The Inclusiveness of Africa's Recent High-Growth Episode: Evidence from Six Countries

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Outline

1. Apparent disconnect between growth and poverty outcomes in Sub-Saharan Africa

2. Prompting a debate

3. Six case studies on the inclusiveness of growth

4. Measuring real income using Engel curves

5. Conclusions

Apparent disconnect between growth and poverty outcomes in sub-Saharan Africa (SSA)

- The acceleration of growth since the mid 1990s has been accompanied by modest reductions in poverty headcounts in SSA

- More progress has been made in improving social and health indicators

- GDP per capita growth has played a part, supported by improvements in technology, increasingly responsive political processes, more effective aid, and diffusion of medical technology
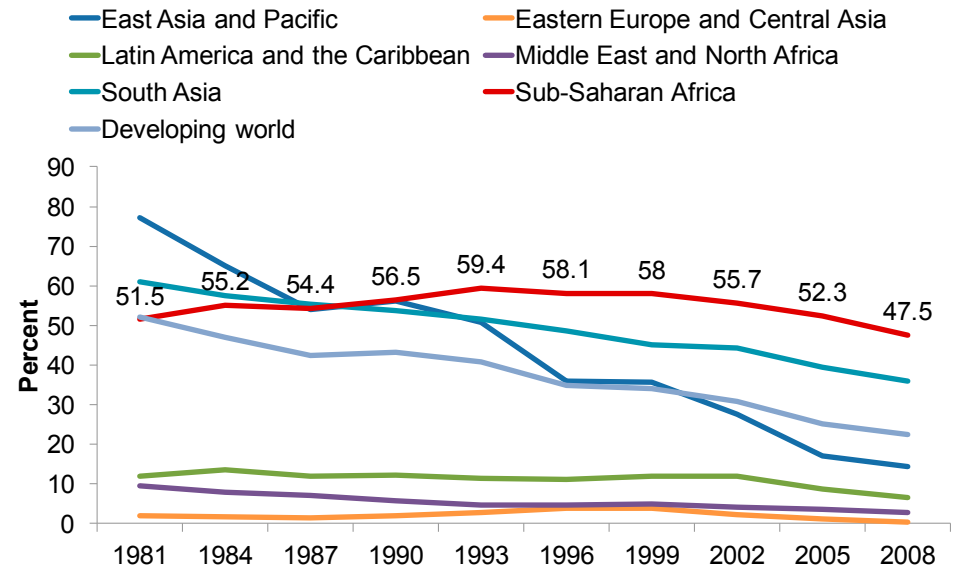
Apparent disconnect between growth and poverty outcomes in sub-Saharan Africa (SSA)
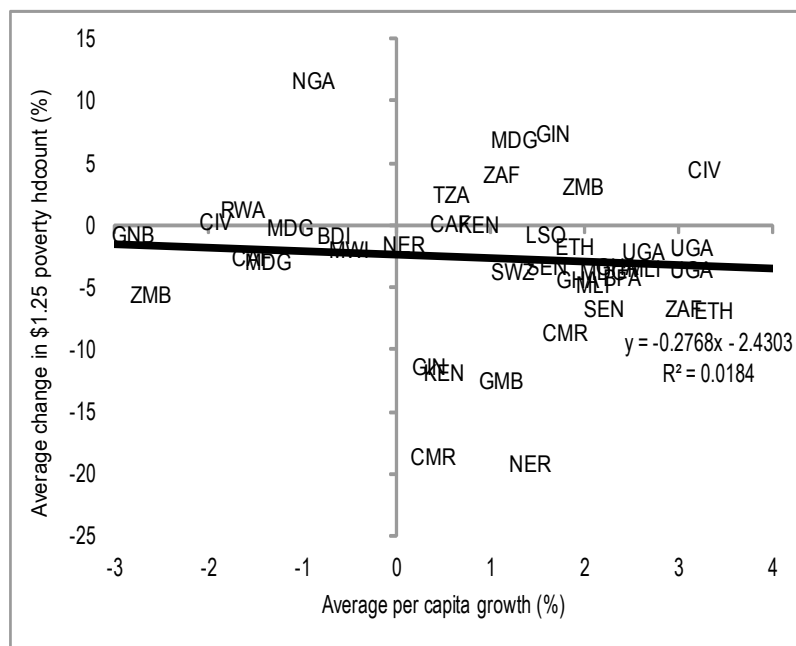

