Fiscal and Monetary Policy Responses to Global Food Price Shocks

Some thoughts on recent Tanzanian experiences

Christopher Adam – Oxford and IGC
IGC Growth Week
25 September 2012
The challenge and some research questions

- Recent volatility in food prices has heightened a set of food security issues which have long been of central concern to governments in low-income countries.

- Monetary policy may have no leverage over food prices in long-run but central banks are intensely concerned about how to respond to food price shocks in the short-run.

- In 2008, and again recently, governments have reached for a range of fiscal / trade policy instruments (subsidies, tax changes, price controls, export bans, tariff reductions, cash-transfers).

- **Policy Question.** How do activist (but sustainable) policies towards food prices (e.g. buffer stocks and trade policy) alter the environment for MP?
Tanzania: Headline inflation and principal components

Jan 2002 to August 2012

Percent per annum

New series from October 2010
Decomposition of inflation: January 2002 to July 2012

<table>
<thead>
<tr>
<th>Inflation Measure</th>
<th>Weight</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headline</td>
<td>1.000</td>
<td>7.51</td>
<td>4.01</td>
</tr>
<tr>
<td>Food</td>
<td>0.510</td>
<td>9.57</td>
<td>5.22</td>
</tr>
<tr>
<td>Energy</td>
<td>0.057</td>
<td>7.75</td>
<td>8.08</td>
</tr>
<tr>
<td>Core</td>
<td>0.433</td>
<td>4.27</td>
<td>3.61</td>
</tr>
</tbody>
</table>

- Inflation measured as 12-month differences in log prices (x100).
- Weights based on 2007 Household Budget Survey. Food includes non-alcoholic beverages and restaurant-consumed food.
Inflation has peaked as food and energy prices have declined...but relatively slowly
Headline Inflation Fan Chart: August 2012-July 2013

- **Central projection**
- **Optimistic / ‘low Inflation’ projection**
- **Pessimistic / ‘high Inflation’ projection**
Conventional wisdom: an inflation targeting central bank should ignore food prices as long as price rigidities are in non-food sector.

- Gali (2008): intuition for the conventional wisdom (…and why we might be question this wisdom).

\[ W = -g \left[ \pi_t^2 + \tau \tilde{y}_t^2 \right] + f[a_t^2] \]

The conventional domain of monetary policy (volatilities matter)

“t.i.p” “terms independent of (monetary) policy”

- Note if inflation is governed by a ‘New Keynesian Phillips Curve’

\[ \pi_t = E_0 \left[ \pi_{t+1} \right] + \kappa \tilde{y}_t \]

- we get the ‘divine coincidence’: a policy that stabilizes inflation around its steady state level automatically stabilizes the output gap.
Modifying the conventional wisdom (1)

• Distortions in the ‘flex-price’ economy (e.g. real wage rigidity, credit market rigidities etc)

\[ W = -g \left[ \pi_t^2 + \tau \tilde{y}_t^2 \right] + f \left[ \phi(\tilde{y}_t), a_t, a_t^2 \right] \]

• Problem now is that with distortions, “t.i.p” includes first order (level) terms of the output gap.

• A conventional ‘developed country’ perspective assumes that fiscal policy can be set optimally so that the first term in \( f[.] \) vanishes.

• Important issues arise when fiscal policy is constrained in some fashion.
Policy research questions

• The focus on volatility forces us to ask how private and public responses to price volatility alters the environment for monetary policy?
  – Private storage
  – Strategic grain reserves
  – Currency management with limited financial participation

• Once divine coincidence is broken – narrow targeting on inflation exposes trade-offs.

• Is there a case for additional instruments (e.g. exchange rate intervention).

• If fiscal policy ‘fails’ Central Bank may get drawn into targeting level of output gap (for legitimate welfare reasons) pitching it back into the inflation bias problem.
Key distortions: what should we be concerned about?

• Credit market imperfections (Anand and Prasad, 2010)

• Rigid real wages in urban economy (?)

• High transport costs
  – Monopoly profits in transport and distribution (possibly pro-cyclical mark up) => large endogenous welfare wedge.
  – SR pass through low (higher for rising than for falling prices)
  – Asymmetric impact of domestic food supply shocks on domestic food prices (stronger for positive shocks than for negative).
Figure A3: spatial distribution of adjustment to Food RER

ecm estimates by region from mean group estimates

\[
ecm = -0.22 + 0.0000237 \text{dist.} \quad (R\text{-square} = 0.28, \text{both coefficients sig.})
\]

Region-specific adjustment speeds of local food inflation to the food RER, plotted against distance from entrepôt.
Actual policy responses

– Monetary policy remains relatively ‘conventional’...possibly with high costs.

– Fiscal interventions to alter food price process

  • Generally not successful in SSA although examples from elsewhere.
  • Limited use of Strategic Grain Reserve for influencing aggregate supply
  • ‘Endogenous trade policy’ [not used in structured way]

– Supply side issues to Imperfect tradability of food both internally and externally

– The ‘big one’...promoting greater competition in (food) distribution and retail.
Supplementary slides
But what is the impact on the monetary policy environment of using “fiscal” instruments to stabilize the real food price in a sustainable way?

Indonesia managed to stabilize its domestic price for rice from 1969 to 1996 through trade and buffer stocks

Inflation-adjusted price (1996 Indonesian rupiah/kg)

Sources of raw data: Indonesian Bureau of Logistics (BULOG); International Monetary Fund.


Note: The exchange rate was heavily managed *most* of this period, so we cannot readily construct an exchange rate counterfactual. However, they do not appear to have allowed the major depreciations of July 72 – June 74 to pass through, nor movements in the parallel rate through late 1978.
Tanzania vs Kenya

Headline Inflation Tanzania vs Kenya

Source: IFS All Items CPI
PRODUCTION AND MARKET FLOW MAPS: TANZANIA ALL SEASON MAIZE

Key Market Centres
- Retail
- Wholesale
- Assembly
- Retail & Wholesale
- Assembly & Wholesale
- Assembly, Wholesale & Retail

All Season Maize
- Major Production/Surplus
- Minor Production/Surplus
- Major Deficit
- Minor Deficit

Trade Flow
- Large Flow
- Small Flow
- Main Roads
- Minor Roads
- Railways

Districts
Lakes

Production and Market Flow Maps provide a summary of experience-based knowledge of market networks significant to food security. Maps are produced by USGS in collaboration with other FEWS NET staff, local government authorities, market information systems, NGOs, and network and private sector partners.