



The De-Linking of Agricultural Growth and Poverty Reduction

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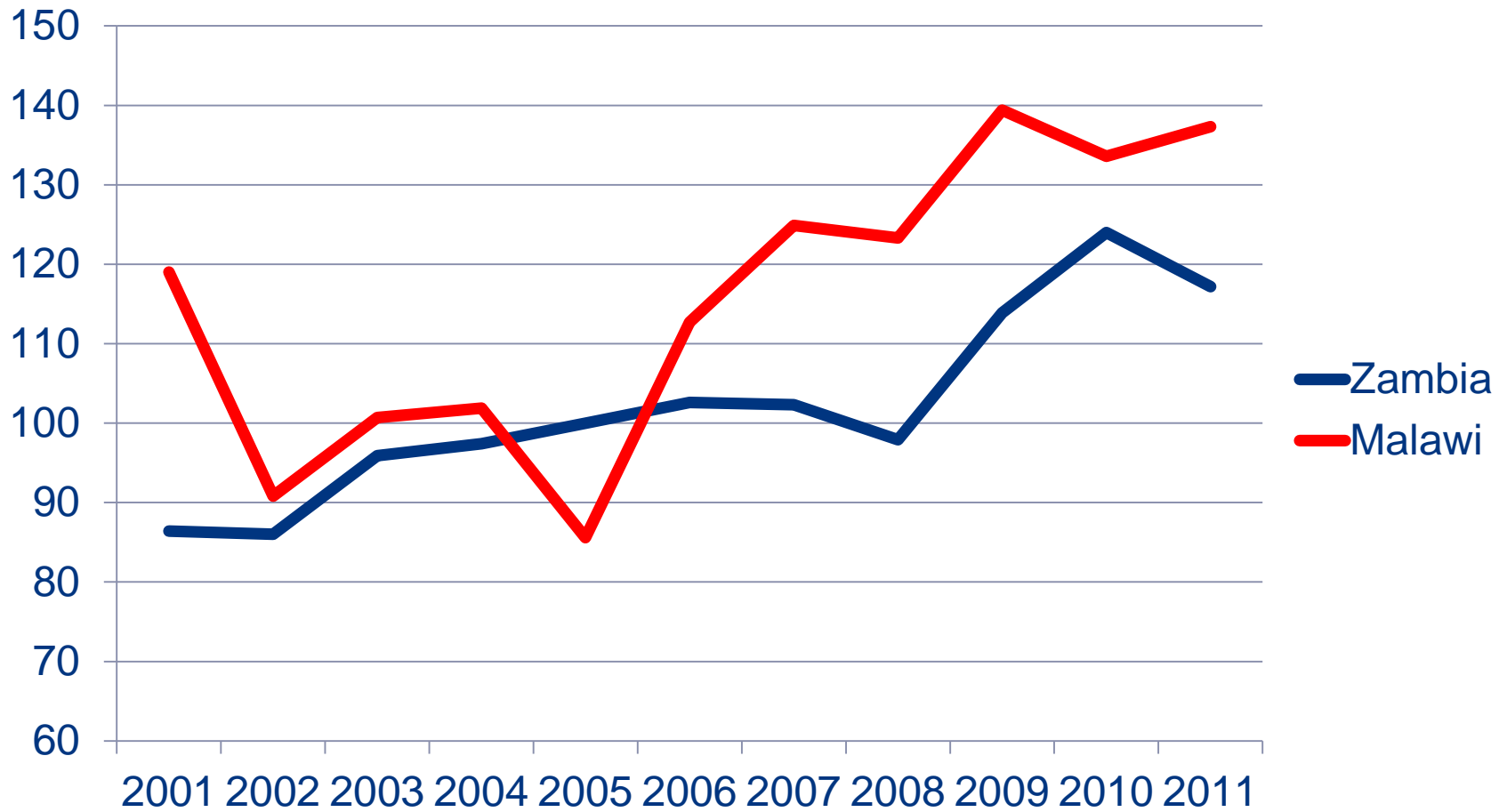
Relationship between agricultural growth and poverty reduction

2

- Conventional understanding:
 - Depends on farm structure (Johnston, Mellor):
 - uni-modal → positive association (Asia)
 - bi-modal → less so (e.g., Latin America)
- Sub-Saharan Africa (SSA) typically considered uni-modal
- However, recent rapid agricultural growth is not always associated with rural poverty reduction