Real GDP and per Capita Growth, 1980-2010

- Real GDP
- Real GDP per Capita
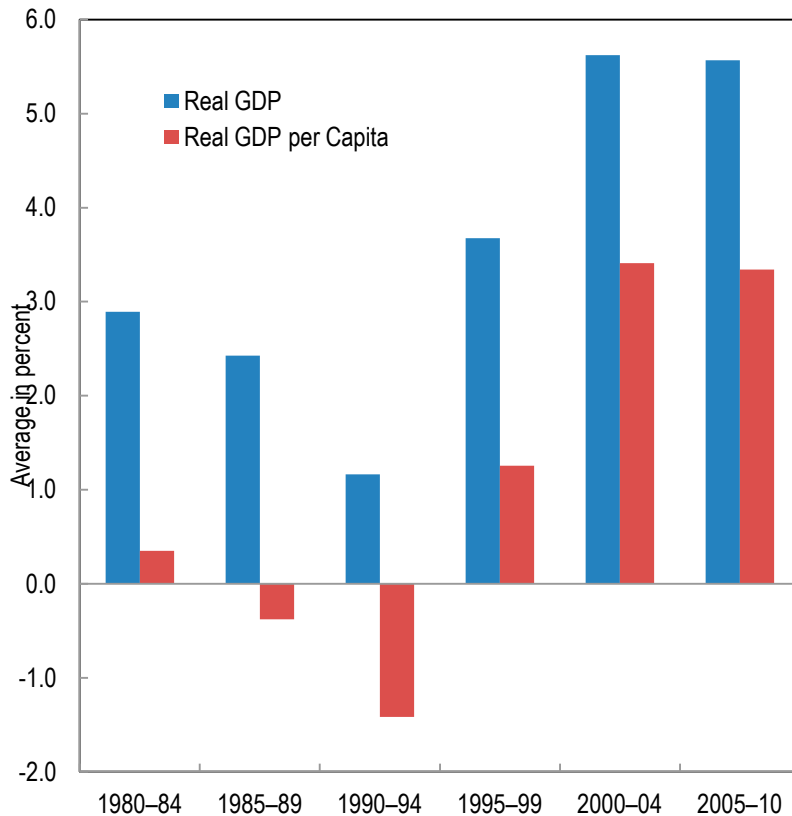
Headcount Poverty Index using the $1.25 dollars per day poverty line (percent of the population below the poverty line)

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

51.5 55.2 54.4 56.5 59.4 58.1 58 55.7 52.3 47.5

The relation between real GDP per capita growth and the headcount poverty rate in SSA over the 1995-2010 period is weak, even when consider only the countries that have sustained high growth

Sub-Saharan Africa Countries

Chart with x-axis "Average per capita growth (%)" ranging from -3 to 4, and y-axis "Average change in $1.25 poverty hdcount (%)" ranging from -25 to 15. Country labels (NGA, MDG, GIN, ZAF, ZMB, CIV, TZA, RWA, BDI, MWI, NER, CAR, EN, LSO, ETH, UGA, GNB, CMR, SWZ, SEN, MLI, BFA, GHA, GIN, KEN, GMB, CMR, NER, etc.).

y = -0.2768x - 2.4303
R² = 0.0184

Sub-Saharan Africa High Growth Countries

Chart with x-axis "Average per capita growth (%)" ranging from -2 to 8, and y-axis "Average change in $1.25 poverty hdcount (%)" ranging from -15 to 15. Country labels (NGA, TZA, RWA, MWI, ETH, UGA, GHA, MLI, BFA, BEA, MOZ, etc.).

