Fertiliser Subsidies: Potential, Pitfalls and Practice

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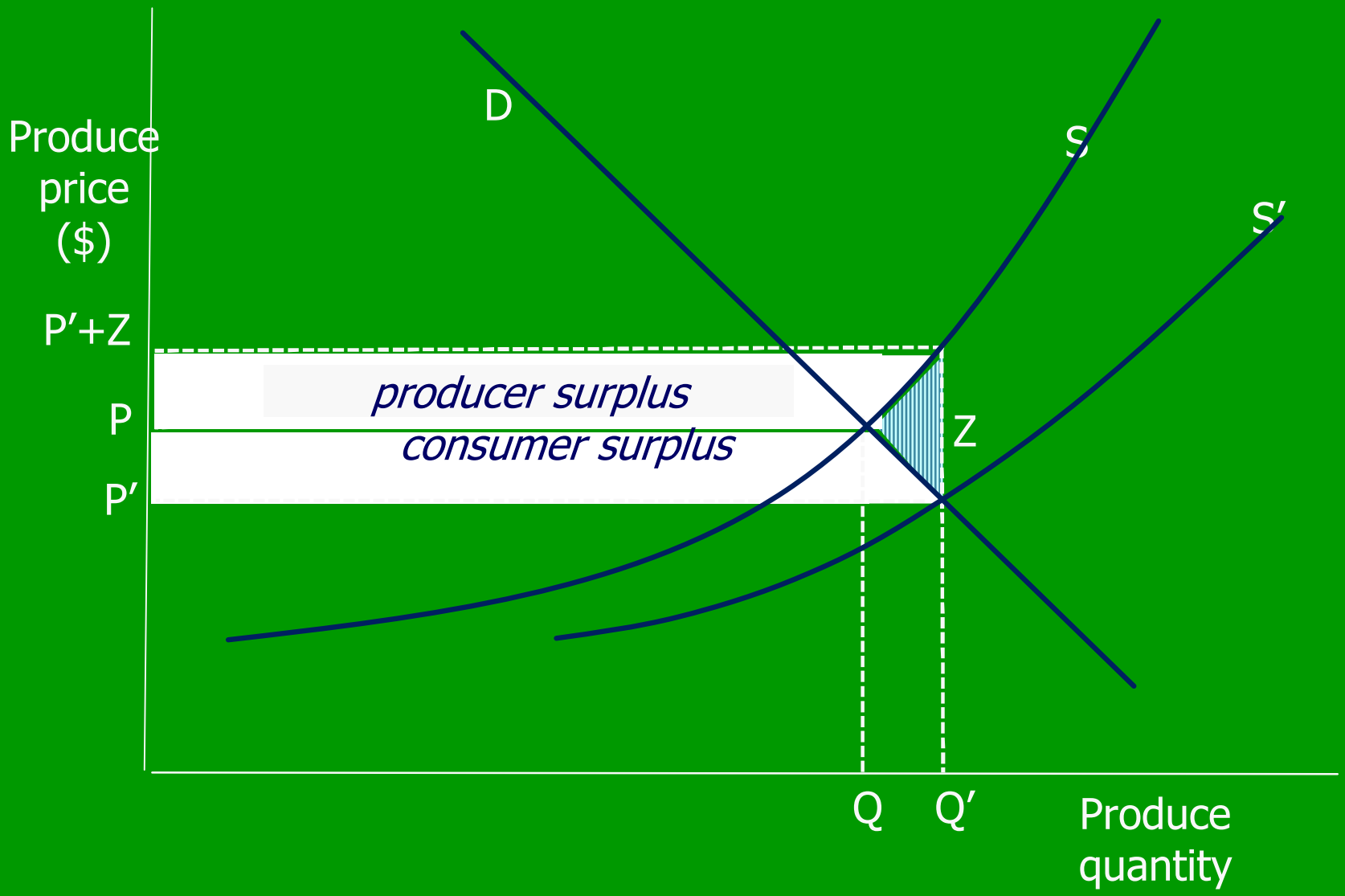
Fertiliser Subsidies: Potential, Pitfalls & Practice

- Potential
  - Purposes (what?) & people (who?)
  - Processes (how?)
  - Preconditions (where?)
- Pitfalls
- Practice
  - Performance
  - Principles
  - Instruments

Potential: purposes?

