

Price Volatility: Protecting Farmers and Consumers

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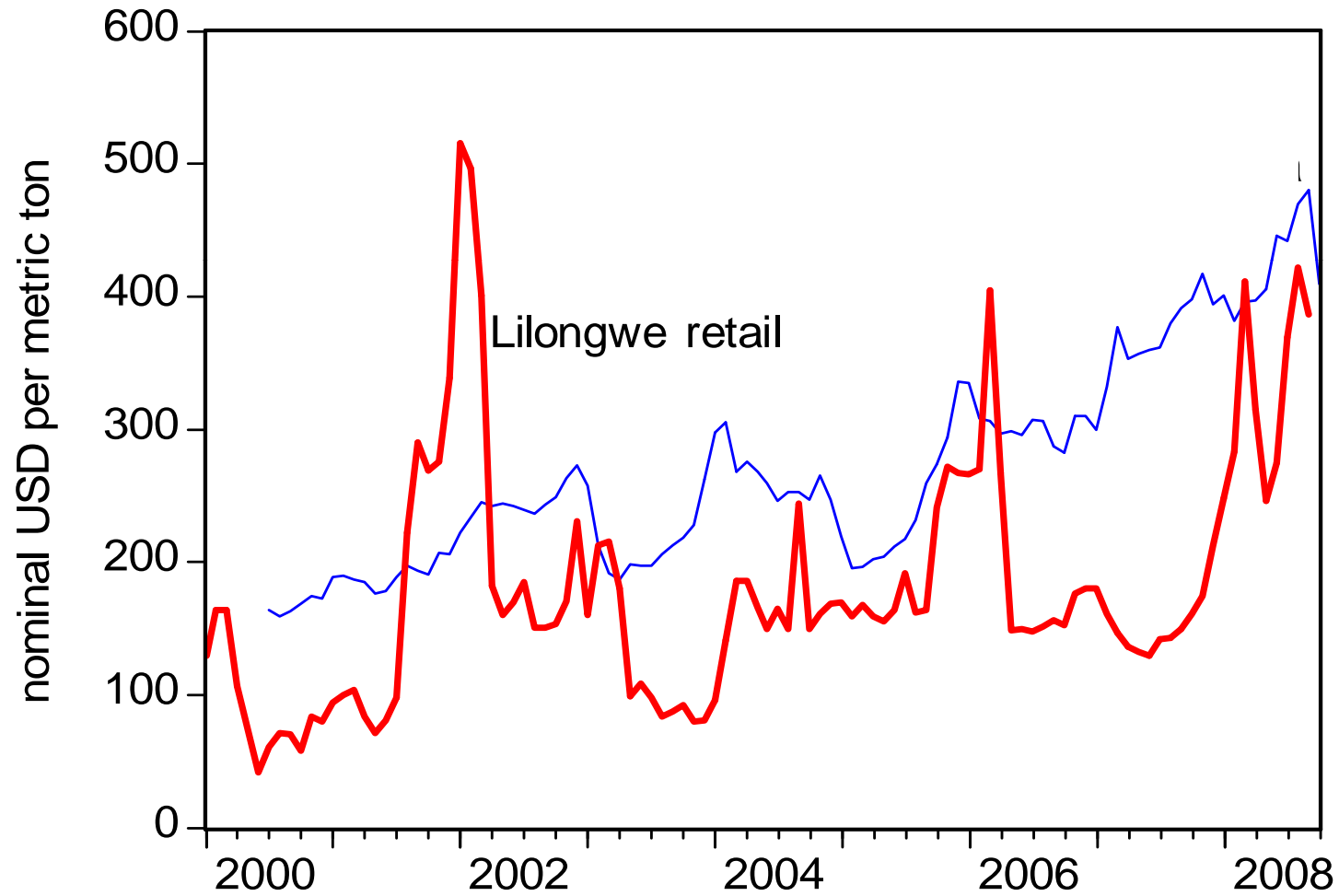
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Maize price volatility