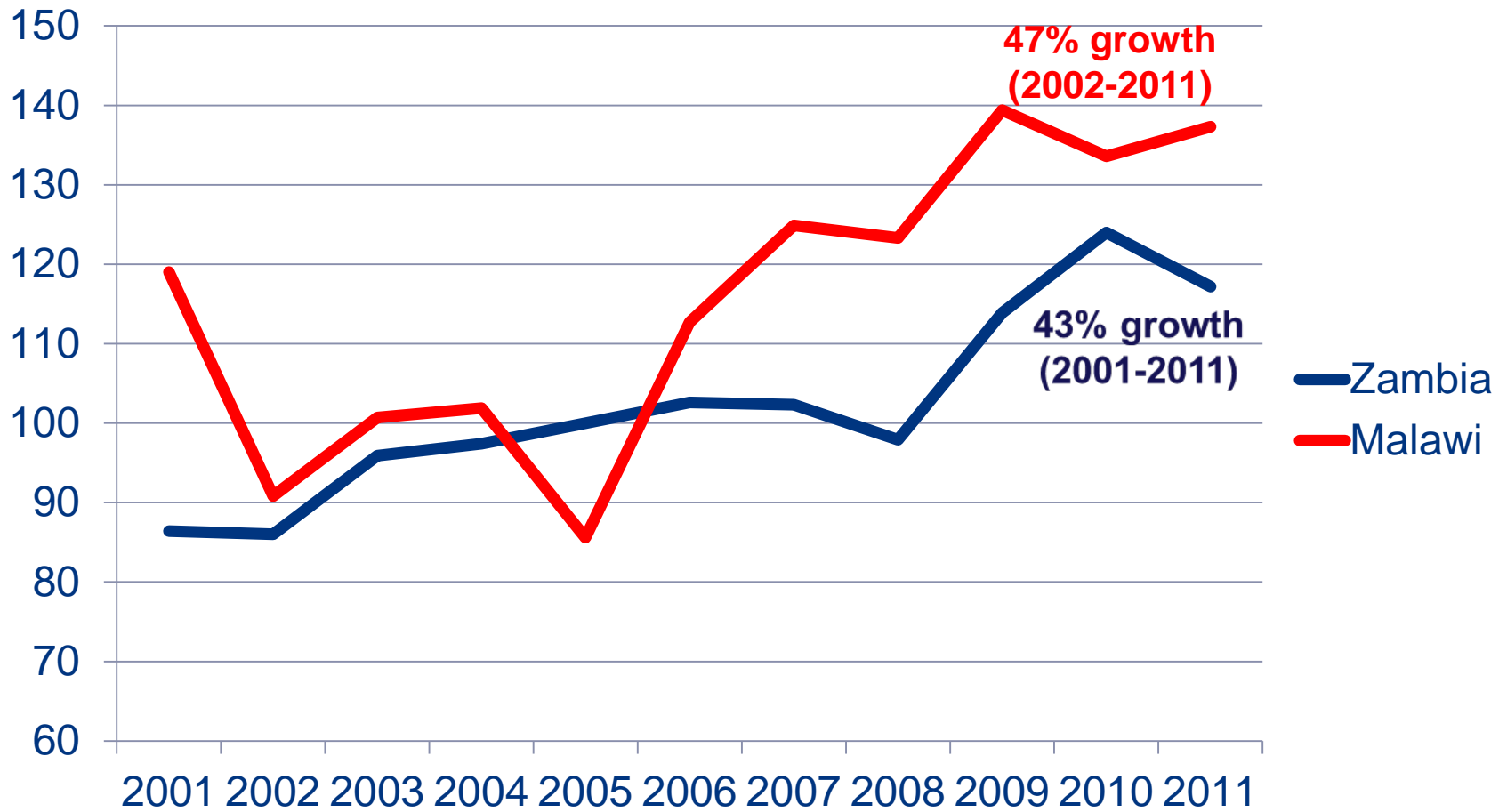
Agricultural Production Indices, FAOSTAT