- Conventional core *producer* emphasis
  - Increased productivity from new technology adoption
    - Increase input *profitability*
    - Overcome inefficiencies from farmers' lack of knowledge of benefits / techniques & depressed output prices
  - Support more remote areas & farm incomes
- Wider issues
  - Private input market development
  - Replenishment of soil fertility
  - Social protection for poor subsidy recipients
  - Regional, national & household food security
  - Meeting broad based political demands – producers & consumers
- ***Is this what was achieved in the Green Revolution?***
- ***Is this what economic theory suggests***

Potential: theory



Potential: Green Revolution outcomes

- Higher productivity of land and labour in staple food production
- Lower staple food prices
- Higher real incomes for the poor
- Increased demand for non staples, services
- Released land and labour for non staples, services

(e.g. Hazell & Rosegrant, 2000)

- Three dimensions of dynamic development for livelihoods and rural economies:
  - ***Hanging in***: food security (availability, entitlements)
  - ***Stepping up***: increasing productivity
  - ***Stepping out***: diversification and structural change

(Dorward, 2009)

Potential: Critical Processes

- Focus on staple foods
- Focus on consumer benefits from stable lower prices
- Focus on price : productivity tightrope
- Focus on affordability : seasonal finance a major constraint in poor rainfed grain production
- Focus on accessibility: development of low cost supply system(s)

Potential: Preconditions

- Technology, agro ecology, basic input profitability
- Problems of affordability & temporary low productivity / profitability etc – ***potential incremental input use, not displacement & transfers***
- Political commitment
- Logistical capacity
- Accountability
- Clear policy & programme objectives & consistent coordination with complementary policies & investments
  - Reasonable food price stability
  - Social protection
  - Roads
  - Research, extension
- Production & market information for policy makers
- Good macro-economic management

Pitfalls

- Design & system inefficiencies: over-use, dead-weights, displacement, leakages
- Technical inefficiencies: timing, application methods, formulation, lack of complementary research and extension
- Spiralling costs and no exits
- Parastatal inefficiency vs private sector incentives
- The dark side (corruption, diversion, fraud)

- ***Scale***
- ***Politics***

Practice: performance

	Ghana	Zambia	Malawi
	2008	2002-	2005/6-
Cost (mill US$)	15	60-110	50-220
Volume ('000mt)	30	66	130-220
Leakage	??	70%?	?? Varied
Displacement	??	40%+	20-40%
B:CR (?productivity, prices?)	??	0.6 to 1.4	0.7 to 1.9
Fiscal efficiency (?leaks, displacement??)	??	v. low?	<0 to 1.1
Output price impacts	?? Low	??	2005/6 only
Labour / wage impacts	??	??	2005/6
Supply system impacts	X local dealers	negative	X local dealers

Practice: principles

- Substantial potential, but major pitfalls
- Cross country learning critical – but limited
- Focus on staples with substantial per unit subsidy on limited input volumes (address affordability constraints)
- Timeliness
- Paradoxes: State capacity paradox
  Political paradox
  Consistency paradox
- Build trust
- Preconditions:
  - Technology
  - Capacity
  - Complementary policies & investments
  - Information
  - Accountability & transparency

Practice: instruments

- Targeting - staple crops
  - poor areas with potential?
  - poor producers / universal?
- Rationing
- Vouchers - Fixed price? Flexi?
- Remoteness premia
- Smart cards, barcode systems, national IDs
- Tender systems
- Audit systems & penalties
- Agro-dealer support systems
- Systems for stakeholder engagement, performance targets & monitoring, trust, commitment

