & Stiglitz (1981), Islam & Thomas (1996), Jha & Srinivasan (1997), Myers (2006), Bellemare et al (2010)
- ✦ Distribution of impact – who gains, who loses
 - ❖ Large farmers – Gain from food price stabilization, esp if selling food
 - ❖ Small farmers – Little net effect because some selling, some buying
 - ❖ Poor urban households – Gain from food price stabilization
 - ❖ Rich urban households – Food is small share of budget
 - ❖ Bellemare et al (2010) – in Ethiopia, most of gains from price stabilization for rural households in top 40%, those who sell food crops



Buffer stock Definitions

- ✦ Idea of buffer stock
 - ❖ Buy when price is low (e.g bumper harvest)
 - ❖ Sell when price is high (e.g. drought year)
 - ❖ Effect is to raise price when low, lower price when high
- ✦ Price-band policy
 - ❖ Set ceiling price and floor price
 - ❖ Buffer stock willing and able to sell “unlimited” quantities at ceiling price
 - ❖ Buffer stock willing and able to buy “unlimited” quantities at floor price
 - ❖ Effect is to keep price between ceiling and floor price



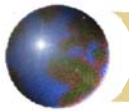
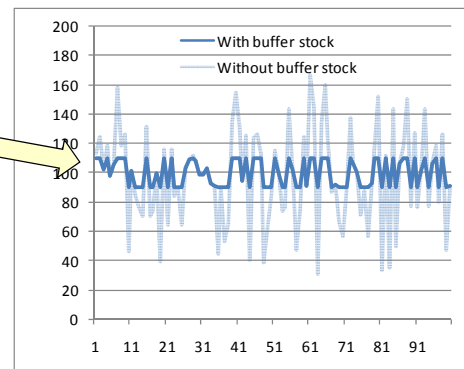
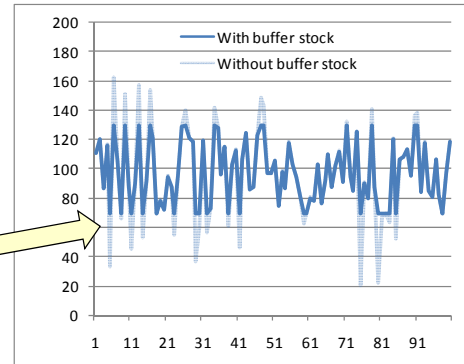


Buffer stock

Key issues in design

1. How wide should price band be?

- ❖ Wide band implies:
 - Less price stabilization
 - Less frequent intervention
 - Lower cost
- ❖ Narrow band implies:
 - More price stabilization
 - More frequent intervention
 - Higher cost

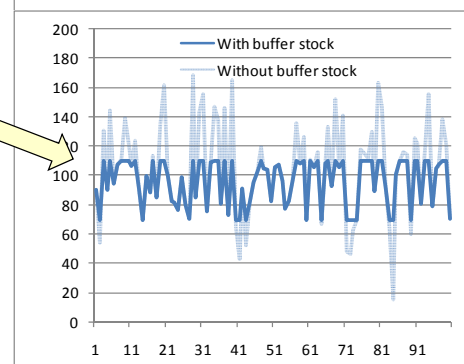
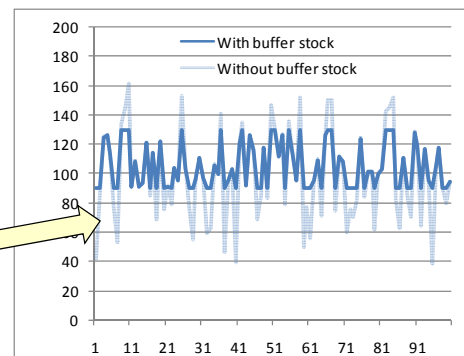


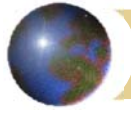
Buffer stock

Key issues in design

2. What should be the level of the mid-point of price band?

- ❖ If mid-point is too high:
 - Buying more than selling
 - Accumulation of stocks
 - Eventually exhaust funding or storage capacity
- ❖ If mid-point is too low:
 - Selling more than buying
 - Depletion of stocks
 - Eventually exhaust stocks
- ❖ One option: set mid-point at average of past 3 years





Buffer stock

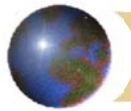
Key issues in design

3. How many buying/selling stations?

- ❖ If few stations:
 - Price stabilization only effective in small area
 - Lower cost
- ❖ If many stations:
 - Price stabilization effective in larger area
 - Higher cost