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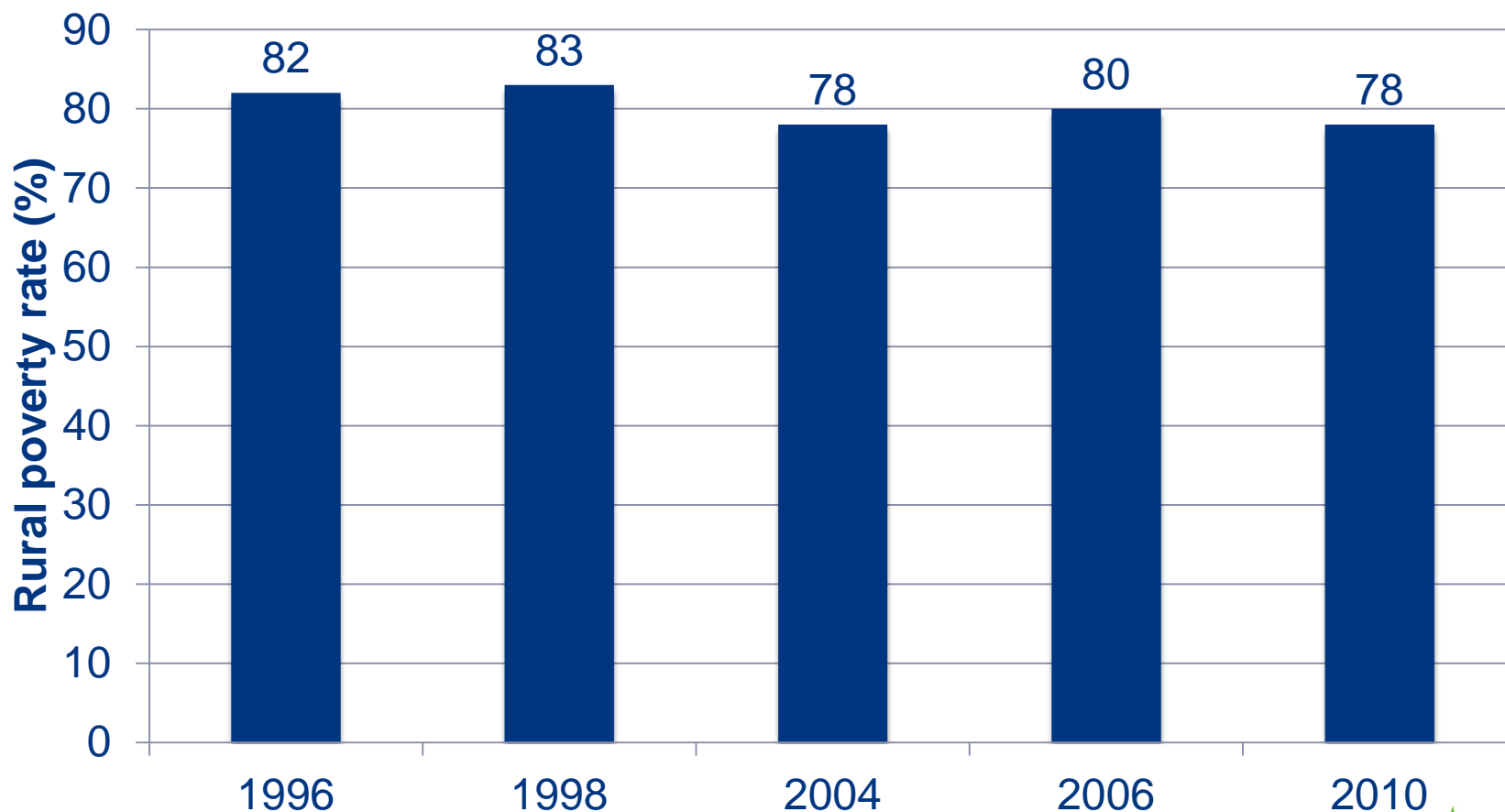
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Rural headcount poverty rates, Zambia