y = -0.966x + 0.648
R² = 0.2264

Accounting for the stylized facts

- Perhaps the most dominant view is that weak poverty reduction reflects:
  - Insufficient growth
  - Highly unequal initial income distribution
  - Unpropitious patterns of growth

- More recently, some authors have argued that the extent of poverty reduction in the region is being underestimated:
  - Measurement issues
  - Income vs. consumption
  - Changes in the ownership of assets provides a different picture about income growth

Case studies on the inclusiveness of growth

- Country sample: Cameroon, Ghana, Mozambique, Tanzania, Uganda, and Zambia

- Absolute vs. Relative measures of inclusiveness
  - Absolute: annual per capita increase in consumption of poorest quartile
  - Relative: how did the poorest quartile fare relative to he richest quartile

- We also analyzed:
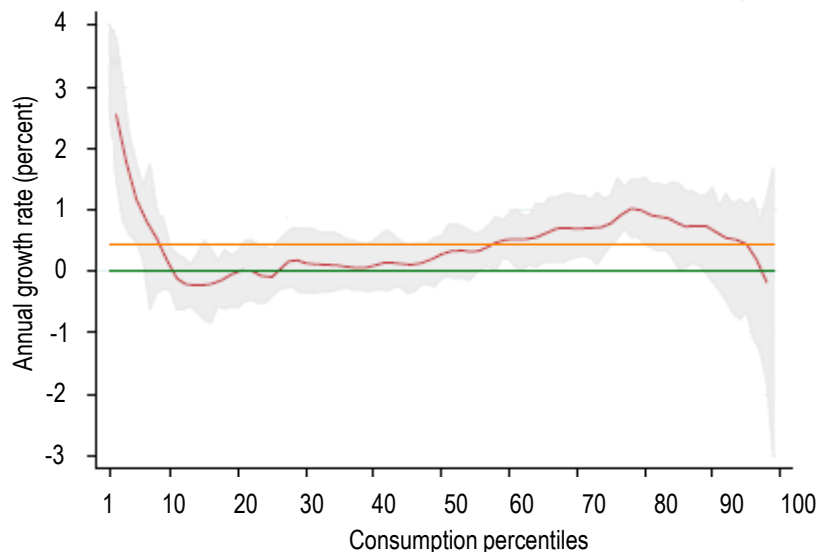 - Determinants of consumption
  - Employment outcomes