4. Same or different price-bands at each station?

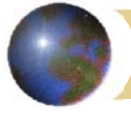
- ❖ If same price band at all stations:
 - Pan-territorial price may eliminate incentives for private traders to transport rice, government takes over role, higher costs
- ❖ If prices guided by local market price:
 - Maintains incentives for private trade, less costly for government



Food price stabilization in practice

❖ Public food reserves in practice

- ❖ Typically managed by state-owned enterprise
- ❖ Reserves in main staple cereal and 1-2 others
 - Root crops and cooking bananas too
- ❖ Food reserves in developing countries have multiple objectives
 - Price stabilization, preparation for emergencies, support farm price, keep down consumer prices, etc.
- ❖ Food reserves use different types of interventions
 - Not just buying & selling, but import & export policy, government imports and exports, regulations of grain marketing
- ❖ Food reserves do not use consistent buy/sell rules
 - Intervention depends on budget resources, politics, etc.



Food price stabilization in practice

Minimal intervention

✦ Uganda

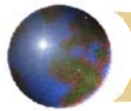
- ✦ Plan for Modernization of Agriculture says:
"The Government recognises that publicly held food reserves are very expensive under the best of conditions and require careful management to minimise losses due to spoilage. Such schemes have had limited success in other countries, but have certainly exerted substantial demands upon public funds. Therefore, government will not adopt any policy to accumulate such stocks unless and until careful studies in Uganda have determined their efficacy."

✦ Mozambique

- ✦ No strategic grain reserve or price stabilization efforts

✦ Tanzania

- ✦ Has Strategic Grain Reserve but has been too small to affect prices (purchases are about 1% of production)



Food price stabilization in practice

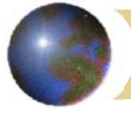
Ethiopia & Kenya

✦ Ethiopia

- ✦ Ethiopian Grain Trading Enterprise (EGTE)
- ✦ Ad hoc intervention in maize & wheat markets
- ✦ In 2006-8, rising grain prices, surpassed import parity
 - Inflation
 - Harvest smaller than estimated
 - No private imports because announced government imports and foreign exchange shortage

✦ Kenya

- ✦ National Cereals & Produce Board (NCPB)
- ✦ Successful in partial stabilization and raising maize prices
- ✦ Major price spike in 2009 caused by
 - High import tariff (50%)
 - No private imports because announced government imports
 - When tariff lowered, congestion in transport routes
- ✦ Major corruption scandal
 - Allocation of valuable import licenses
 - Allocation of subsidized maize from NCPB



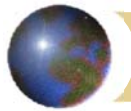
Food price stabilization in practice Malawi & Zambia

✦ Malawi

- ✦ Agricultural Development & Marketing Corporation (ADMARC)
- ✦ Three price spikes in last 8 years
 - Poor rainfall played a role but price spike exacerbated by:
 - Lack of transparency about grain stock size
 - Government announcements of imports, then delays
 - Procurement for government export

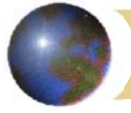
✦ Zambia

- ✦ Food Reserve Agency (FRA)
- ✦ Response to food crisis 2007-08
 - Ban maize exports
 - Increase size of fertilizer subsidy
 - Successful in partial stabilization and raising maize prices
 - Sale of subsidized maize to millers, undercutting importers
 - Private imports impeded by licensing and government intervention



Conclusions

- ✦ Price stabilization is expensive
 - ✦ Large procurement costs (US\$ 80 m in Kenya in 2006)
 - ✦ Storage, handling, and overhead
 - ✦ State enterprises cannot cover costs with stabilization efforts
- ✦ Aggregate benefits are small
 - ✦ Most estimates 0-4% of farm income
- ✦ Benefits of price stabilization not pro-poor
 - ✦ Most of benefits to larger commercial farmers, also urban poor
- ✦ Food price stabilization prone to “rent-seeking”
- ✦ Open borders provide no-cost “price band”
 - ✦ Impeding imports has exacerbated price spike in several cases
- ✦ Improve consistency and predictability in govt actions



Conclusions

- ✦ Promote private grain storage & imports
 - ▣ Credit, non-intervention, & storage rental
- ✦ Promote consumption of secondary staple crops
 - ▣ Cassava can act as shock absorber for grain markets
- ✦ Rationale for 3 months grain reserve
 - ▣ To cover period until commercial imports can be arranged
- ✦ If price stabilization politically necessary
 - ▣ Adopt rule-based price band
 - ▣ Adopt wide & market based price band