

Recent Work on Food Staple Markets and Regional Trade

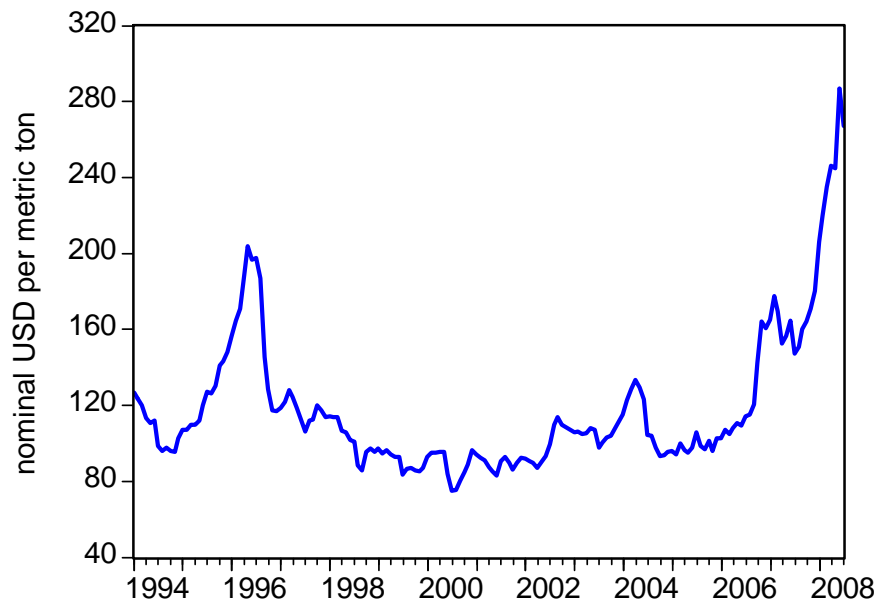
David Tschirley
Michigan State University Food Security Group

*Eastern Africa Regional Meeting
Global Food Security Response
Room 370, USAID Mission, Nairobi, March 18 – 20, 2009*

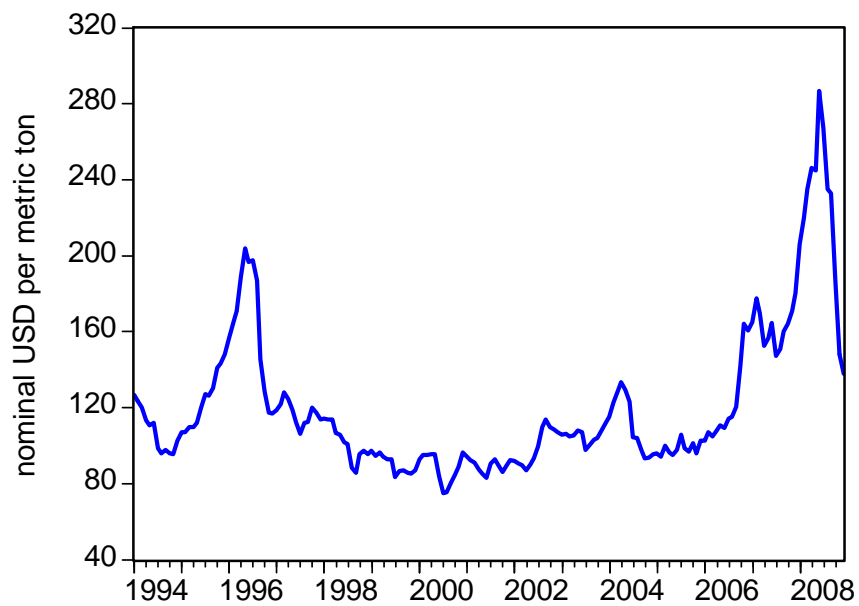
Outline

- The international market situation
- Improved conditions for trade in ESA
- Potential gains from open borders
- Yet persistent mismanagement of trade in ESA and the current situation in the region
- Implications for national policies and regional initiatives

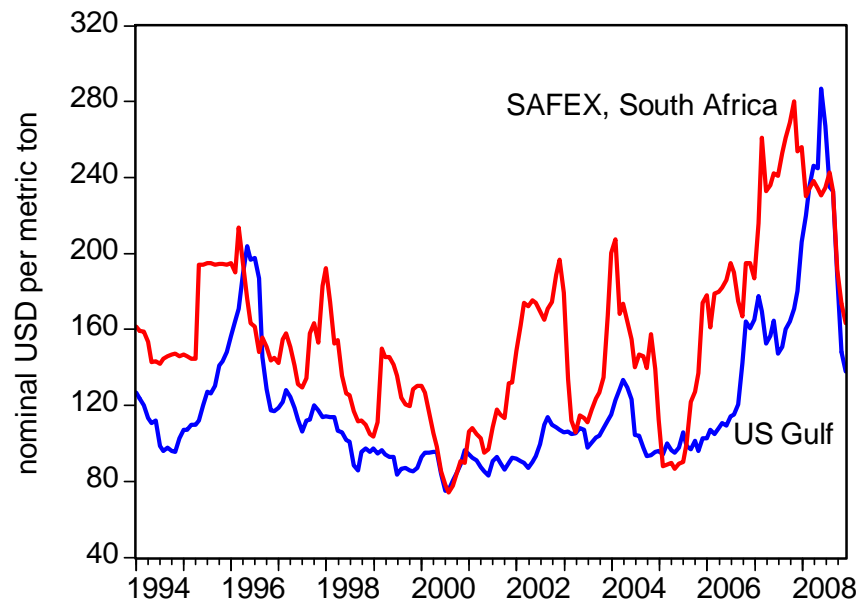
International Maize Prices to July 2008



International Maize Prices to Dec 2008



International Maize Prices to Dec 2008



Why did prices rise so high?