Core results

- Absolute measure:
  - The poorest quartile of the consumption distribution in 4 out of 6 countries experienced relatively high (3½ percent) annual growth in consumption. These four countries are Ghana, Mozambique, Tanzania, and Uganda, and all of them are "high-growth countries"
  - In Cameroon growth was low, and annual per capita consumption for the poorest quartile grew by just 1 percent
  - In Zambia, per capita consumption of the poorest quartile was negative
- Relative measure:
  - The poorest quartile did better than the highest quartile in Cameroon, Uganda. In Zambia, too, but only in the sense that consumption decline was less negative than for the richest quartile
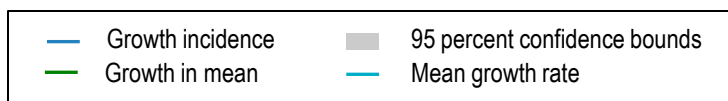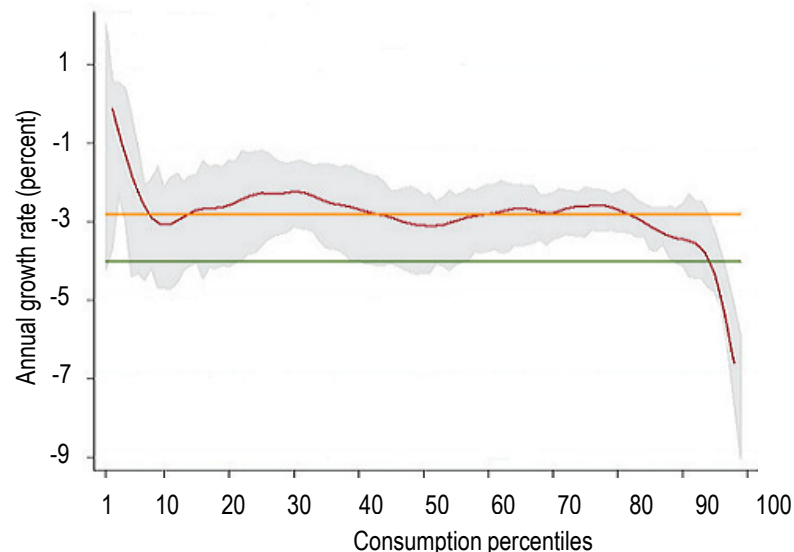
Growth rate of real consumption per capita by percentile of the distribution: the low-growth cases
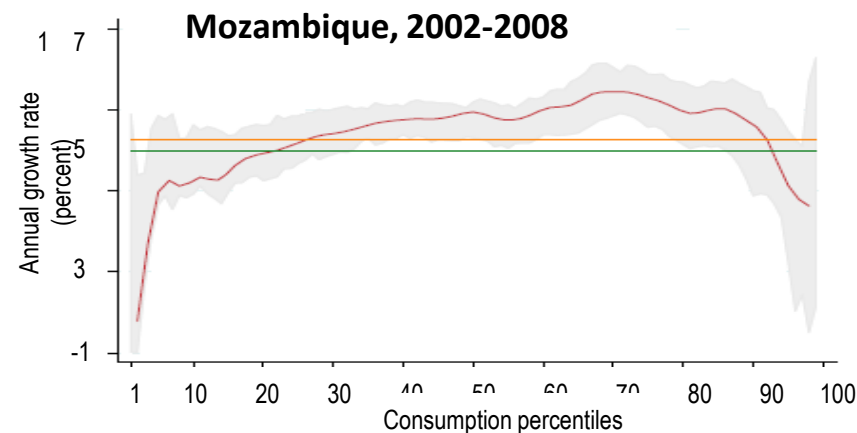
Cameroon 2001-2007

Zambia 1998-2004

Legend:
- Growth incidence
- Growth in mean
- 95 percent confidence bounds
- Mean growth rate

Growth rate of real consumption per capita by percentile of the distribution: the high-growth cases
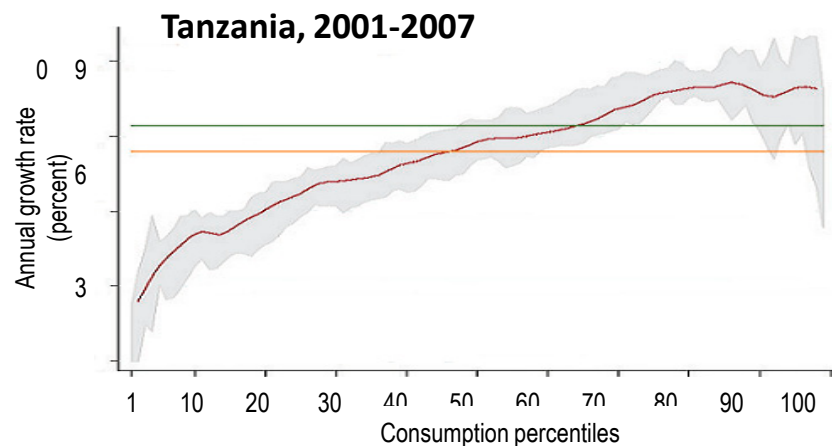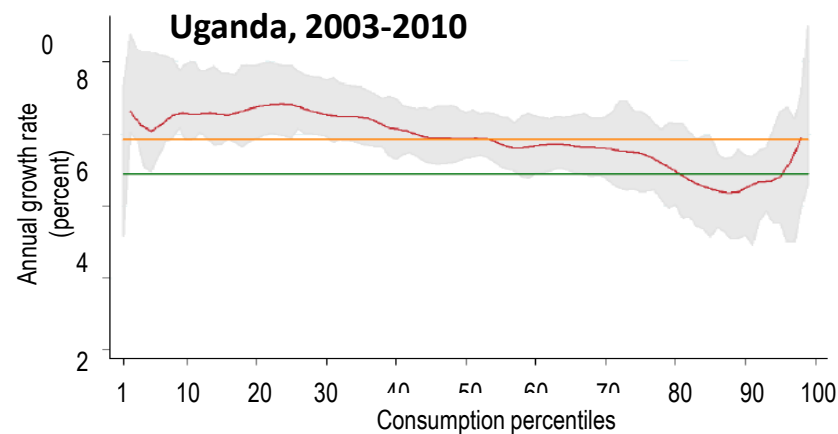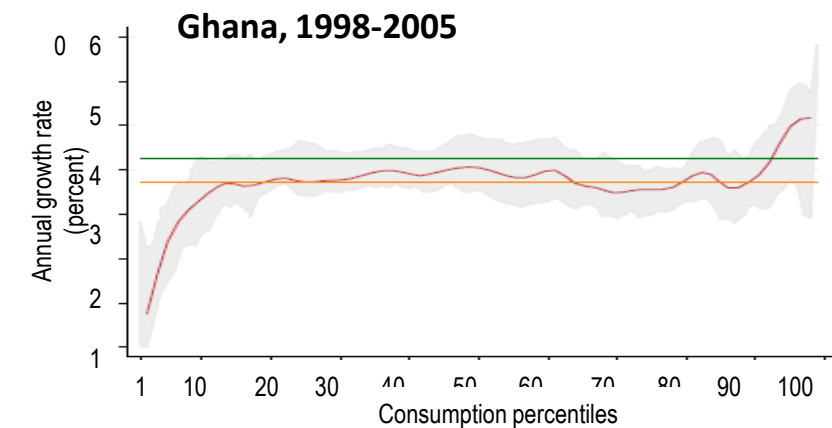