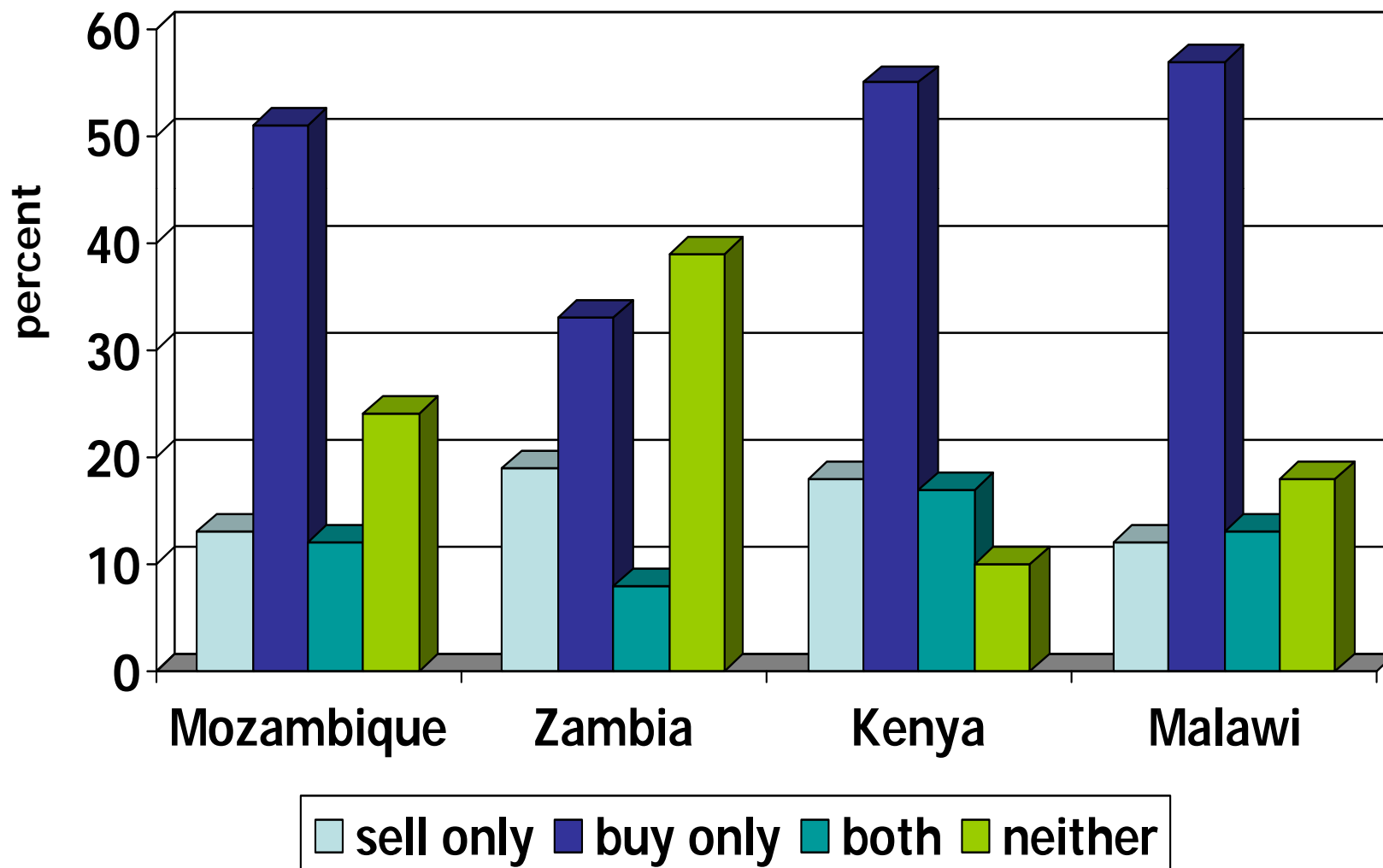
Outline

1. Impact on consumers and farmers
2. Causes of price volatility
3. Policy options
4. Conclusions

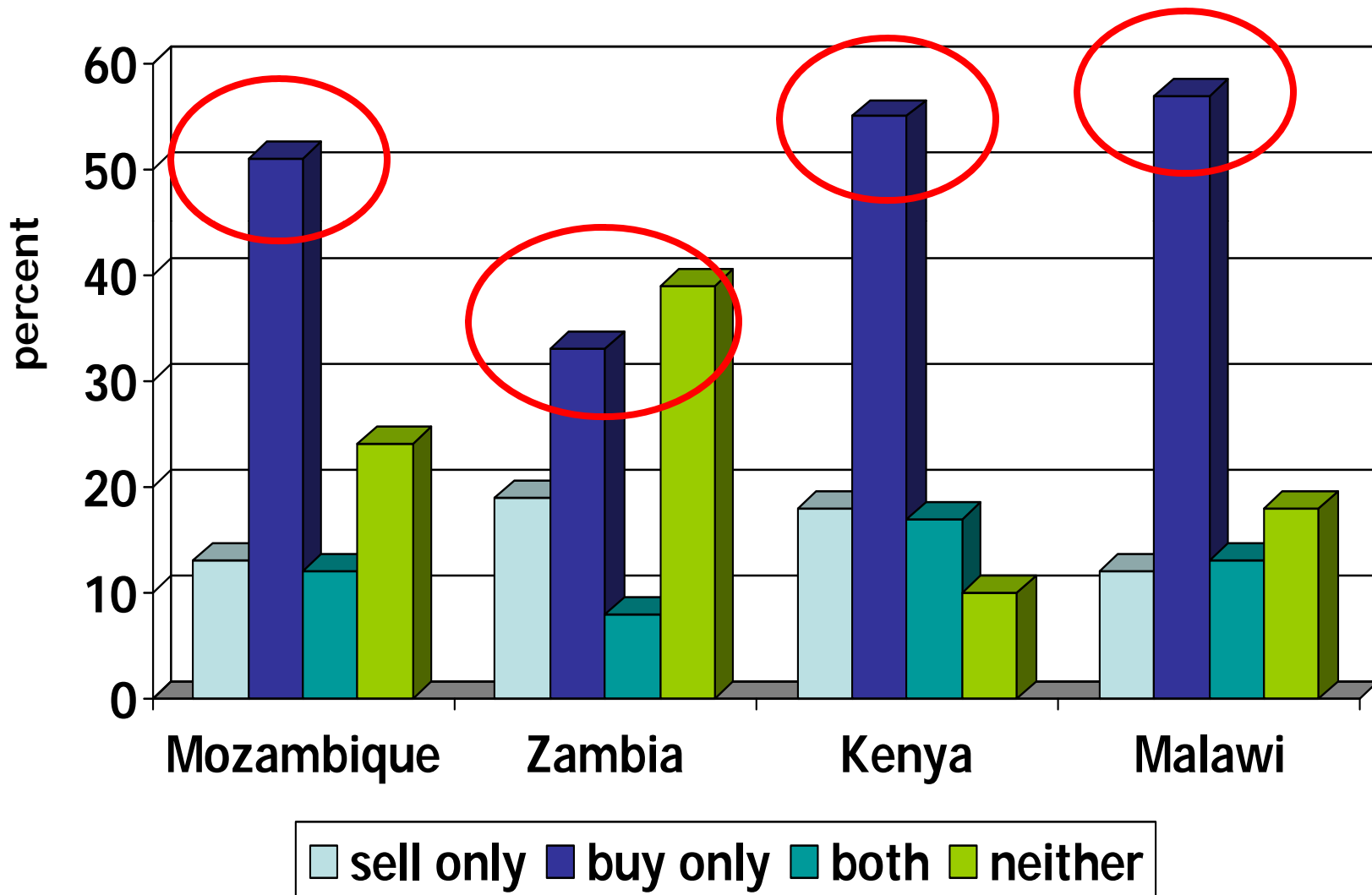
1. Impact on farmers

- Do farmers benefit from high maize prices?

Smallholder Households' Position in the Maize Market



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Characteristics of smallholder farmers, Zambia 2003/04

	N=	Farm size (ha)	Asset values (US\$)	Gr. Rev., maize sales (US\$)	Gr. Rev., crop sales (US\$)	Total hh income (US\$)
Top 50% of maize sales	31,328 (2%)	4.3	1,132	720	1163	2,932
Rest of maize sellers	328,561 (26%)	1.6	316	88	193	634
Households not selling maize	907,255 (72%)	0.9	231	0	97	415

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1. Impact on farmers

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- Do farmers benefit from high maize prices?
- **A small minority do.**
- **The majority, who are net buyers, don't!**

1. Impact on consumers

- Do consumers suffer from high maize prices?

Food staple consumption, Malawi

Commodity	Quantity consumed (kg/person/year)	Daily caloric intake (kcal/person/day)	Share of caloric intake (percent)
Maize	133	1154	54%
Cassava	89	161	7%
Potato*	88	163	8%
Others		647	31%
Total		2125	100%

Source: FAO, 2009a

* FAO data combine potato and sweet potato.

Food staple consumption, Uganda

Commodity	Quantity consumed (kg/capita)	Daily caloric intake (kcal/day)	Calorie share (percent)
Plantains	172	419	18%
Cassava	101	300	13%
Maize	31	266	11%
Sweet potatoes	82	215	9%
Beans	16	148	6%
Wheat	7	42	2%
Rice	4	53	2%
Other		1133	48%
Total		2360	100%

1. Extreme price volatility hurts

- poor urban households (net buyers)
- deficit farm households (the majority)
- Maize consumers
- planning for all farmers

Outline

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- 2. Causes of price volatility**
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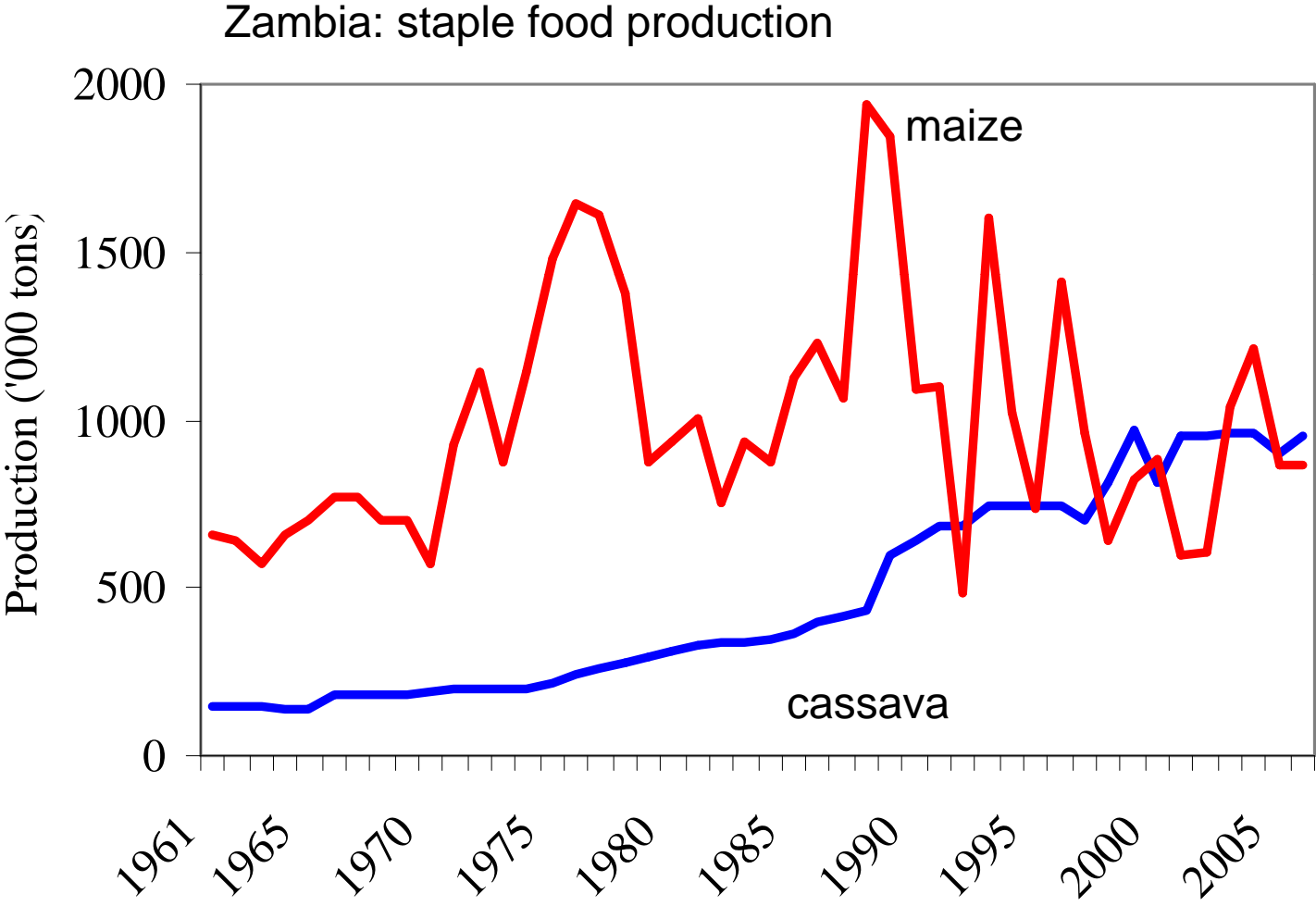
2. Causes of food price variation

- Weather → production volatility
- World price transmission
- Private trader hoarding & collusion