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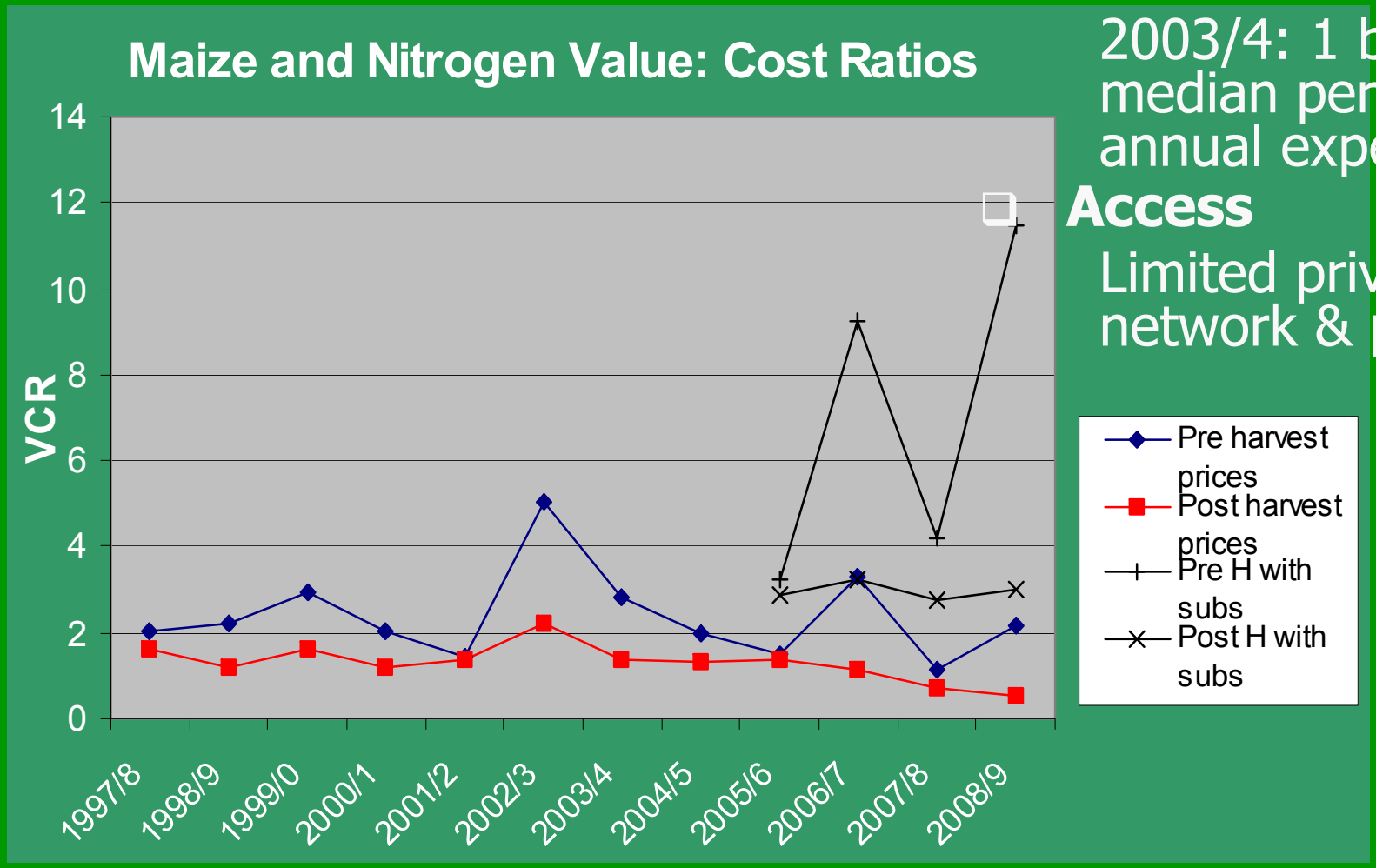
