

Food Security in Asia and the Pacific

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Exogenous Shocks, Policy Responses and Stability: Some Evidence from the Global Rice Market

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Endogenous and Exogenous Shocks to Rice Markets

- **Endogenous Policy Shocks:**

During a crisis, the few rice exporters have a tendency to ensure domestic food security through **export restrictions** or through **import tariff reductions**. These measures increase food price **volatility** and lead to price spikes (e.g., 2007/08).

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- **Exogenous Productivity Shocks:**

Adverse domestic and foreign yield shocks (weather [short-term], climate [long-term], natural catastrophies [tsunamis, earthquakes], warfare and civic unrest). Positive shocks (bumper crop) due to favourable weather or new technology.

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 - However, one would expect local correlation (among neighbouring countries) due to similar weather and climate. Distance matters!
 - A better way to determine nature of correlation structure is through **spatial autocorrelation** tests.

Policy Responses to Productivity Shocks

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- Key Results:
 - About 9% consumption drop due to adverse global yield shock, and 13% consumption bump due to favourable global yield shock.
 - Foreign shocks matter a lot less than domestic shocks.

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- Potential asymmetry between positive and negative shocks captured by dummies: explicit tests for significance?

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- What is the *cumulative* impact of shocks in the presence of autocorrelation. What is the reaction function over time?
- Openness to trade linked to consumption. Table 4 shows strong effect of shocks on imports. But imports (or trade openness) does not appear in consumption regression (table 5). Effect of shocks should be mitigated for countries open to trade. Need to condition on trade openness.

End of First Paper Discussion

Thank You!

International Transmission of Food Prices and Volatilities: A Panel Analysis

Hyeon-seung Huh (Yonsei University)
Hyun-Hoon Lee (Kangwon National University)
Cyn-Young Park (Asian Development Bank)

Overview

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- Key result: there seems to be a strong propagation of global food price volatility to domestic food price volatility.
- None of the domestic factors (bar economic growth) matter.

Empirical Points

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- Construction of volatility measure from monthly price data may matter. Authors use $\sum_t [\Delta \ln p_t]^2$. Another popular measure that is less influenced by occasional price spike outliers is $\sum_t |\Delta \ln p_t|$
- What is the persistence in food price volatility due to autocorrelation (GARCH-iness)? Illustrate?

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- Higher economic growth rates and higher per-capita income are associated with a reduction in food price volatility. The key to greater food security is greater affluence!
- Also useful is a greater openness to trade, and greater political stability.

Global Food Security Index

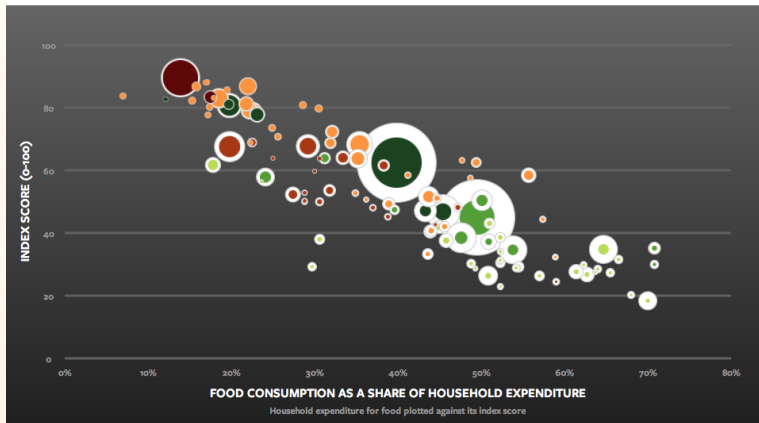
- by the *Economist Intelligence Unit* at foodsecurity.eiu.com
- measures affordability, availability, and quality across a set of 105 countries, based on 25 unique indicators that measures these drivers of food security
- affordability is a key determinant of food security: there is a strong negative correlation between overall food security and food's share of household expenditures

Food Security Security Index

Overall index scores



- North America
- Latin America and Caribbean
- Europe and Central Asia
- Middle East and North Africa
- Sub-Saharan Africa
- South Asia
- East Asia and Pacific



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- ➏ **Import Restrictions:** protects inefficient domestic producers, keeps domestic production from investing into higher productivity (→ Corn Laws in UK 1815-1846)

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- Lower self-sufficiency targets and larger reliance on world markets
- Negotiate commitments from exporting countries to refrain from unilateral export restrictions
- Reduce import restrictions to force domestic producers to pursue productivity gains (higher capital intensity)

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Thank You!