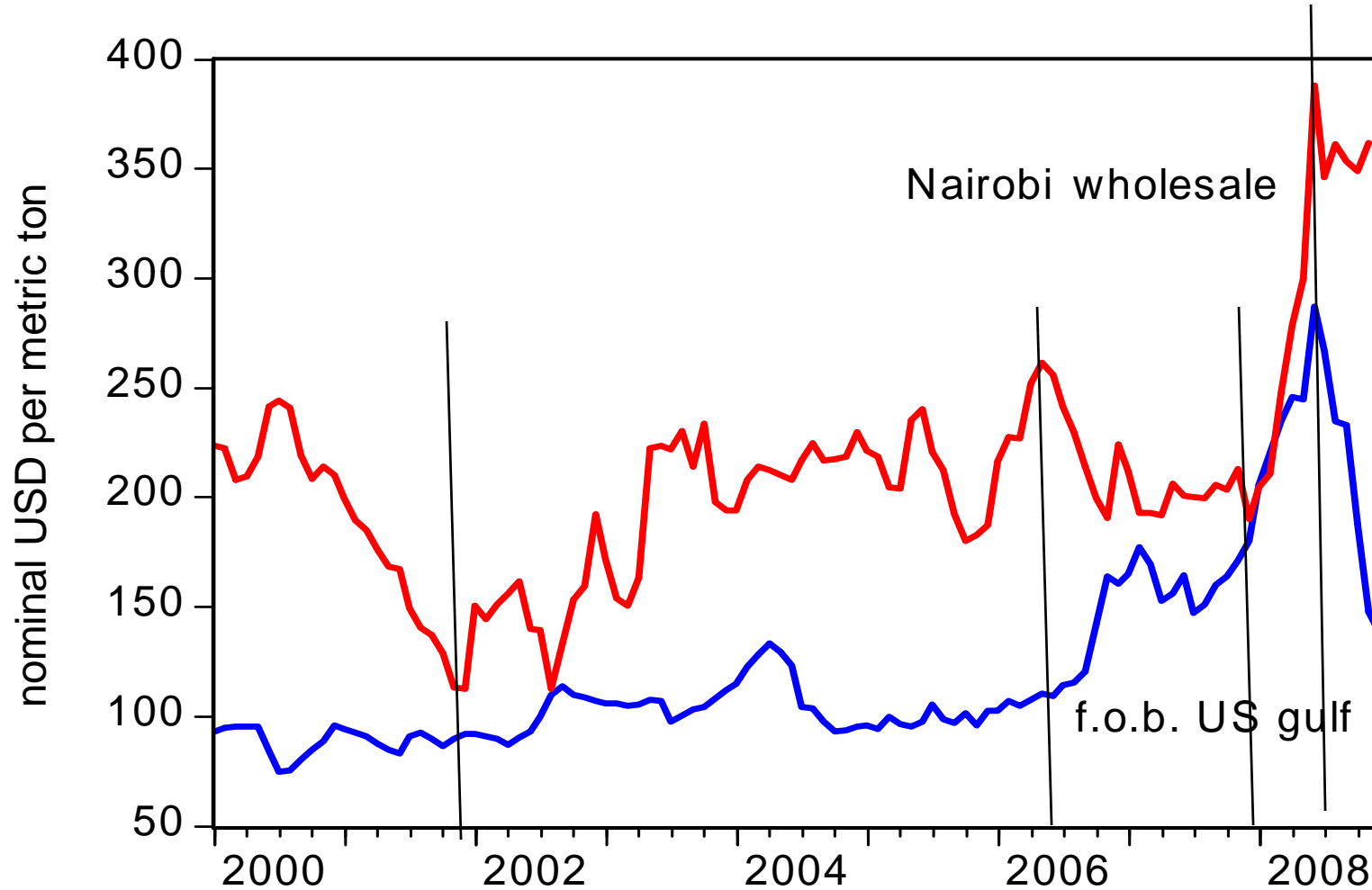
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- Weather → production volatility
- World price transmission
- Private trader hoarding
- High transport and marketing costs
- Trade barriers
- Demand substitutes
- Unpredictable government policies (trade bans, pricing, public imports, tariffs)

Weather → production volatility



World price transmission?



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2. Causes of food price variation

Cause	Importance
Weather	***
?	
?	
?	
?	
?	
World prices	*

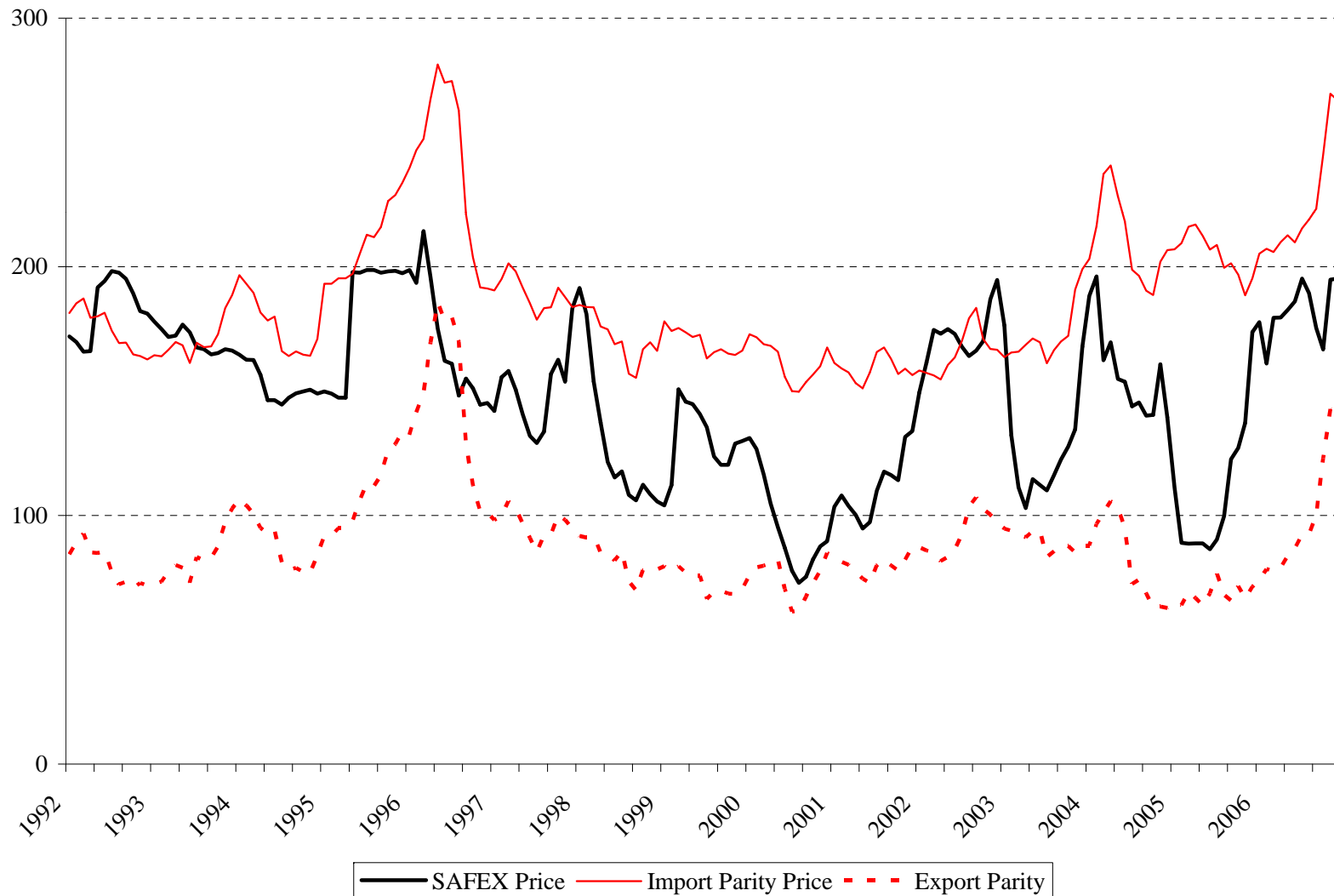
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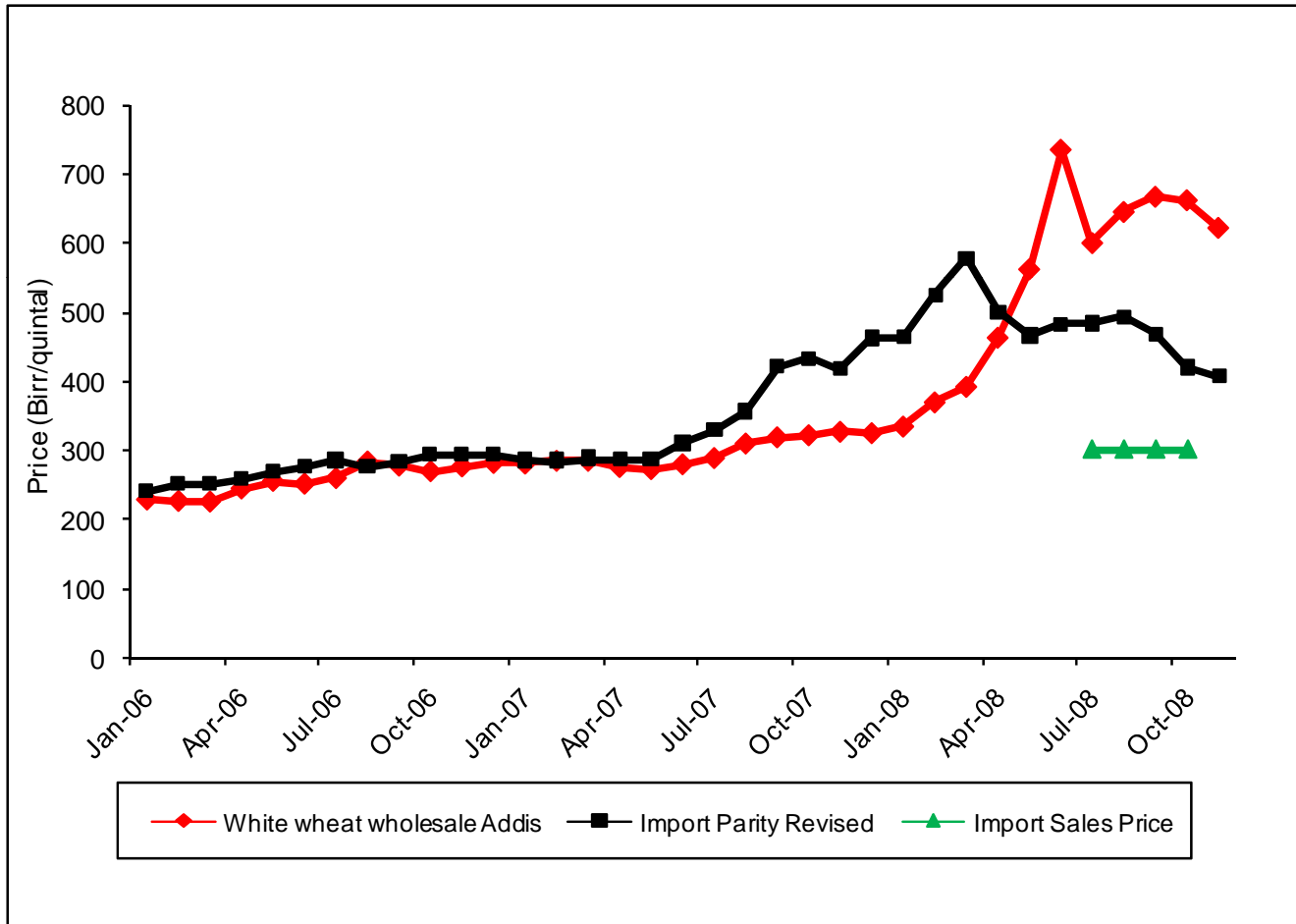
3. Policy Options