- Initial explanations – structural shifts in world food supply and demand:
 - US bio-fuels policy
 - Rising incomes in China, India
 - Climate change (e.g. recurrent drought in Australia)
- More recent explanations acknowledge structural shifts but also include:
 - US sub-prime crisis and expansionary US monetary policy starting in mid-2007

Near- to medium term prospects

- ❑ Structural factors likely to persist despite current worldwide economic slowdown
- ❑ So prices likely to remain higher than over past 10 years
- ❑ Potentially more variable as well

A Conundrum

- ❑ Maintaining affordable food staple prices would seem to be an important political objective
- ❑ Conditions for effective market response to food production shortfalls have improved
- ❑ Trade can and does work to keep prices within IPP/EPP bounds in some countries
- ❑ Yet in two countries of Southern Africa (Malawi and Zambia), government action routinely creates price spikes where none needed to occur

A Conundrum (2)

□ Questions

- Why does this happen?
- Can policy analysts make any contribution to reducing the frequency and severity with which it occurs?

Improved Conditions for Trade

- Changed policy environment since early 1990s
 - Fewer government subsidies to maize sectors
 - Less government control of domestic trade
 - Small-scale maize milling and informal marketing systems
 - Much more border trade
- Effects of this changed environment
 - More diversified production (cassava, groundnuts, sweet potato)
 - More diversified consumption

Improved Conditions for Trade (2)

Percentage of Total Food Expenditure Allocated to Food Items in Selected Areas of Mozambique and Zambia

Food Items	Mozambique			Zambia				
	Maputo Province	Gaza and Inhambane Provinces	Manica and Tete Provinces	Lusaka	Kitwe	Kasama	Mansa	
Urban	Maize	2.4	14.5	39.9	8.9	10.6	9.8	11.5
	Rice	7.8	9.8	4.4	2.5	2.8	3.4	2.7
	Wheat	15.5	6	2.9	11.8	11.3	6.2	7.3
	Cassava	1.3	5.2	0.5	0.3	0.8	2.0	4.1
Rural	Maize	9.1	12.2	48	---	---	---	---
	Rice	11.4	9.5	2.5	---	---	---	---
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Data Source: Mozambique: IAF 2002, according to their definition of rural and urban; Zambia: 2007 CSO/MSU Urban Consumption Survey, first round, as calculated by authors

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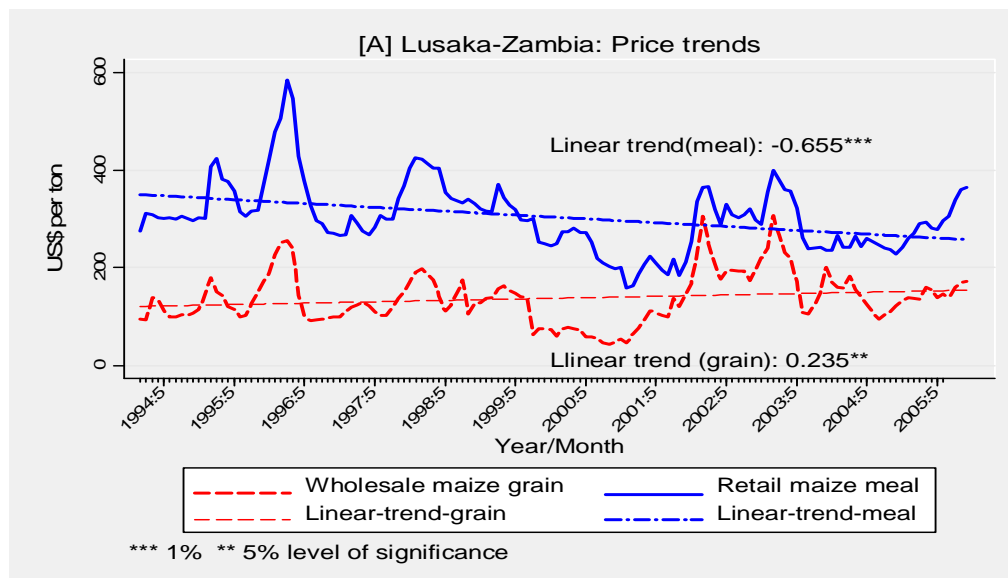
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Improved Conditions for Trade (3)

- Improved spatial market integration
 - Malawi, Mozambique, Zambia (Goletti and Babu, 1994; Chirwa, 1999; Tostau and Brorsen, 2005; Loy and Wichern, 2000; Awudu, 2007)
 - Broader region (Rashid, 2004; van Campenhout, 2008)
 - Broad conclusions: maize markets reasonably well integrated, becoming more efficient, marketing costs are declining

Improved Conditions for Trade (4)