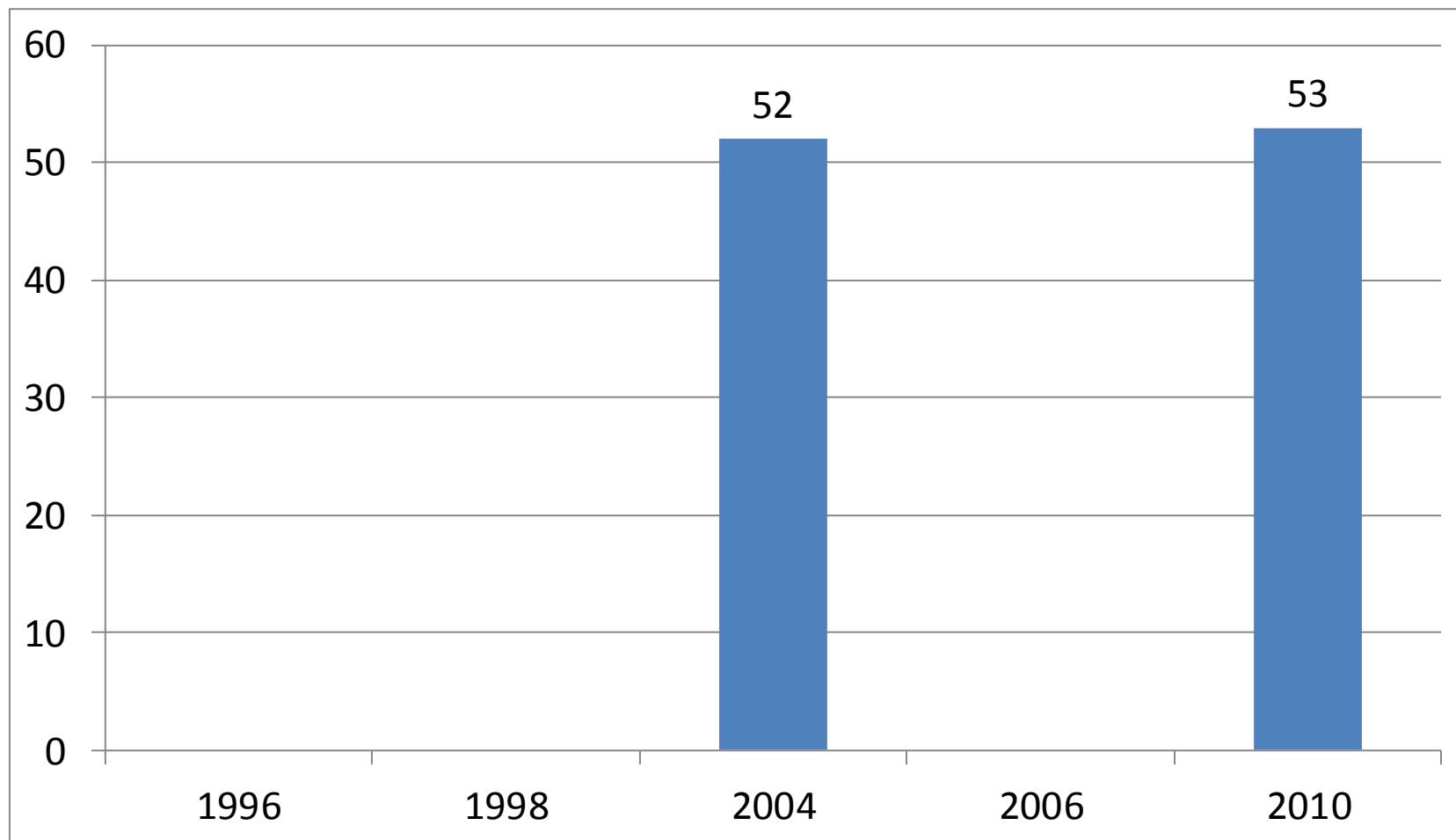
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Rural poverty rate (%)



Rural headcount poverty rates, Malawi

22



1. The relationship between agricultural growth and poverty reduction depends on both:
 - a. farm structure
 - b. public sector policies and expenditure patterns



2. Research evidence on the winners and losers from current policies and programs is fairly well understood, so

Main question to be addressed:

8

How to we explain the continuation of ag policies that produce concentrated benefits and minimal impacts on poverty reduction?

- Especially when government is well aware of the concentrated benefits of their programs

Hypothesis: elite capture of farm lobbies and political process of agricultural programs and policies