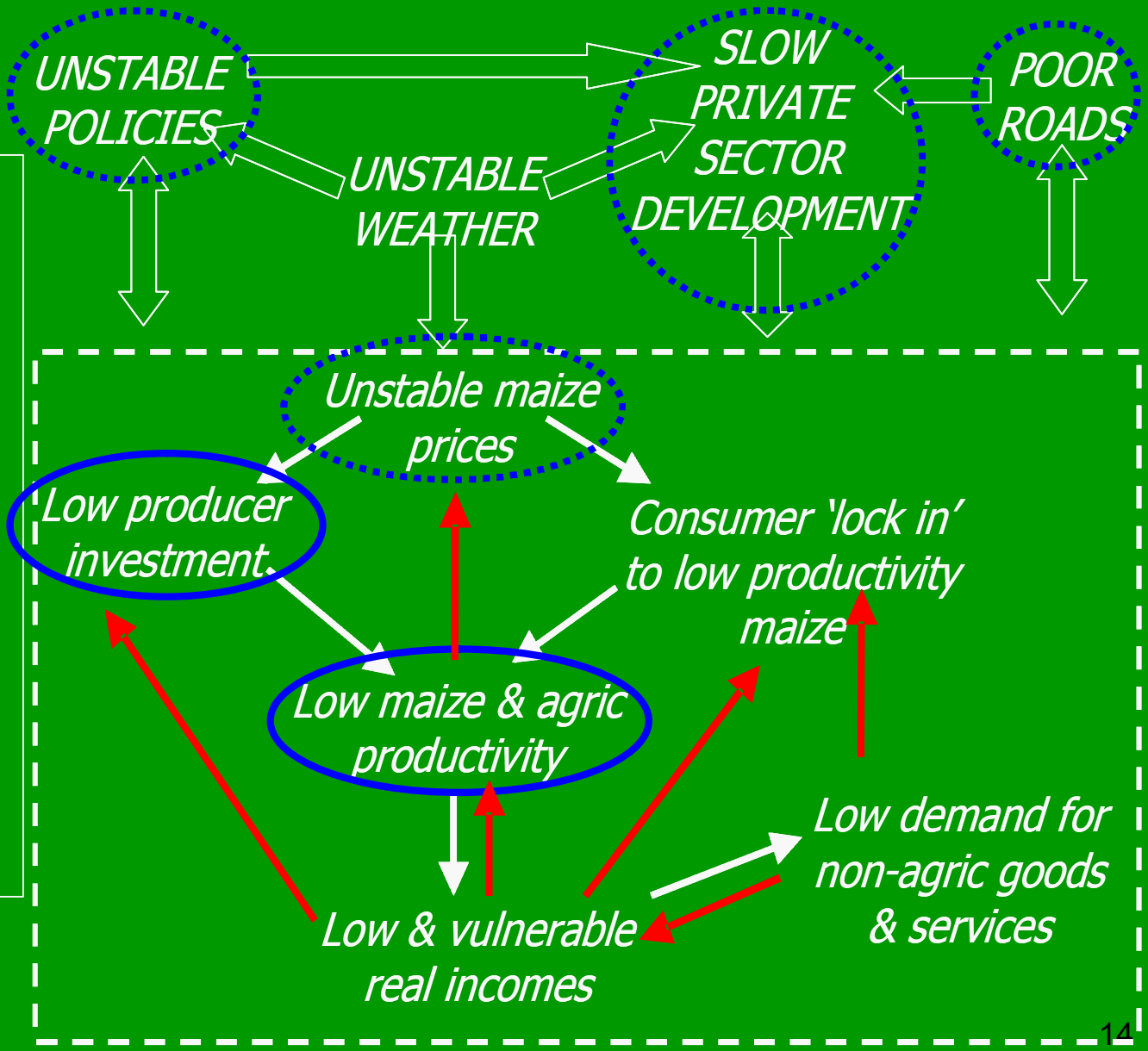
Malawi: constraints on input use