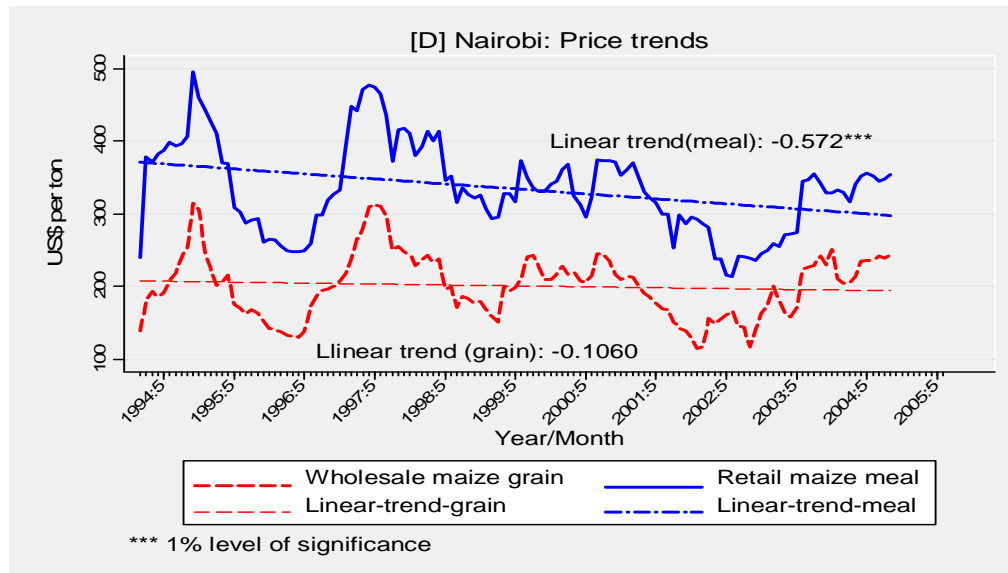
- Declining marketing costs



□ Source: Jayne and Chapoto 2006

Improved Conditions for Trade (5)

□ Declining marketing costs



□ Source: Jayne and Chapoto 2006

Improved Conditions for Trade (6)

□ Cell phone ownership 160m by 2006

- > 50% farmers in Kenya owned cell phone in 2007
- 25% in rural Zambia; 69% own or have access (2008)
- 75% of tomato growers (nearly all smallholders) selling in Lusaka owned, 100% had access
- Falling cost of service (SMS)
- Money transfer services
- Effects on market integration in Niger documented by Aker (2009)
 - Cross border transfer services being designed now

Improved Conditions for Trade (7)

□ Less Covariant Prod'n (Correlation Coef's, White Maize Prodn)

		South Africa	Zambia	Zimbabwe	Mozambique	Malawi
South Africa	1990-1999		0.66**	0.93***	0.18	0.12
	1996-2005				0.04	-0.18
Zambia	1990-1999	0.66**		0.77***	-0.04	0.36
	1996-2005				-0.08	0.06
Zimbabwe	1990-1999	0.93***	0.77***		0.30	0.22
	1996-2005				-0.88***	0.21
Mozambique	1990-1999					0.65**
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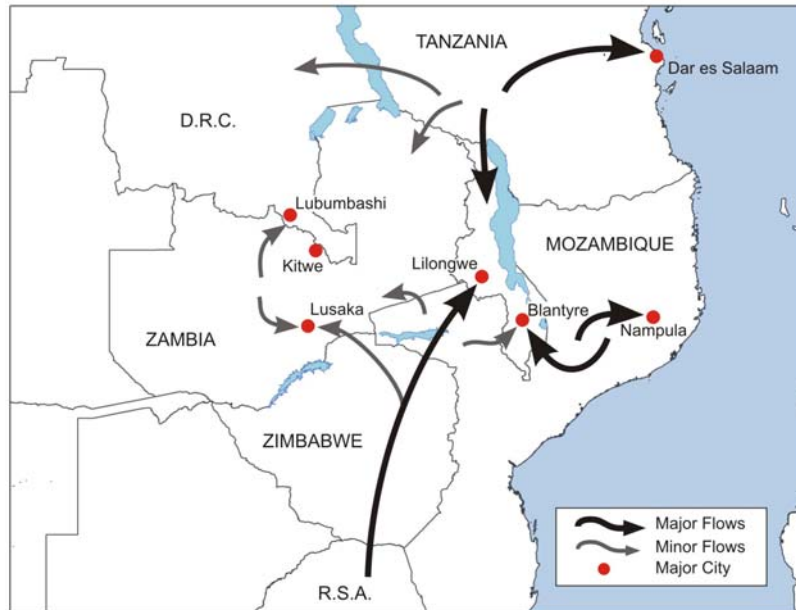
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Improved Conditions for Trade (8)

Regional trade: South East Africa market shed



Gains from open borders & consumer substitution – 30% fall in maize prod'n

30% fall in maize prodn	Closed border	Open border
Maize price	+163%	
Poor household consumption ('000 tons of maize-equivalents)		
Maize	-100	
Cassava	+43	
Total	-57	

Source: Dorosh, Dradri and Haggblade (2007)

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Deficit cut nearly in half by substitution alone

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Maize price	+163%	+36%
Poor household consumption ('000 tons of maize-equivalents) <i>Cut > half by trade alone</i>		
Maize	-100	-43
Cassava	+43	+11
Total	-57	-33