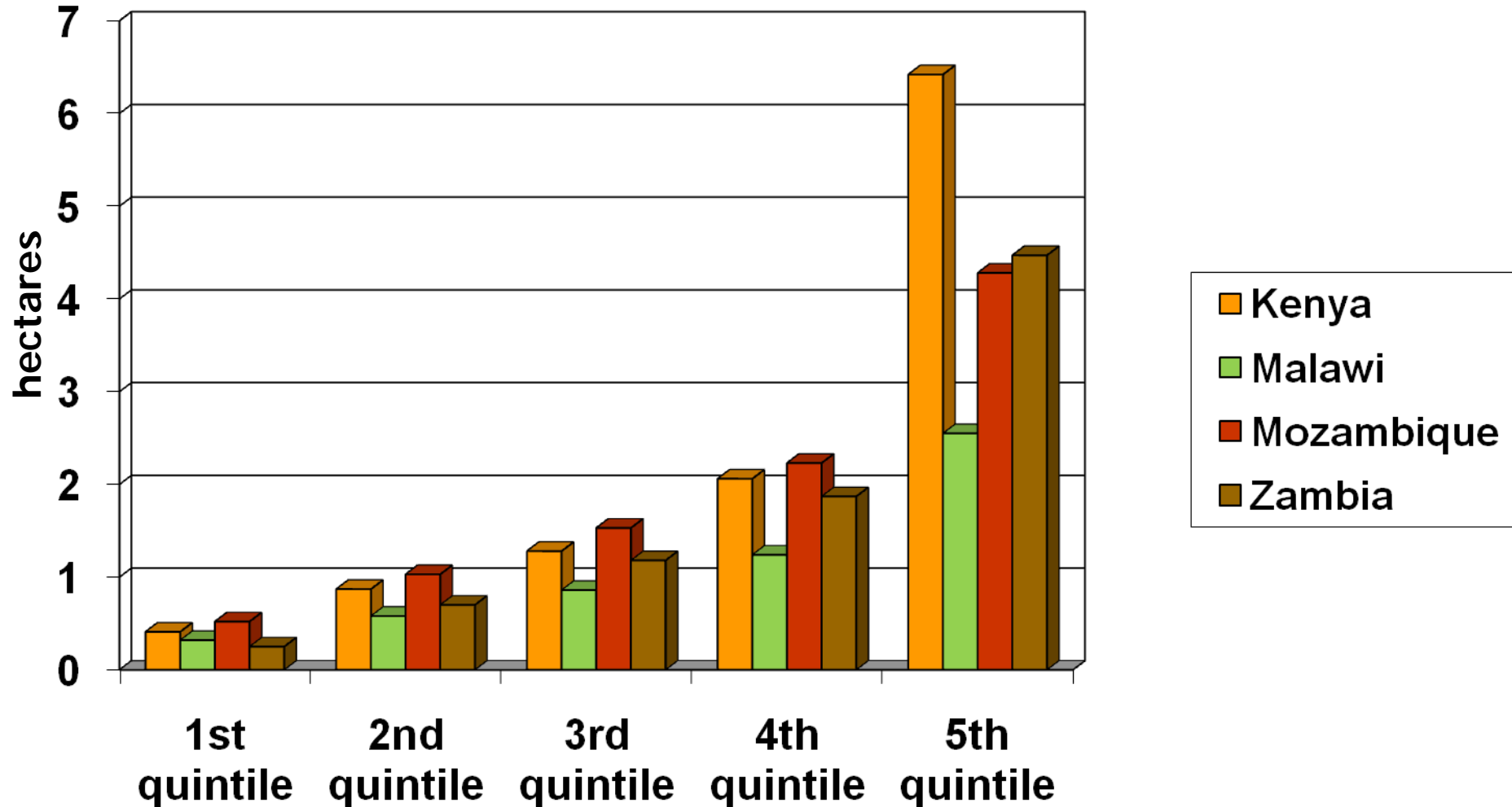
No rigorous testing of the hypothesis, but some evidence presented – initial foray into a deeper enquiry

This hypothesis is not inconsistent with findings in many countries, both low and high income.

9

Decomposition of Agricultural Growth

Distribution of farm sizes in smallholder farm sectors



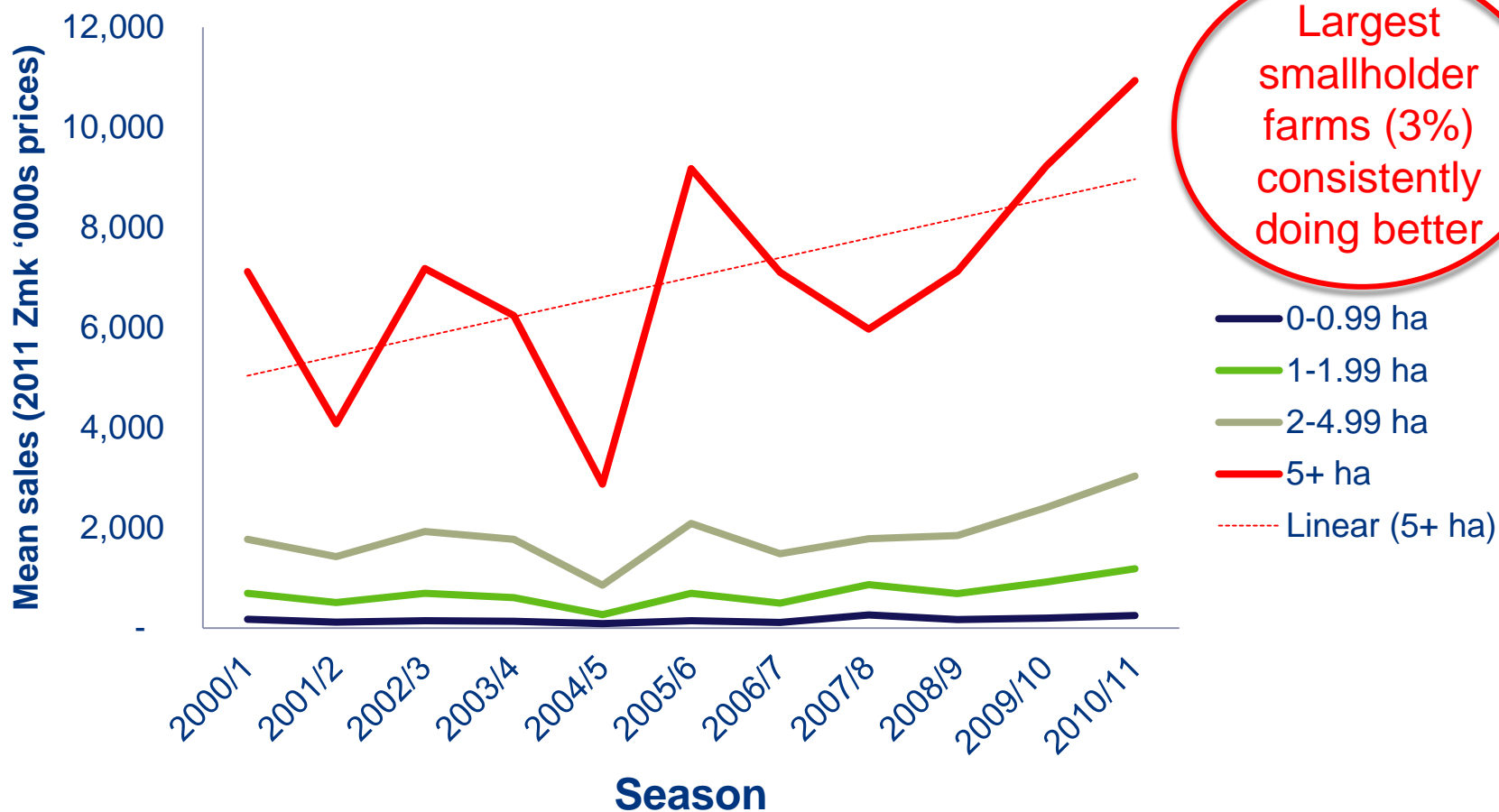
Disparities within smallholder agriculture, Zambia - 2008