Policy Regimes	Instruments	Countries
A. Free market	open borders, public goods	Mozambique, Uganda, South Africa
B. State dominated	buffer stocks, trade controls	Malawi, Zambia, Tanzania

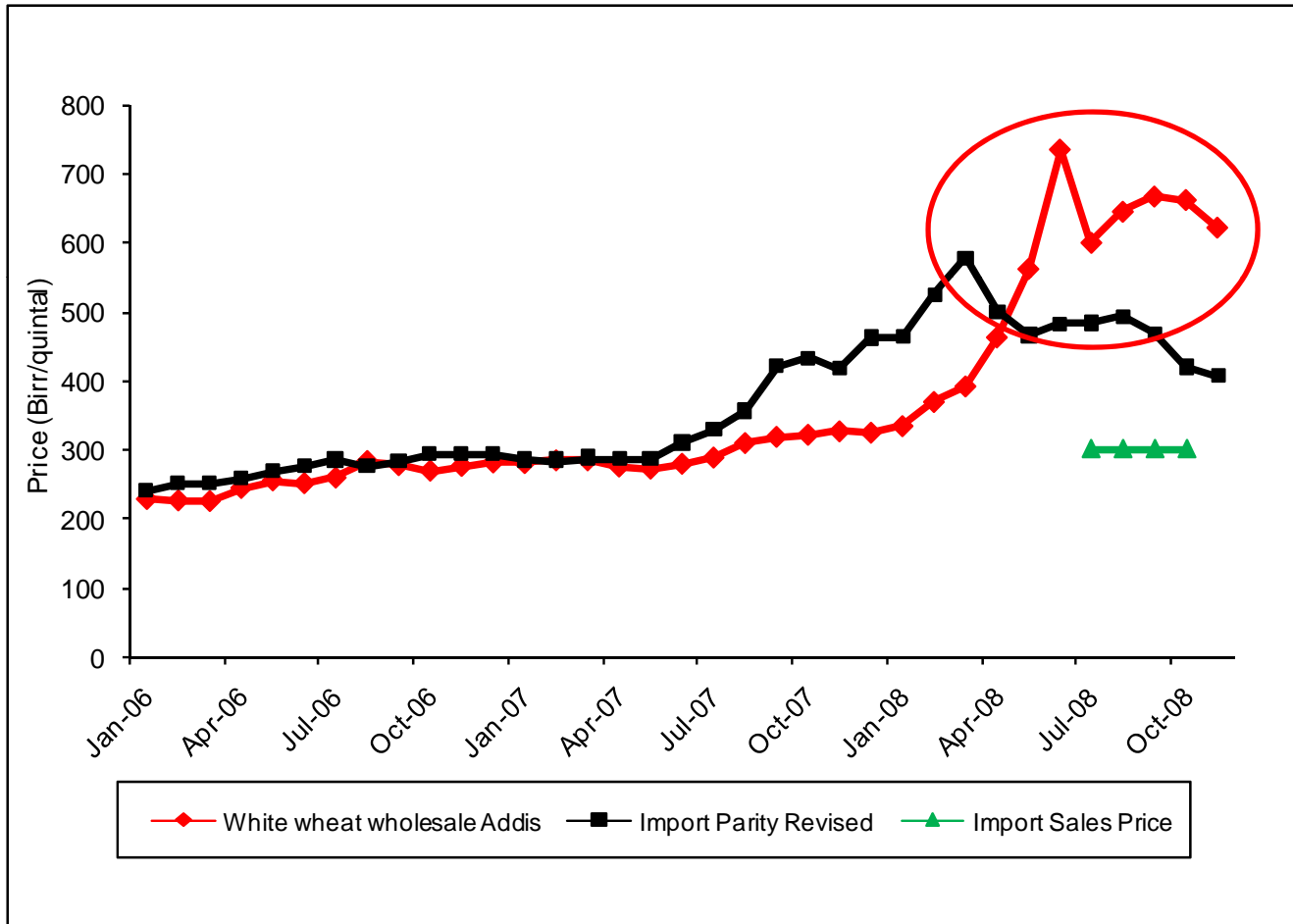
A. Free trade regime: South Africa, domestic and border prices for white maize, 1992-2006