- Highly variable maize prices
- **Profitability** low & variable, even for deficit households
- **Maize price 'tight rope'**
- **Affordability**
  - 2003/4: 1 bag = 10% median per capita annual expenditure
- **Access**
  - Limited private sector network & poor roads

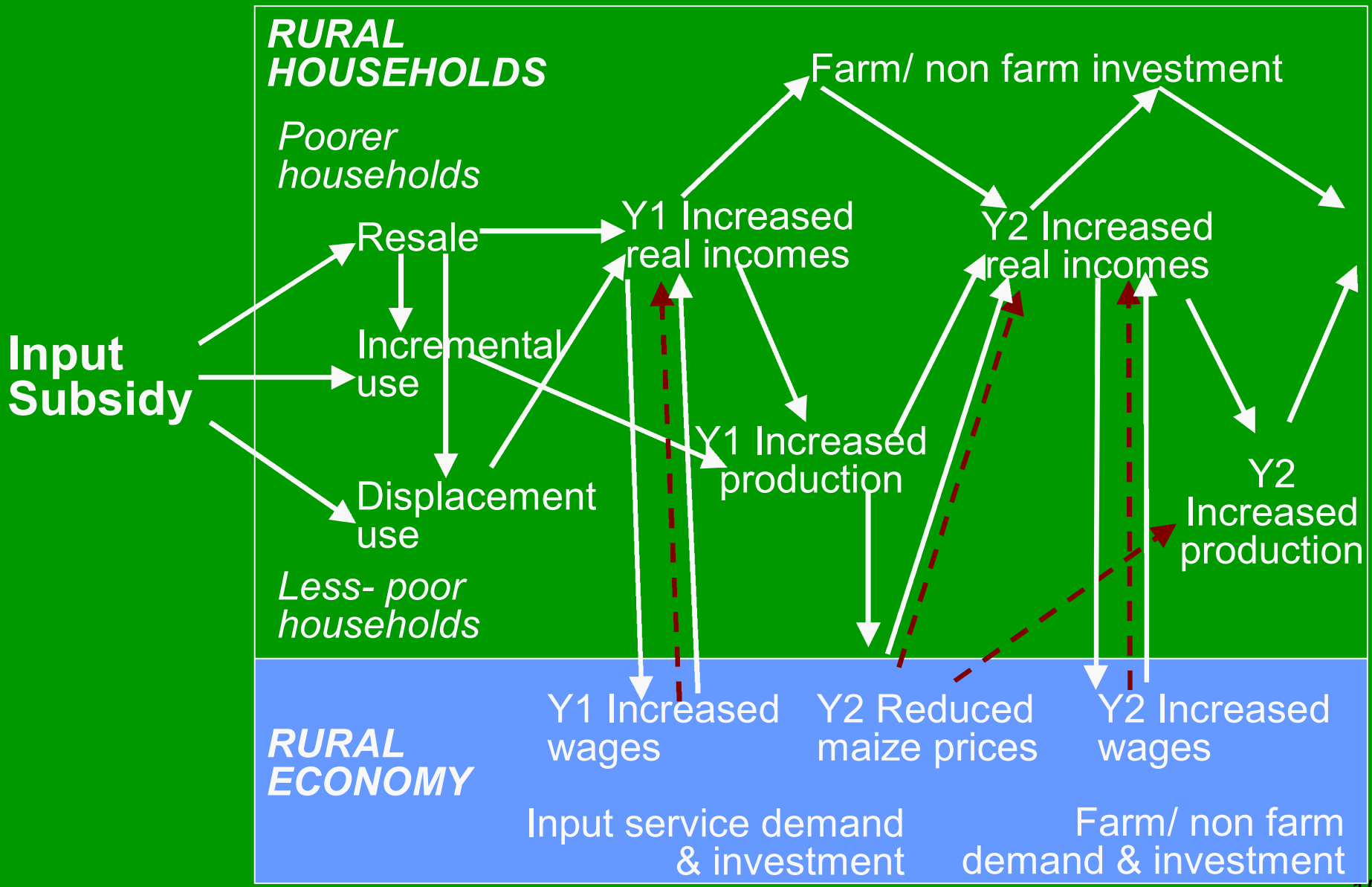


Malawi rural economy: poverty & the low maize productivity trap

- High poverty rates (50% <$0.40 in 2004)
- Small holdings (50% < 1.0ha)
- Continuous maize cultivation
- Declining soil fertility
- Recurring food insecurity
- Highly variable maize prices



Changing subsidy impacts on households & markets



2005/6 – 2008/9 Input Subsidy Programmes

- 2004 presidential elections: all parties campaigned on fertiliser subsidies, though different types
- 2004/5 very poor harvest & subsequent high maize prices
- 2005/6 – 2008/9 maize & tobacco fertiliser & seed subsidy, targeted vouchers (2007/8 also cotton seed & chemicals, 2008/9 also storage chemicals & ea & coffee fertiliser)

	2005/6	2006/7	2007/8	2008/9
Subsidised fertiliser sales ('000MT)	132	175	217	197
% retail by private sector	0	28%	24%	0
Subsidised maize seed sales (MT)	??	4,500	5,500	??
Programme cost ($ million)	51	74	115	?221
Incremental fertiliser sales (% subsidy sales: higher for poorer farmers)	70-80%	60-70%	??	??
Incremental maize production ('000MT)	550	700	??	??

Global price & cost control challenges

	2005/6		2006/7		2007/8		2008/9	
Programme cost	Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual
US$ million	36.4	51	53.6	74	82.1	115	139	221.4
% national budget	4.3%	5.6%	5.4%	8.4%	6.7%	8.9%	8.5%	13.5%