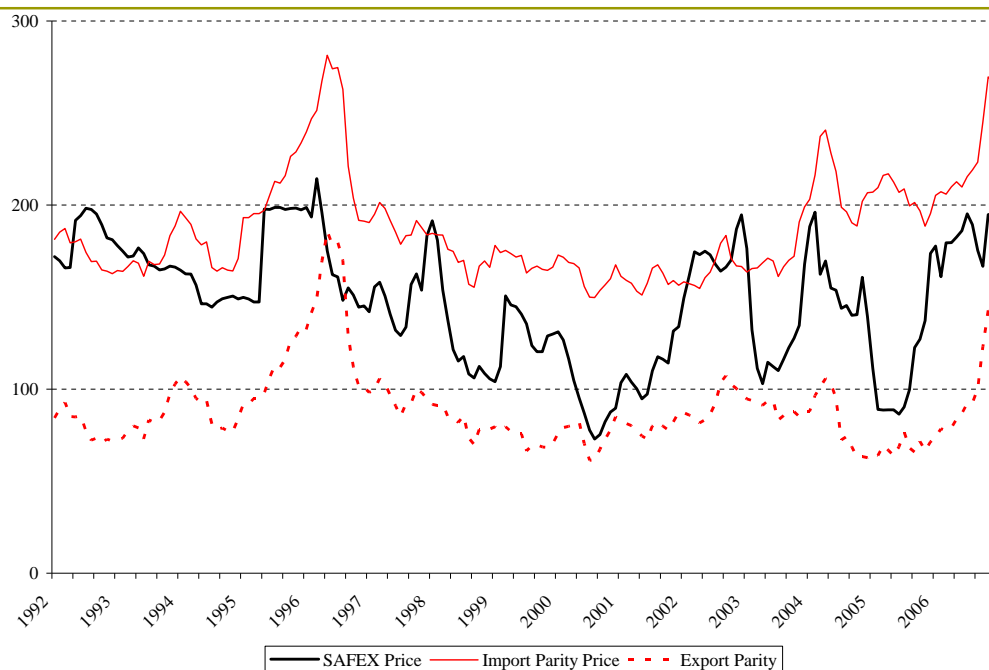
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Gains from open borders & consumer substitution – 30% fall in maize prod'n

30% fall in maize prodn	Closed border	Open border
Maize price	+163%	+36%
Poor household consumption ('000 tons of maize-equivalents)		<i>Trade + substitution: Cut by two-thirds</i>
Maize	-100	-43
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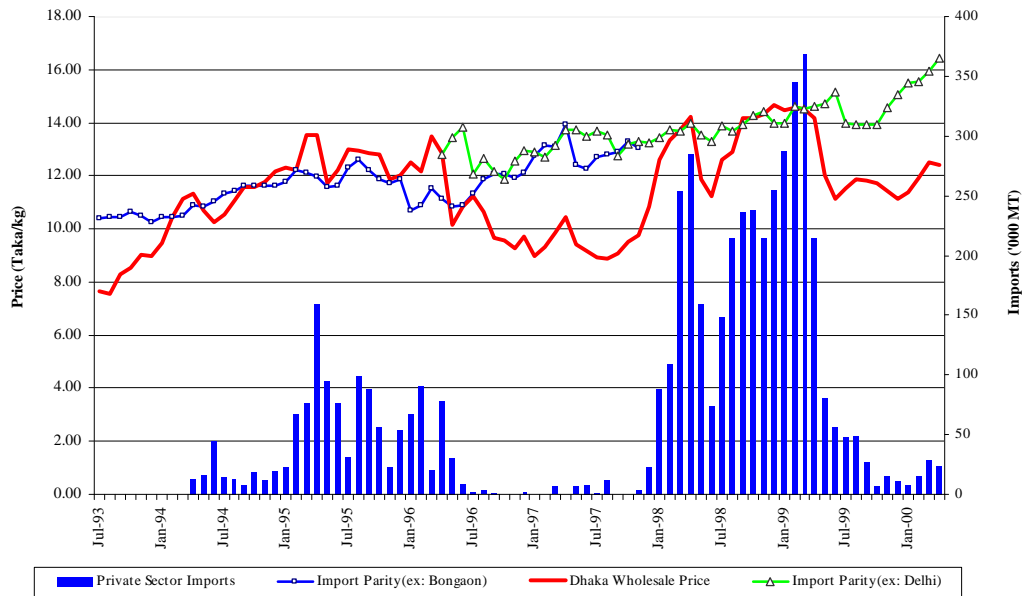
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Trade can and does work in some cases (South Africa)



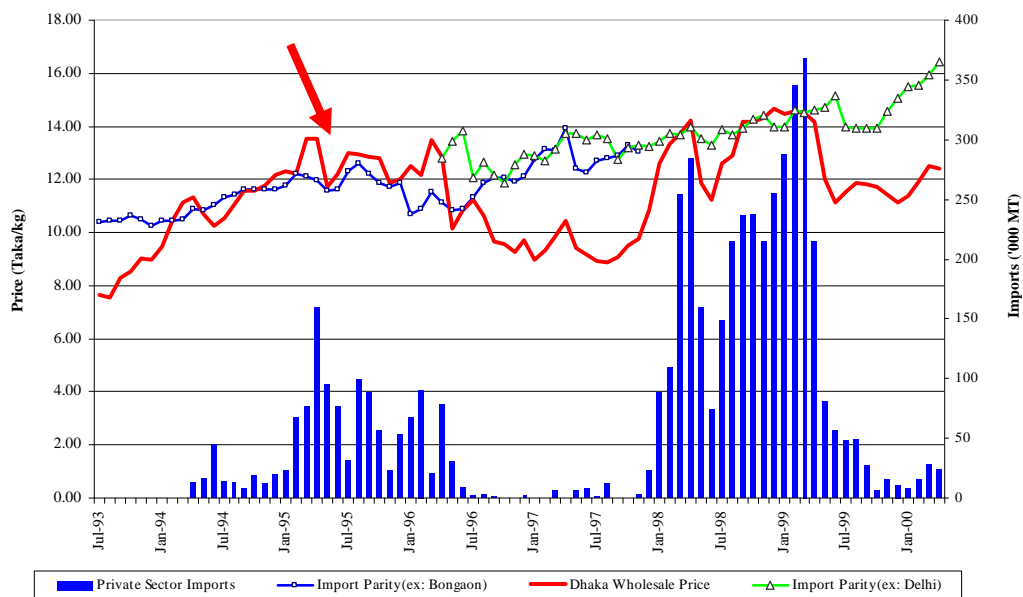
Source: Haggblade

Trade can and does work in some cases (Bangladesh)