Ethiopia Wheat



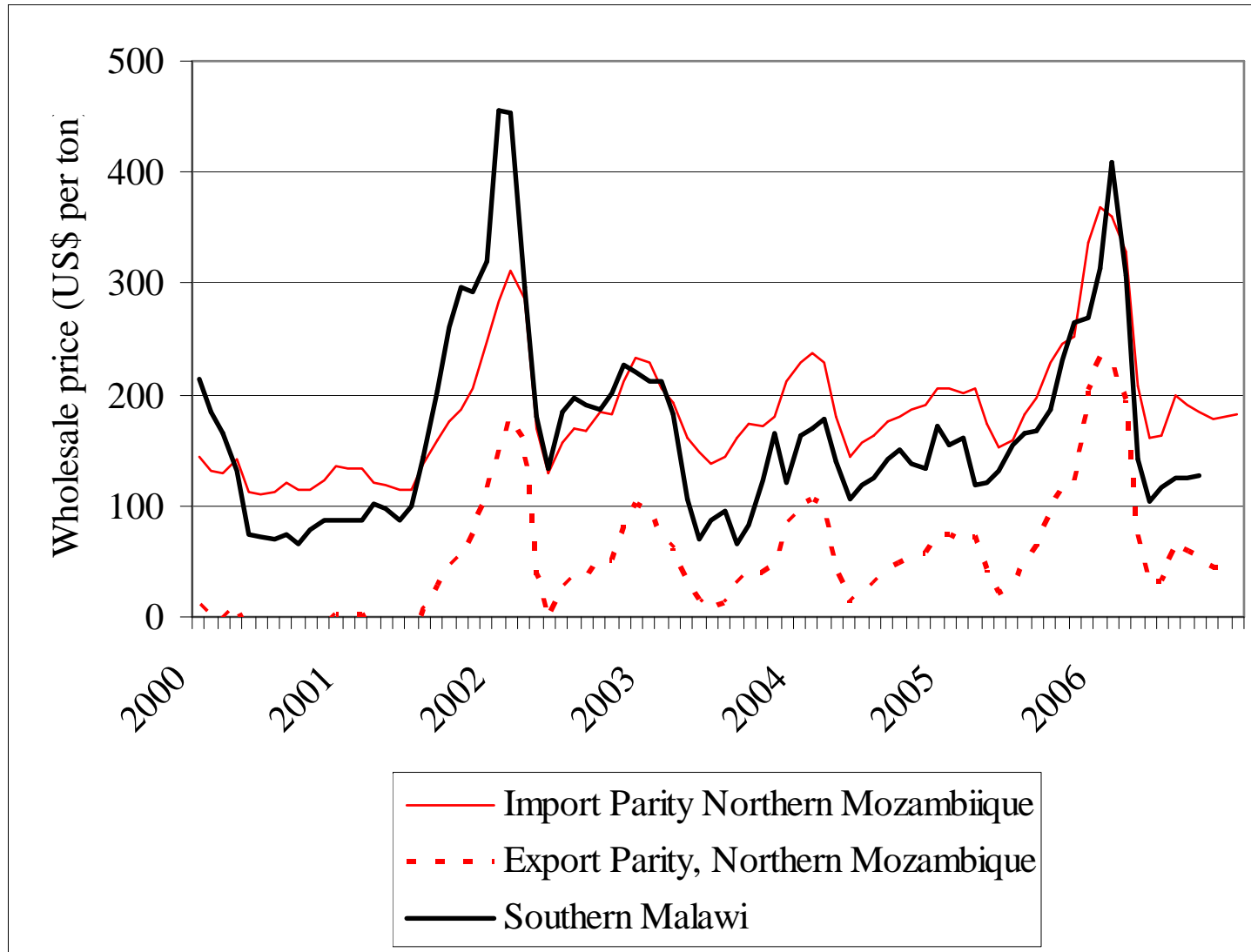
Ethiopia Wheat



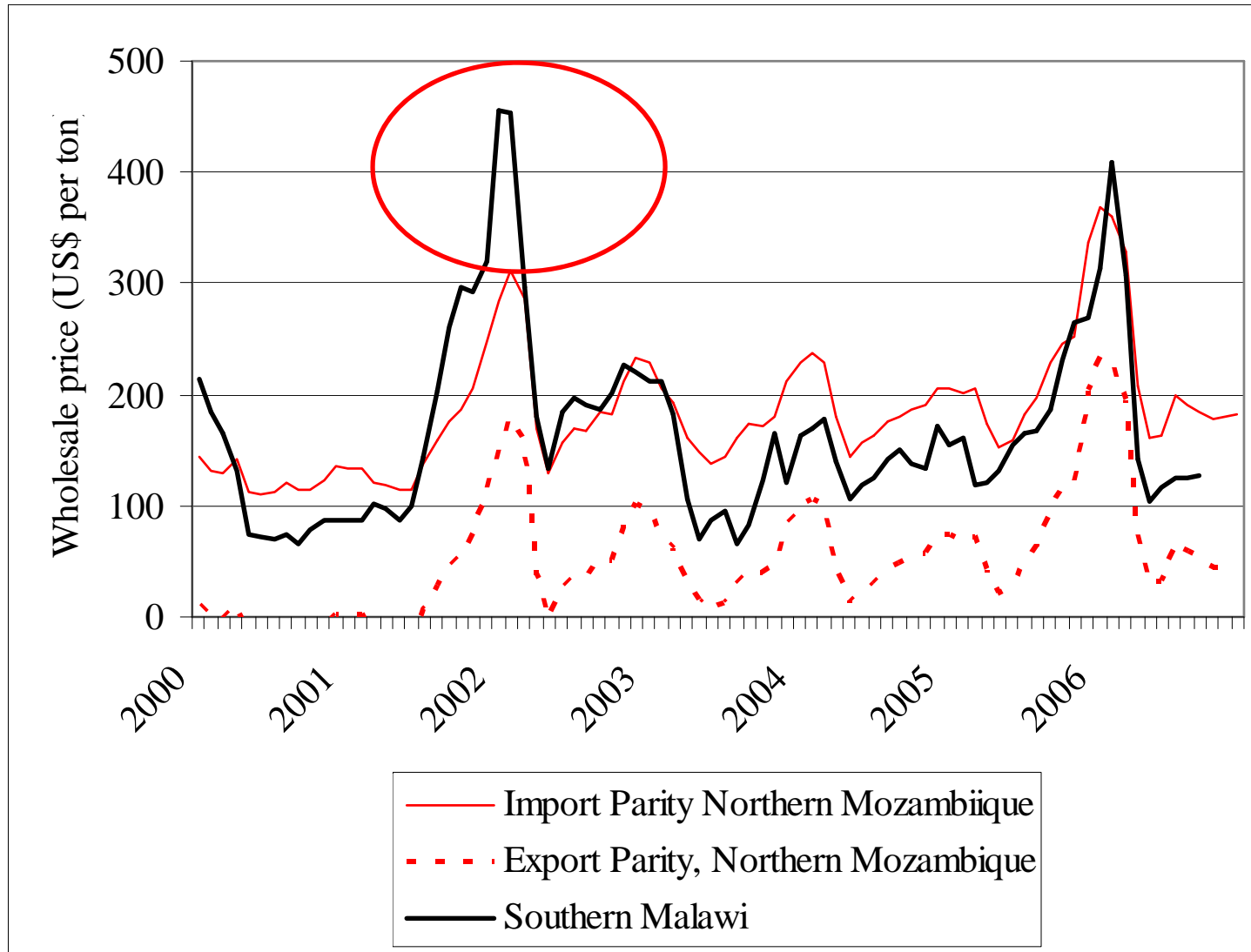
Foreign exchange constraints

- Import is highly profitable
- Traders refuse to import because they cannot convert burr into dollars

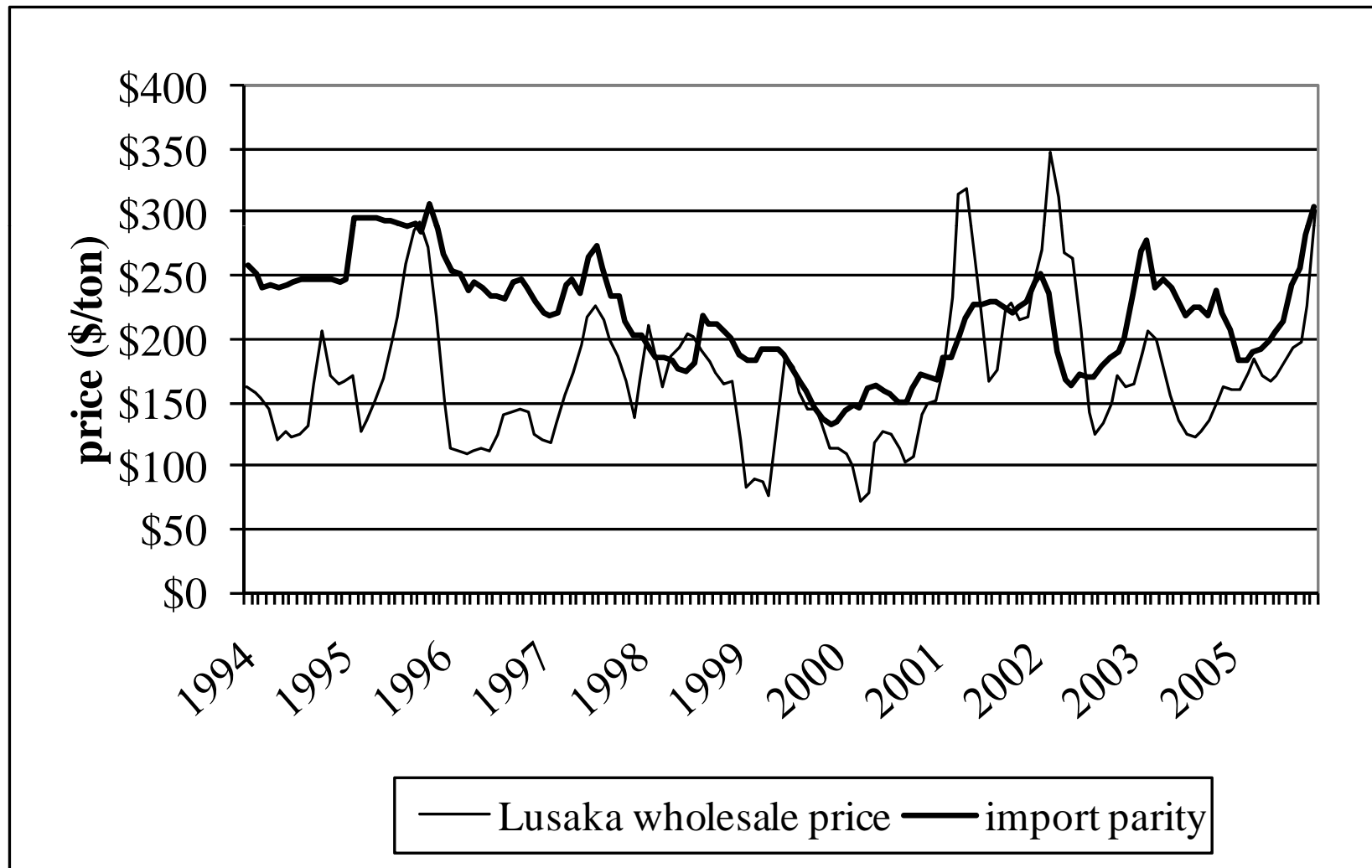
Malawi, domestic and border prices for white maize, 2000-2006