Ghana, 1998-2005

Uganda, 2003-2010

Tanzania, 2001-2007

Mozambique, 2002-2008

Legend:
— Growth incidence
— Growth in mean
95 percent confidence bounds
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Per Capita GDP Growth and Consumption Growth of the Poorest Quartile
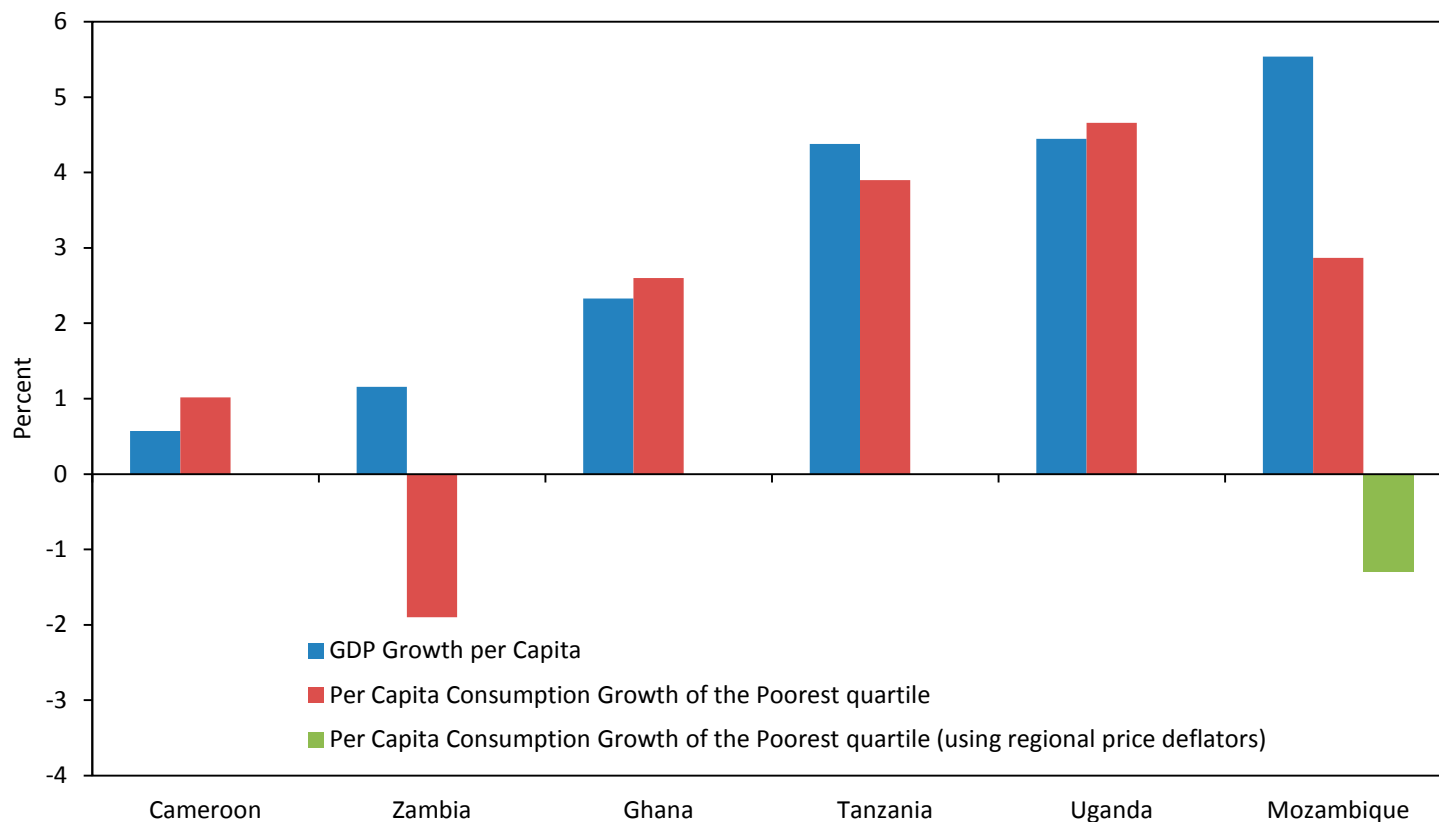
Macroeconomic, Poverty, and Consumption Aggregates in Sample Countries
(Annual percentage change, except where stated)

	Period	Growth per Capita	Poverty Headcount		Gini Coefficient		NIPA data	Per Capita Consumption		
								Survey data		
			Latest estimate		Initial estimate	Latest estimate		All households	Poorest quartile	Ratio of poorest quartile to average
Cameroon	2001–07	0.57	9.6	-3.9	0.4	0.39	1.0	0.82	1.0	1.24
Zambia	1998–2004	1.16	64.3	1.5	0.53	0.51	0.5	-3.43	-1.9	
Ghana	1998–2005	2.33	30.0	-1.3	0.41	0.43	3.6	3.66	2.6	0.71
Tanzania	2000–07	4.38	67.9	-3.0	0.35	0.38	3.7	6.73	3.9	0.58
Uganda	2002–09	4.45	28.7	-4.1	0.46	0.44	3.6	3.40	4.7	1.37
Mozambique[1]	2003–09	5.54	60.0	-2.5	0.47	0.46	7.2	3.50	2.9	0.82
								0.69	-1.3	
Memo items:										
Bangladesh[2]	1992–2000	3.00	57.8	-1.1	0.28	0.33	0.8	1.80	1.0	0.56
Cambodia[3]	1994–2004	5.70	40.2	-0.8	0.35	0.42	5.8	2.80	0.80	0.29
Vietnam[3]	1993–2002	5.90	40.1	-2.6	0.34	0.38	4.2	5.50	4.0	0.73

[1] For per capita consumption growth rates, upper line is deflated by aggregate CPI, lower line is deflated by regional CPIs

[2] Estimate based on Bangladesh growth incidence curve.

[3] For Cambodia and Vietnam, the poorest quintile replaces the poorest quartile.