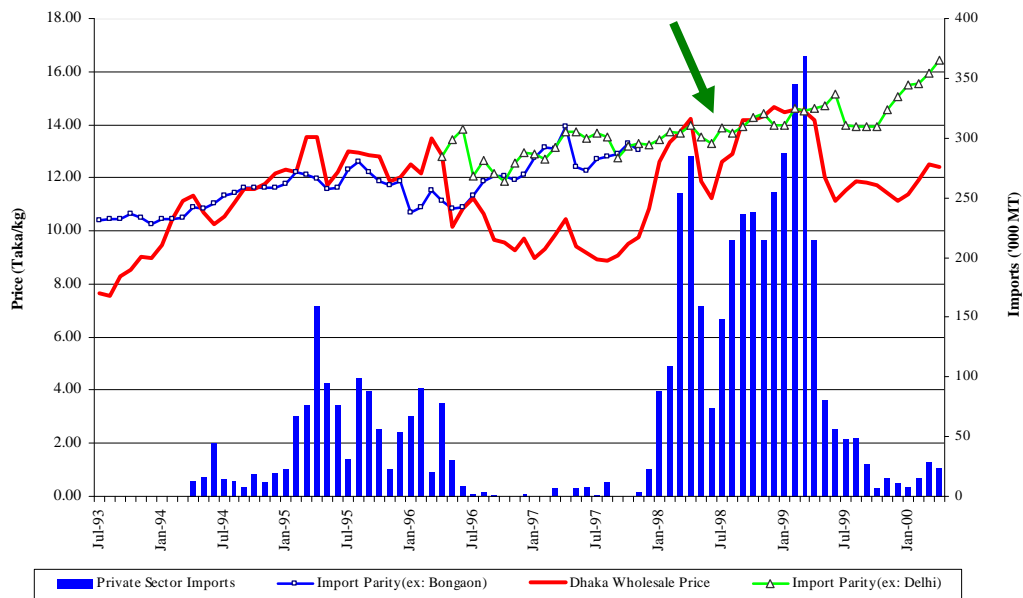
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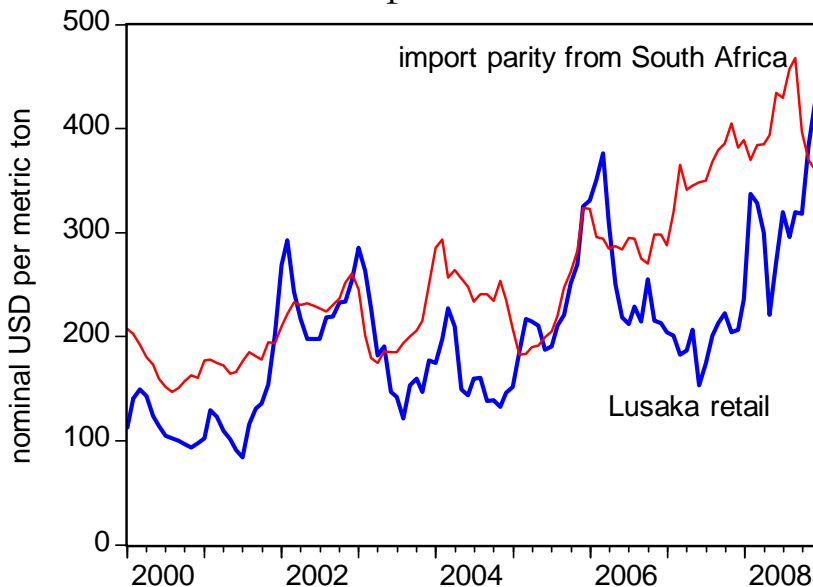
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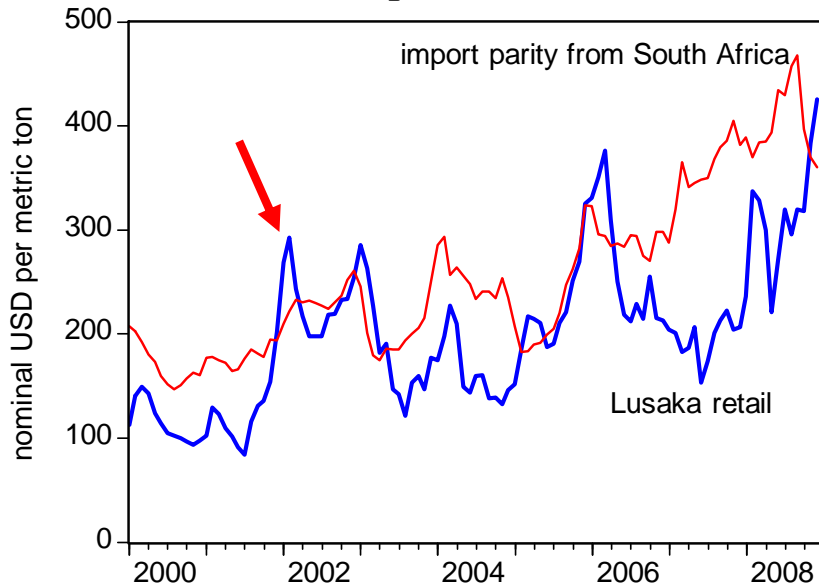
But this has not often happened in southern Africa