	N=	Farm size (ha)	Asset values (US\$)	Gross rev., maize sales (US\$)	Gross rev., crop sales (US\$)	Total hh income (US\$)
Top 50% of maize sales	30,150 (2%)	7.2	3,703	3,199	4,213	7,324
Rest of maize sellers	467,320 (30%)	1.9	257	181	330	1,021
Households not selling maize	1,010,014 (67%)	1.1	129	0	128	456

Source: CSO Supplemental surveys, 2008

Crop sales by farm size over time (2011 Zmk prices)

12



Source: MACO CFS 2000/1 to 2010/11 and authors' computations

Smallholder maize production growth from the baseline period (2005/06–2007/08) to 2010/11, by farm size category

Total smallholder maize production

Total area cultivated (maize + all other crops)	Average number of farms, 2005/06 to 2007/08, and 2010/11	% of Farms	Annual mean during 2005/06 to 2007/08 baseline period (MT)	2010/11 (MT)	Absolute change (MT) (D-C)	Change per farm (kg per farm) (E*1000/A)
	(A)	(B)	(C)	(D)	(E)	(F)
0-0.99 ha	616,867	41.9%				
1-1.99 ha	489,937	33.3%				
2-4.99 ha	315,459	21.4%				
5-9.99 ha	42,332	2.9%				
10-20 ha	6,626	0.5%				
Total	1,471,221	100%	1,383,735	2,786,896	1,403,161	953.7

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	(A)	(B)	(C)	(D)	(E)	(F)
0-0.99 ha	616,867	41.9%	212,335			
1-1.99 ha	489,937	33.3%	381,293			
2-4.99 ha	315,459	21.4%	490,102			
5-9.99 ha	42,332	2.9%	196,848			
10-20 ha	6,626	0.5%	103,156			
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1-1.99 ha	489,937	33.3%	381,293	707,438		
2-4.99 ha	315,459	21.4%	490,102	1,130,527		
5-9.99 ha	42,332	2.9%	196,848	494,719		
10-20 ha	6,626	0.5%	103,156	144,888		
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0-0.99 ha	616,867	41.9%	212,335	309,324	96,989	
1-1.99 ha	489,937	33.3%	381,293	707,438	326,145	
2-4.99 ha	315,459	21.4%	490,102	1,130,527	640,425	
5-9.99 ha	42,332	2.9%	196,848	494,719	297,871	
10-20 ha	6,626	0.5%	103,156	144,888	41,732	
Total	1,471,221	100%	1,383,735	2,786,896	1,403,161	953.7

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1-1.99 ha	489,937	33.3%	381,293	707,438	326,145	665.7
2-4.99 ha	315,459	21.4%	490,102	1,130,527	640,425	2,030.1
5-9.99 ha	42,332	2.9%	196,848	494,719	297,871	7,036.6
10-20 ha	6,626	0.5%	103,156	144,888	41,732	6,298.4
Total	1,471,221	100%	1,383,735	2,786,896	1,403,161	953.7