The variation in consumption can be explained by 4-5 variables and these determinants are broadly stable across time and similar across countries

Log Household Consumption Determinants (Most Recent Survey)[1]

	Ghana 2005	Cameroon 2007	Uganda 2009	Mozambique 2008/09	Tanzania 2007	Zambia 2004
Household size (log)	0.37 ***	0.29 ***	0.24 ***	0.26 ***	0.31 ***	0.17 ***
Age (log)	0.13 ***	0.18 ***	0.20 ***	0.16 ***	0.02	0.05 ***
Male head of household	0.03 ***	0.01	0.08 ***	0.04 ***	0.06 **	0.02
Employment dummy	0.16 ***	0.04 **	0.02	0.07 ***	0.21 ***	0.07 ***
Agriculture sector dummy	-0.23 ***	-0.15 ***	-0.09 ***	-0.12 ***	-0.26 ***	-0.04 ***
Manufacturing sector dummy[2]	-0.08 ***	-0.03 **	-0.10 *	-0.11 ***		0.03 *
Government sector dummy	-0.12 ***	0.19 ***	0.16 ***	0.02	0.15 ***	0.02
Primary schooling	0.07 **	0.08 ***	-0.14 ***	0.12 ***	0.13 ***	0.04 *
Lower secondary schooling	0.16 ***	0.16 ***	-0.04	0.22 ***	0.44 ***	0.13 ***
Upper secondary schooling	0.38 ***	0.29 ***	0.01	0.56 ***	0.71 ***	0.47 ***
College/nursing/teacher training	0.69 ***	0.59 ***	0.87 ***	1.00 ***	1.23 ***	1.03 ***
Urban dummy	0.24 ***	0.21 ***	0.20 ***	0.12 ***	0.23 ***	0.12 ***
Diagnostic statistics						
Number of observations	7280	10416	6117	9836	9332	17824
R-squared	0.68	0.69	0.63	0.66	0.66	0.59

Sources: IMF staff estimates based on data from various household surveys (see Appendix I).

Note: ***,**,* indicate statistical significance at the 99 percent, 95 percent, and 90 percent levels, respectively.

[1]Characteristics refer to head of household except for household size and urban dummy.

[2]For Zambia, the manufacturing dummy refers to nonagriculture, nongovernment salaried employment.

Employment growth has been strong and rural agricultural employment growth provides much of the explanation of per capita consumption growth among the poorest households

Employment Indicators

(Annual percentage change, except where stated)

|	Period	Total Employment	Employment Output Elasticity	Urban Employment	Agricultural Employment	Rural Agricultural Employment	Formal Sector Employment[1]
Cameroon	2001–07	2.7	0.8	5.6	5.9	4.2	9.5
Ghana	1999–2005	3.4	0.7	6.1	3.5	1.4	13.3
Mozambique	2003–09	4.4	0.6	7.4	3.4	-0.4	16.7
Tanzania	2000–09	3.3	0.5	8.8	2.3	2.1	9.5
Uganda	2002–09	7.5	1.0	9.8	6.0	6.4	13.9
Zambia	1998–2004	1.9	0.6	5.1	-0.2	-1.6	13.8
Memo items:							
Cambodia	2004–07	4.2	0.4	4.5	3.9	4.7	25.0
Vietnam[2]	2000–07	2.9	0.4	6.1	-0.3	n.a.	44.0
Sub-Saharan Africa (sample median)		3.3	0.6	6.8	3.5	1.8	13.6

Sources: Household surveys; Vietnam Ministry of Planning and Investment and UNDP (2010); World Bank (2008).

[1]Latest estimate in percent of working-age population.

[2]Agricultural employment is for 2000–08.