□ Nominal USD maize prices in **Zambia**



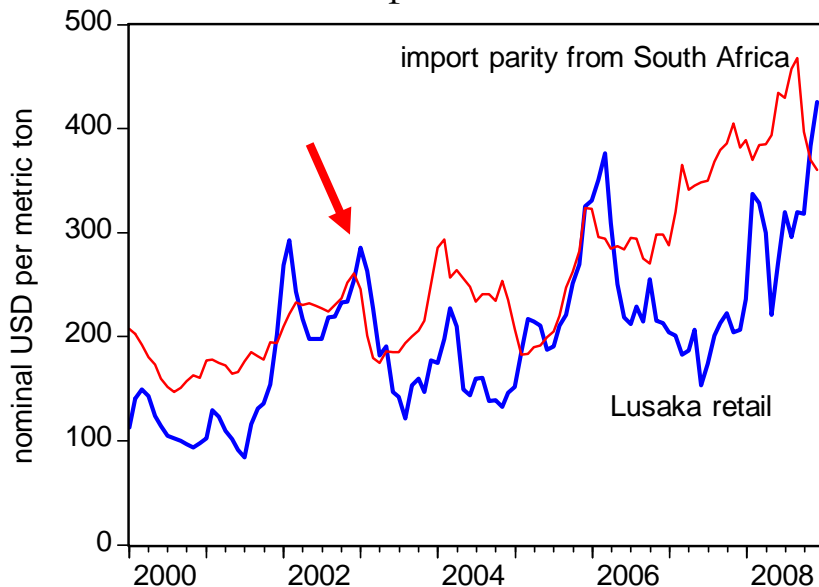
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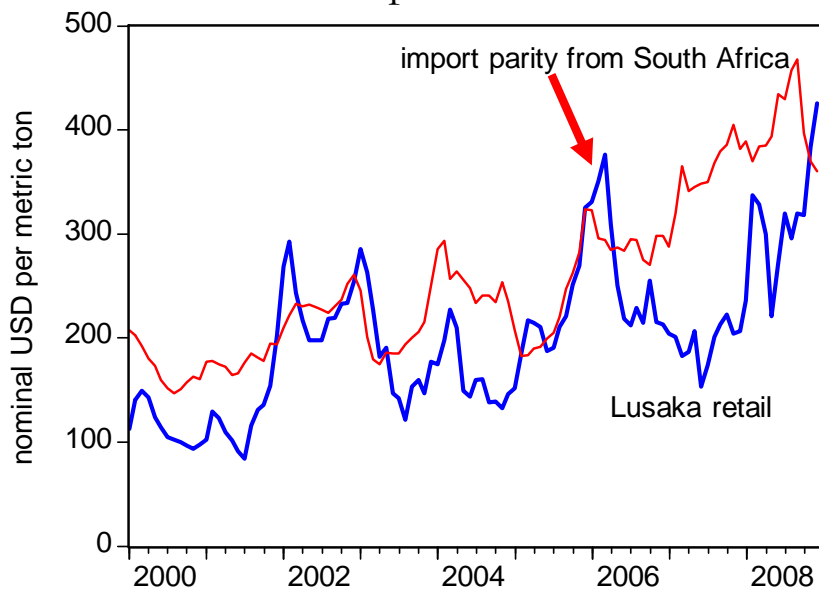
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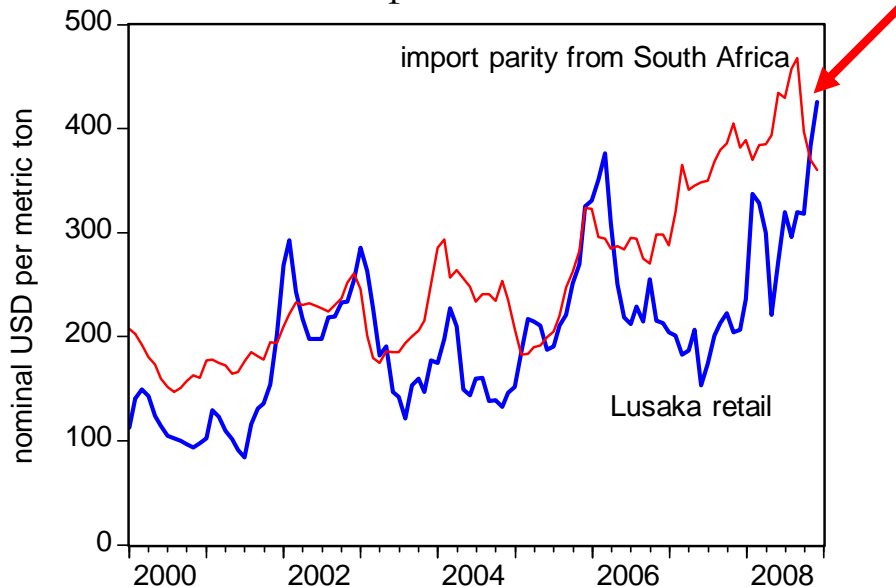
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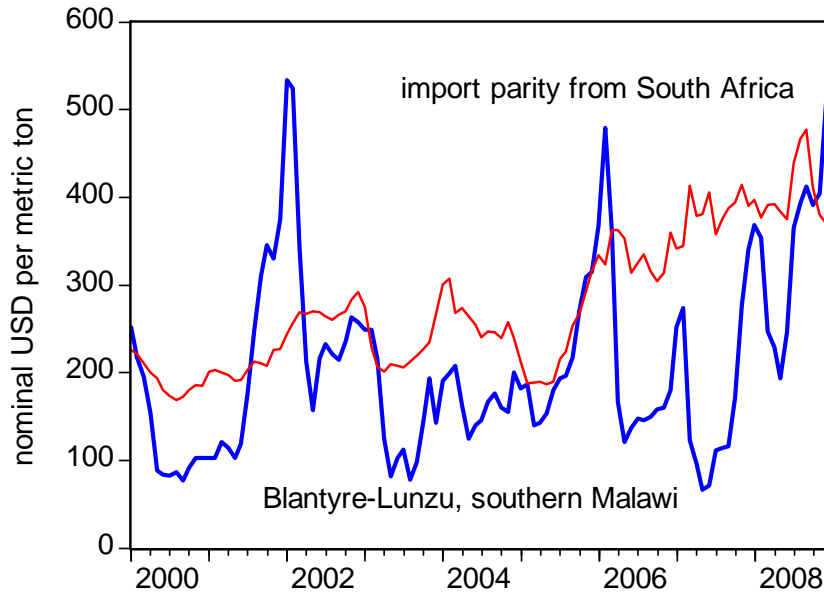
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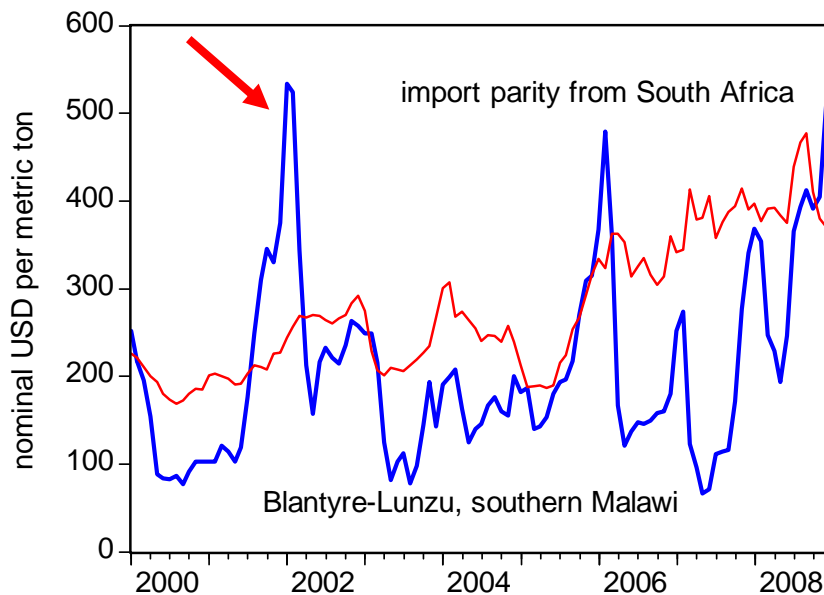
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▣ Nominal USD maize prices in Malawi