FISP fertiliser received (2010/11 crop season) and expected maize sales, 2011, by farm size category

Total area cultivated (maize + all other crops)	Number of farms	% of farms	% of farmers receiving FISP fertilizer	kg of FISP fertilizer received per farm household	% of farmers expecting to sell maize	Expected maize sales (kg/farm household)
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2-4.99 ha	315,459	21.4%	45.1%			
5-9.99 ha	42,332	2.9%	58.5%			
10-20 ha	6,626	0.5%	52.6%			
Total	1,471,221	100%	28.6%			

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2-4.99 ha	315,459	21.4%	45.1%	139.7		
5-9.99 ha	42,332	2.9%	58.5%	309.7		
10-20 ha	6,626	0.5%	52.6%	345.6		
Total	1,471,221	100%	28.6%	77.1		

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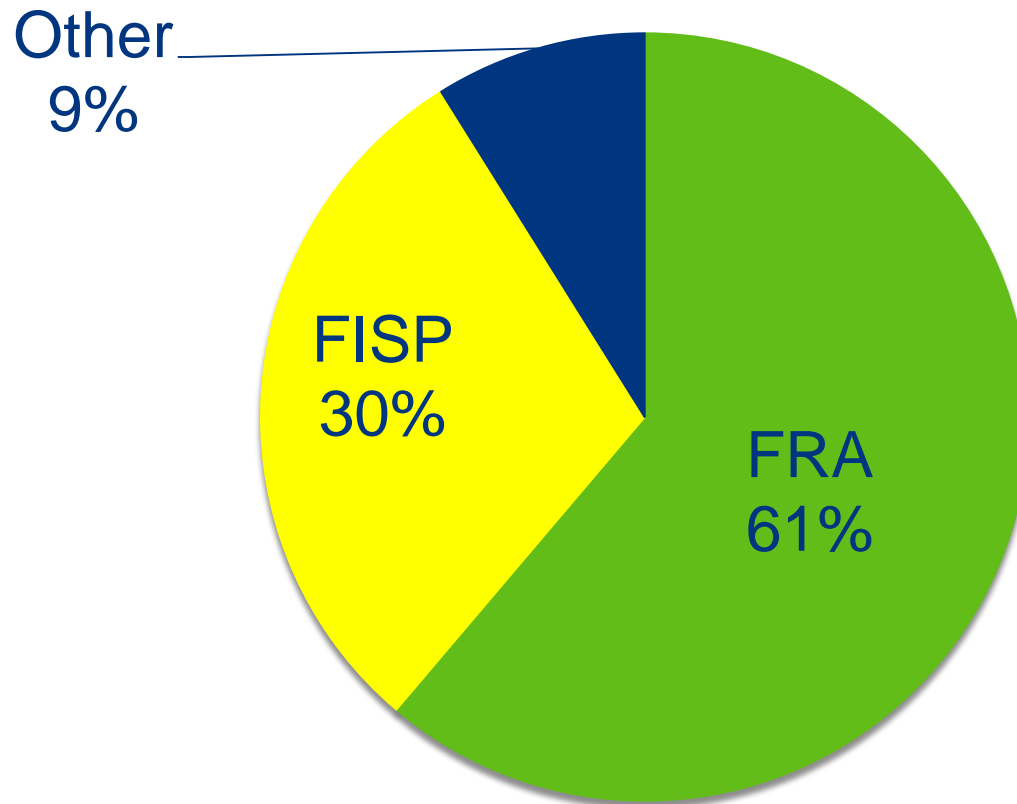
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1-1.99 ha	489,937	33.3%	30.6%	69.3	47.7	
2-4.99 ha	315,459	21.4%	45.1%	139.7	64.0	
5-9.99 ha	42,332	2.9%	58.5%	309.7	82.1	
10-20 ha	6,626	0.5%	52.6%	345.6	86.8	
Total	1,471,221	100%	28.6%	77.1	42.7	

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0-0.99 ha	616,867	41.9%	14.3%	24.1	22.2	135
1-1.99 ha	489,937	33.3%	30.6%	69.3	47.7	609
2-4.99 ha	315,459	21.4%	45.1%	139.7	64.0	1,729
5-9.99 ha	42,332	2.9%	58.5%	309.7	82.1	6,613
10-20 ha	6,626	0.5%	52.6%	345.6	86.8	15,144
Total	1,471,221	100%	28.6%	77.1	42.7	950