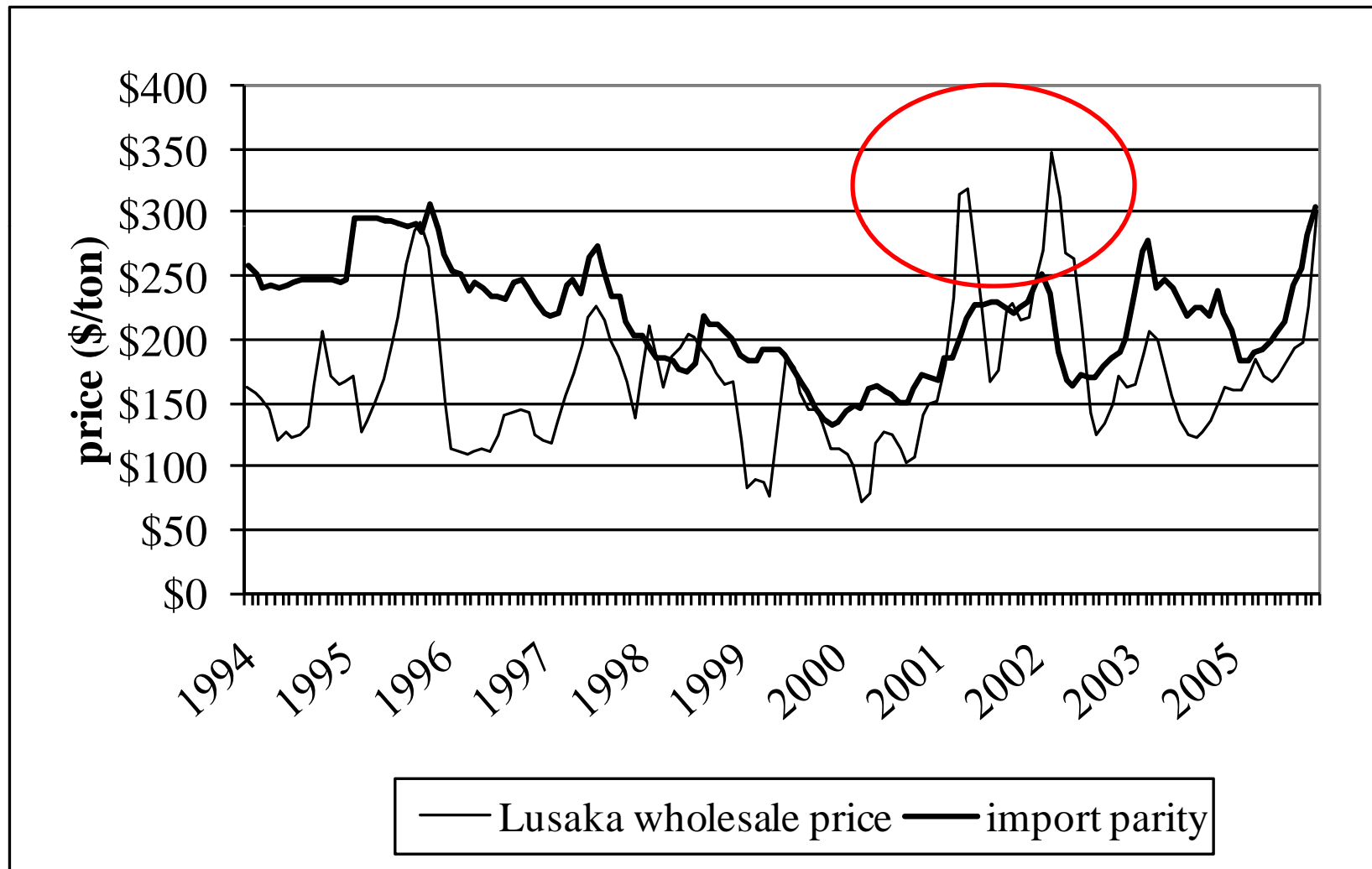
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Lusaka, domestic and border prices for white maize, 1994-2006

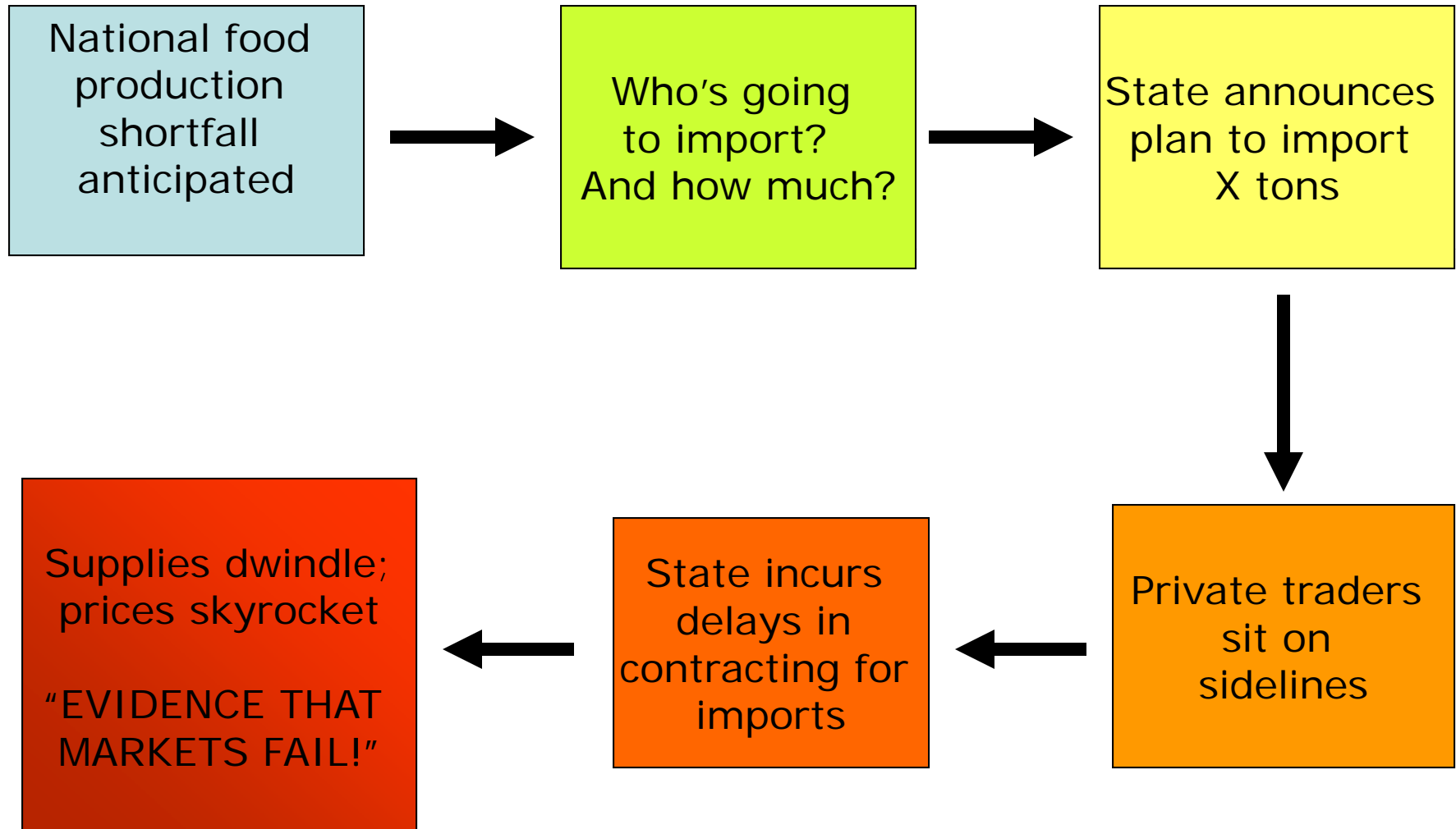


Lusaka, domestic and border prices for white maize, 1994-2006



Policy uncertainty → price spikes

Examples: a) Zambia- 2001/02, 2002/03, b) Malawi: 2001/02, 2005/06



When does import parity fail to cap price rises?

- When import and export bans prevent trade
- Foreign exchange unavailable
- Late decision making and import authorization
- Uncertainty over government action
- When traders fear subsidized government sales and so fail to import

Import parity caps price rises

- When borders remain open
- Foreign exchange is available
- Under stable, predictable government policies

Trade bans

- Drive trade into informal channels
- Raise transaction costs
- Increase bands between import and export parity
- Discourage investment in staple food production and trade