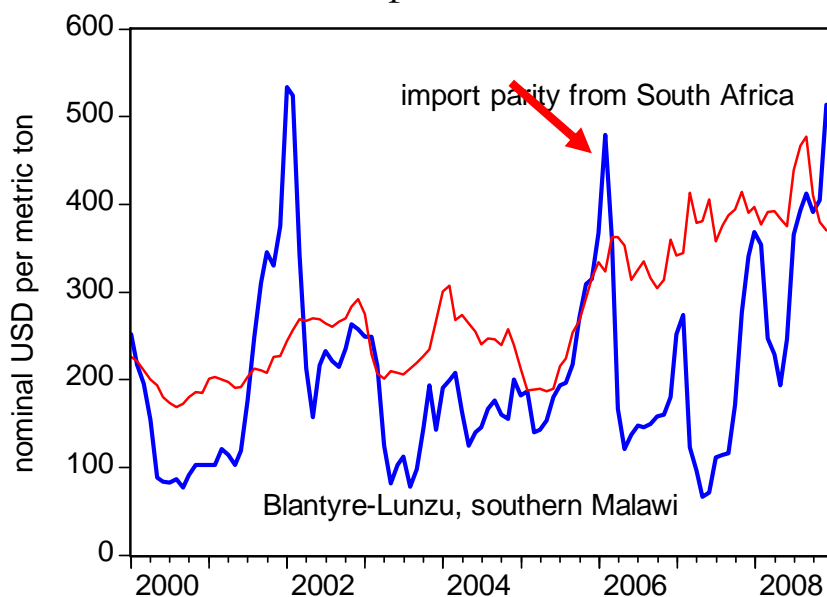
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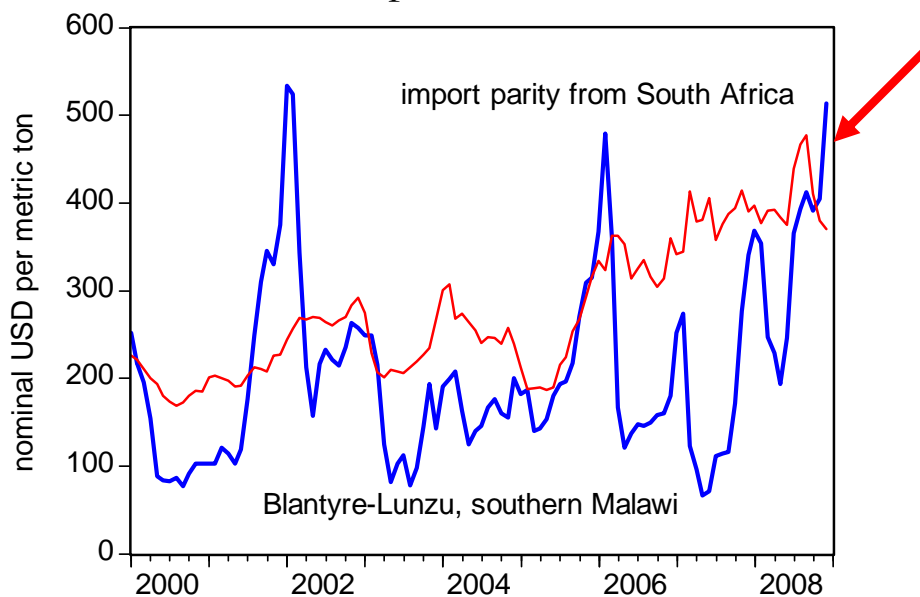
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▣ Nominal USD maize prices in **Malawi**