Public spending on agriculture, 2010

23



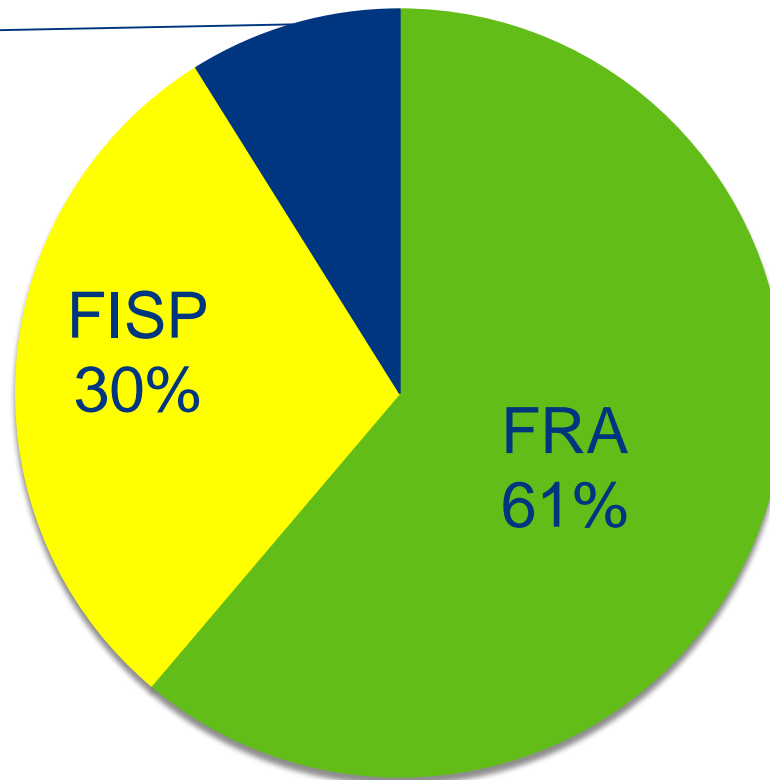
Public spending on agriculture, 2010

24

Other
9%

- Seed improvement
- Farm extension / training programs
- Irrigation systems
- Responding to climate change
- Policy analysis

- Rural electrification
- Road-rail-port infrastructure
- Land grant university system



Source: Min. Finance Yellow book

Indaba Agricultural Policy Research Institute

- Hertel (2011):
 - Major scope for endogenous farm intensification in response to higher food prices...but how broadly-based can the process be?

Ranking of Alternative Investments: Meta-Study Evidence from Asia and Africa

	The Economist	IFPRI study
Policies		
Road investment		
Agricultural R&D		
Agricultural extension services		
Credit subsidies		
Fertilizer subsidies		
Irrigation		

Ranking with respect to *agricultural growth*: Evidence from Asia

	The Economist	IFPRI
Policies	1	
Road investment	2	1
Agricultural R&D	3	2
Agricultural extension services	4	
Credit subsidies	7	3
Fertilizer subsidies	5	4
Irrigation	6	5

Ranking with respect to *poverty reduction*: Evidence from Asia

	The Economist	IFPRI
Policies	1	
Road investment	2	1
Agricultural R&D	3	2
Agricultural extension services	5	
Credit subsidies	7	3
Fertilizer subsidies	4	4
Irrigation	6	5

Conclusions

- Agricultural growth has ***the potential*** to be an effective driver of rural poverty reduction
- Whether agricultural growth ***actually*** reduces rural poverty depends on how the agricultural growth occurs
 - Policies and programs targeted to the largest farms are likely to produce very concentrated benefits and lose opportunities to reduce poverty

- Remember how Asian green revolution achieved agricultural growth *with* poverty reduction:
 - Focused on small farms
 - Broad based agricultural growth
 - Improved seeds, water control, fertilizers, extension services, education, and health improvements were all crucial
 - Rising non-farm employment and gradual absorption of marginal farmers into non-farm economy was a crucial part of the process

- **Farms < 2 hectares account for 70 or more of rural farm populations in the region**
- **Where is the constituency for the <2 hectare farm in Africa?**

Thank You



- Examples of approaches where targeting the middle/low income farmers may promote agricultural growth *with* poverty reduction
 - If input subsidy programs are to remain, target them to farmers who wouldn't otherwise purchase them, i.e., not the wealthiest farmers
 - Crop science, technologies/management practices appropriate for 1 hectare farms
 - Service delivery/extension for rural communities
 - Marketing education programs
 - Health and education programs more broadly

- Marketing board price supports for cereals provide the greatest benefit to those who sell the most, i.e., the largest farms
- Input subsidy programs targeting the largest farms tend to crowd out commercial input suppliers and erode investment in viable input retail systems