% GDP		2.1%		3.1%		3.4%		5.5%

Benefit cost ratio:	2005/6	2006/7	2007/8	2008/9
high response	1.38	1.3	1.9	1.15
moderate	1.12	1.06	1.54	0.94
low response	0.86	0.81	1.18	0.72

Fiscal efficiency:	2005/6	2006/7	2007/8	2008/9
high response	0.76	0.44	1.13	0.15
moderate	0.24	0.09	0.68	negative
low response	negative	negative	0.23	negative

Global price challenges

- Breakeven Maize prices in Malawi to achieve VCR of 2 with changing urea prices & different technical efficiencies

Year	Urea price $/mt		Grain: N ratio	Maize prices $/mt		
	Europe	Malawi		B/E	Actual	SAFEX
2006/7	220	470	15	135	100 – 160	250
2007/8	290	590	15	170	140 – 430	235
2008/9a	630	*1,260*	15	365	???	*275-160*
2008/9b	400	*800*	15	230	???	*160*
2006/7	220	470	20	100	100 – 160	250
2007/8	290	590	20	130	140 – 430	235
2008/9a	630	*1,260*	20	275	???	*275-160*
2008/9b	400	*800*	20	175	???	*160*

- 2008/9a B/E prices would be v damaging for the poor & the economy but around /above import parity (SAFEX + $100)

Staples in poor economies & livelihoods

- Food in expenditures of the poor – rural & urban
- Income to land & labour
- Indirect linkages
- Growth – factor supply & domestic demand for structural transformations out of agriculture

	High potential staples	**Low potential staples**
Broad Role	Pro-poor growth	Least cost welfare, growth platform
Countries with Minerals	Support growth	Subsistence & support growth
Coastal, No minerals	Drive & support growth	Subsistence & support growth
Land locked No minerals	Major driver & then supporter	Subsistence

Maize: 1957 prices, nominal & deflated with US & stylised low income US CPI