But this has not often happened in southern Africa

▣ Nominal USD maize prices in **Malawi**



How does this happen?

- ❑ Inaccurate crop forecasts (biased upwards)
 - Especially in Malawi and Mozambique
- ❑ Underestimated maize demand
 - Growing animal feed industry
- ❑ Frequent control of import licenses
- ❑ Government delays in announcing import intentions
- ❑ Often plans to distribute grain to millers (Zambia) or ADMARC (Malawi) at subsidized rate
- ❑ Formal private trading sector is “frozen”
- ❑ Government imports are delayed
- ❑ Prices skyrocket

How does this happen? (2)

- ❑ Poor information is a problem
- ❑ But the central problem is government’s repeated recourse to control of trade

Why does this happen?

- Rent seeking is always an issue
- Additionally, two widely recognized problems in political science and conflict resolution
 - The “wicked problem”
 - The “commitment problem”

Why does this happen? (2)

- The “wicked problem”
 - “... beliefs are grounded in competing cultural norms and resolution resists factual analysis”
 - “... it is the *social complexity* of these problems, not their technical complexity, that overwhelms most current problem solving ... approaches”
 - “Because of social complexity, solving a wicked problem is fundamentally a social process”

Why does this happen? (3)

- The “commitment problem”
 - The inability of parties to make a *credible commitment* to a course of action that would resolve a conflict
 - Traders need a commitment from government not to take sudden, unanticipated actions that affect traders’ bottom line
 - Government can’t make a credible commitment to this effect
 - Rent seeking by individuals in government
 - Lack of trust that traders will import sufficient quantities

Why does this happen? (5)

- The “commitment problem” (cont’d)
 - Government needs commitment from traders that they will import sufficient quantities
 - A competitive market provides a *third party guarantee*
 - Key concept in literature on social trust and commitment problems
 - But here the wicked problem interferes
 - Government – and the voting public -- may neither understand nor trust that “the market” can provide such a guarantee

Implications

- Improved planning information
 - Improved crop estimates
 - Better handle on growth of livestock sectors
- Taking advantage of cell phones (SMS)
 - Providing information
 - Prices, quantities, pest outbreaks (fresh produce)
 - Obtaining (and disseminating) information
 - Payment through topped up SMS time
 - Rsch needed on sample selection, informational validity

Implications (2)

- Persistent outreach to build trust and common understanding
 - Need for clear and transparent rules of engagement
 - Examples of how markets do stabilize supplies and prices
 - Supply chain studies that pay serious attention to how competitive the chains are, at all points
 - Credibility in the eyes of skeptics
- Another approach to the *third party guarantee*
 - Open borders combined with joint government-trader-civil society task force to monitor letters of credit and agree to quick government action if private imports lag



MSU Work Plan



MSU Work Plan – Two Parts

- Support to COMESA in CAADP process
 - Regional and selected national compacts
 - Identify priority investments and policy reforms
 - Review and revise COMESA's draft Common Agricultural Policy
- Applied research and policy outreach

MSU Work Plan – Research & Outreach

- Output 5: (DONE) “Comparison of maize price volatility in closed (Malawi, Zambia) and open trade regimes (Mozambique, Mali, Kenya)”
- Output 6: “Buffering Food Price Shocks through Cross-Border Trade: Theory and Practice in Eastern and Southern Africa”
- Output 7: “How do household asset endowments condition marketed surplus response to public goods?”
 - Extension: Influence of asset endowment on ability to diversify into higher value crops

MSU Work Plan – Research & Outreach

- Output 8: (DONE) “Can Cash Transfers Promote Food Security in the Context of Volatile Commodity Prices? A Review of Empirical Evidence”
- Output 9: “The spatial distribution of marketed surplus of food staples in southern Africa: Implications for Regional Trade and Choice of Resource in Emergency Response”
 - Extension: move beyond southern Africa, also incorporate price surfaces and measures of variability

Thank You