Trade bans → high-cost, informal trade



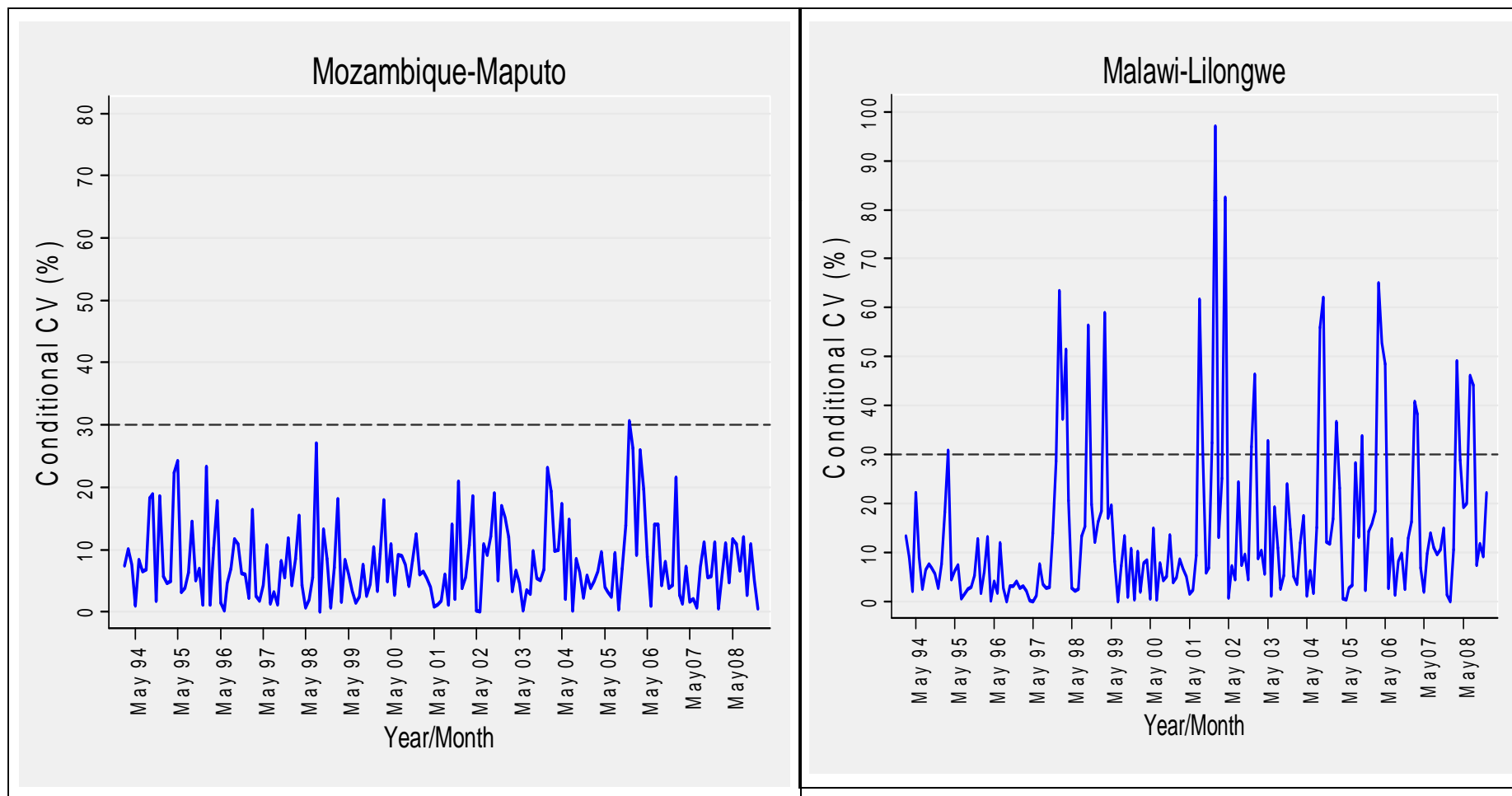
3. Comparing Policy Regimes

Policy Regimes	Instruments	Countries
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B. State dominated	buffer stocks, trade controls	Malawi, Zambia, Tanzania

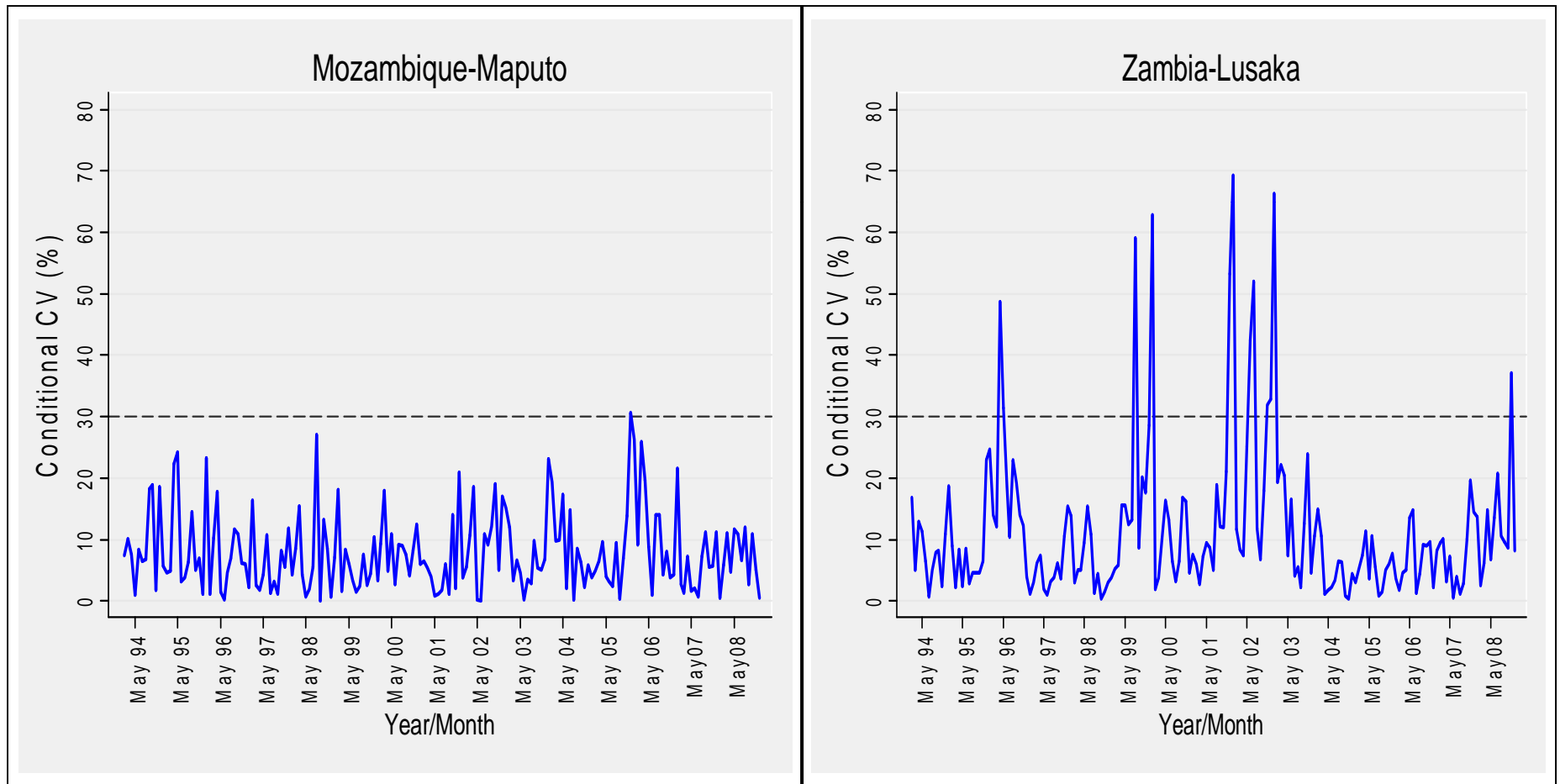
Finding 1

- Maize grain prices are generally *more volatile* *and less predictable* in Group B, the state dominated market systems
- Malawi and Zambia have the highest degree of price volatility and uncertainty

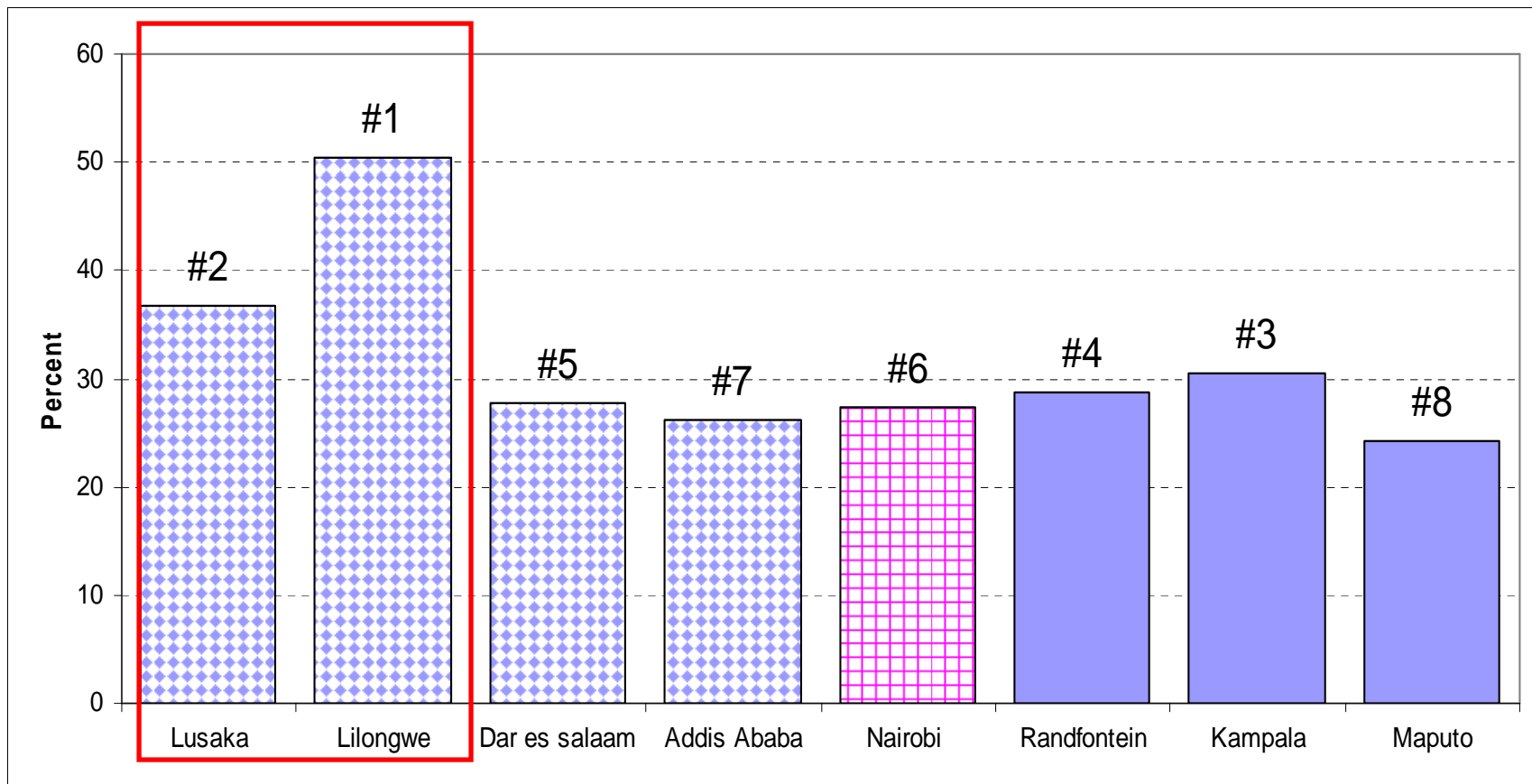
Maize Grain Prices Unpredictability



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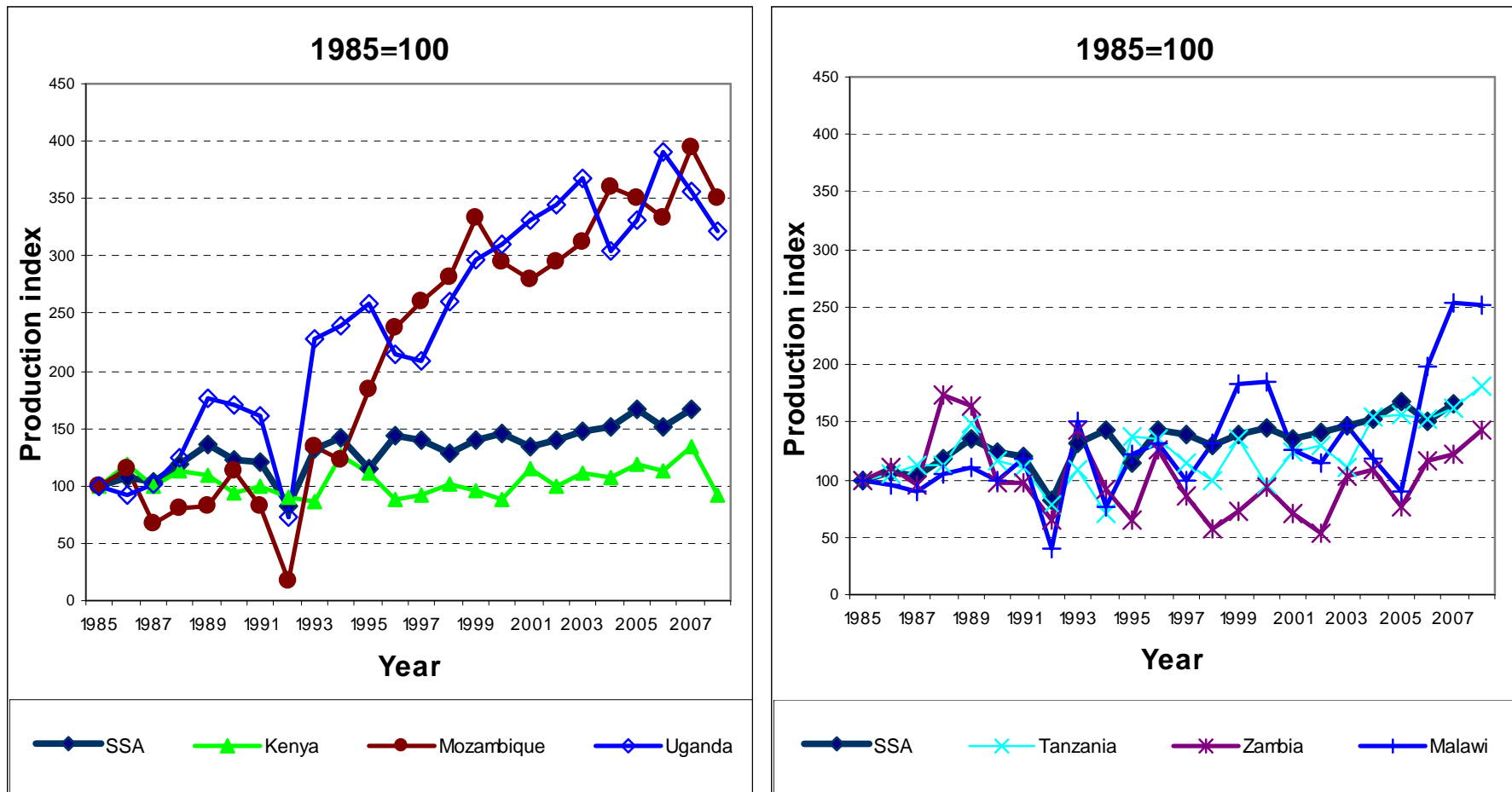
Comparison of Unconditional Coefficient of Variation for Capital City Markets/major Consumption Centers



Finding 2

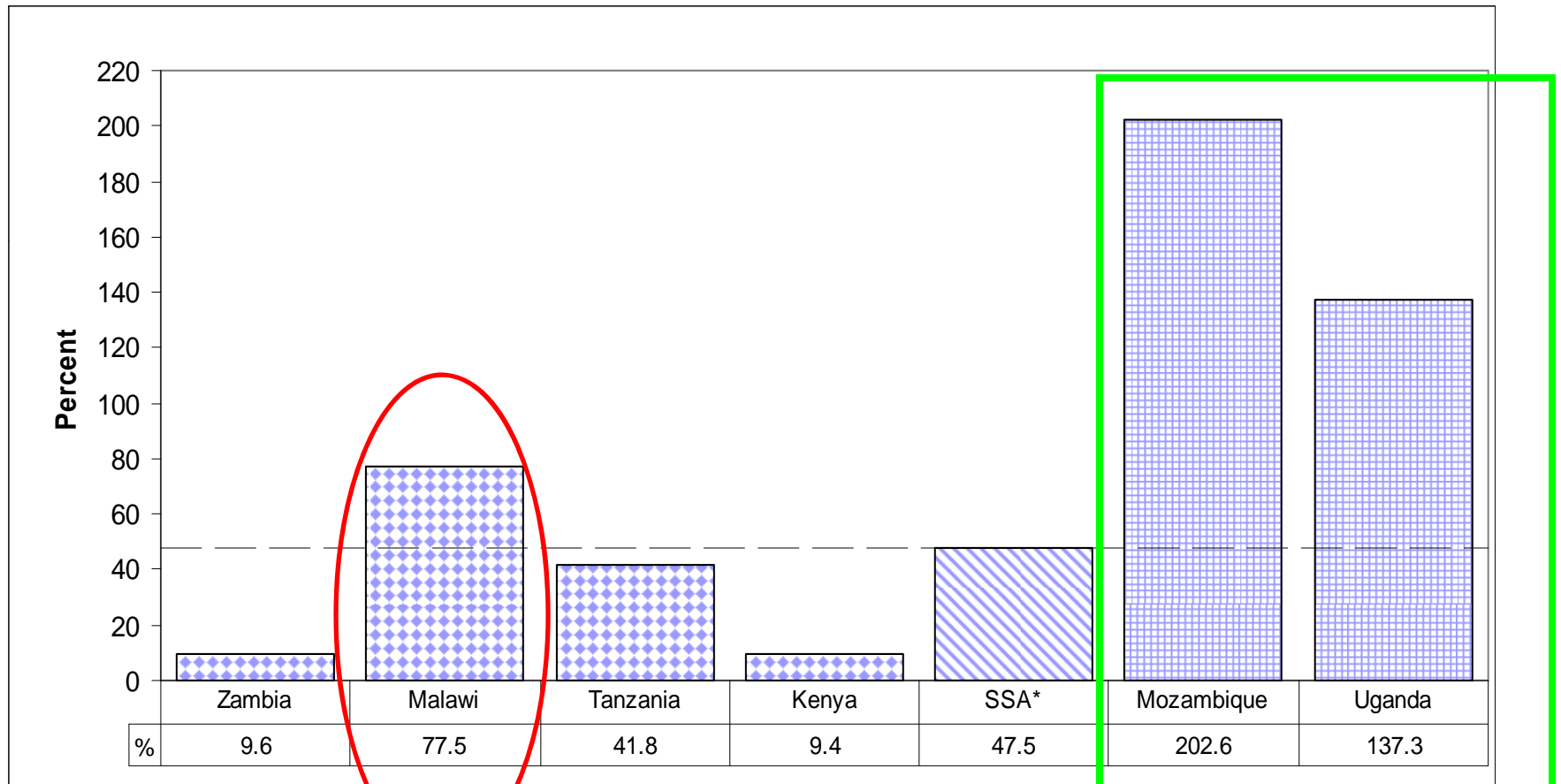
- With the exception of Malawi, Group B, state-dominated marketing systems have **failed to match maize production growth** for SSA
- By contrast, Mozambique and Uganda, countries with relatively open marketing and trade policies have experienced more than a 100% increase in maize production over the past two decades.

Figure 5. Maize Production Index for Sub-Saharan Africa, Zambia, Malawi, Tanzania, Kenya, Mozambique, and Uganda, 1985 to 2008



Source: Data from FAOStat

Maize Production Growth, 1985 -2008



Source: Data from FAOStat

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Food price variation: causes and cures

Cause	Importance	Cure
Weather	***	diversification, irrigation, forecasting
Unpredictable policies	***	transparency
Transport costs	**	infrastructure
Trade barriers	**	open borders
Demand substitution	**	diversification
World prices	*	options contracts
Hoarding	*	competition

Conclusions on Price Volatility

- Problem for →maize, (wheat, rice)
- Problem for poor consumers (including deficit farm households) and for surplus farmer incentives
- Cure problem at source (diversification, irrigation, forecasting, infrastructure, policy risk)
- Open borders limit price volatility
- Private sector requires predictability
- Government price interventions (buffer stocks, trade bans) →costly, ineffective, often unpredictable & counterproductive