Engel's Law: the share of total consumption devoted to food decline as real total income increases. Support for this empirical regularity exists both across and within countries

Food expenditure share and household consumption expenditure per capita in a sample of 84 countries (2010)
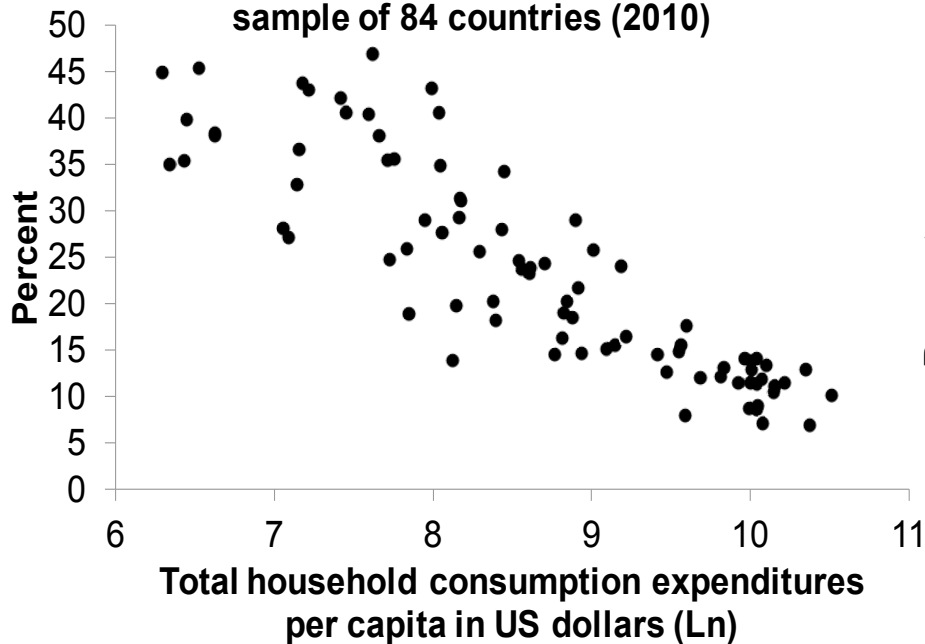
Food expenditure as a share of total household consumption by deciles of the total household consumption distribution in Ghana
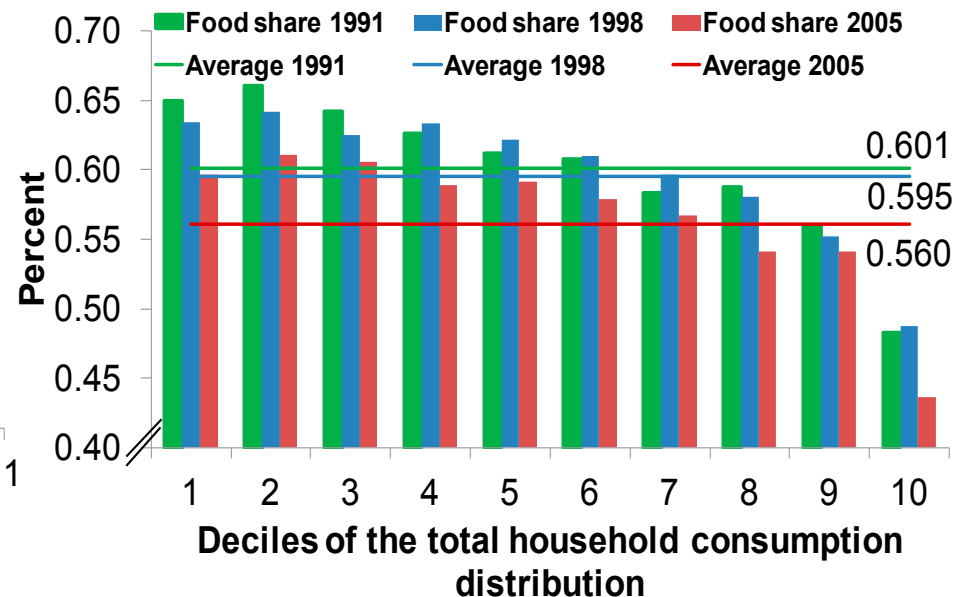
This empirical regularity can be used to measure the biases built in the Consumer Price Index (Costa, 2001, and Hamilton, 2001): if estimated Engel curves drift over time towards the origin, so that households are allocating less consumption to food than in previous years, then this is evidence that inflation overestimates true cost-of-living increases

Estimated Engel curve for Ghana using data for the period 1998–2005
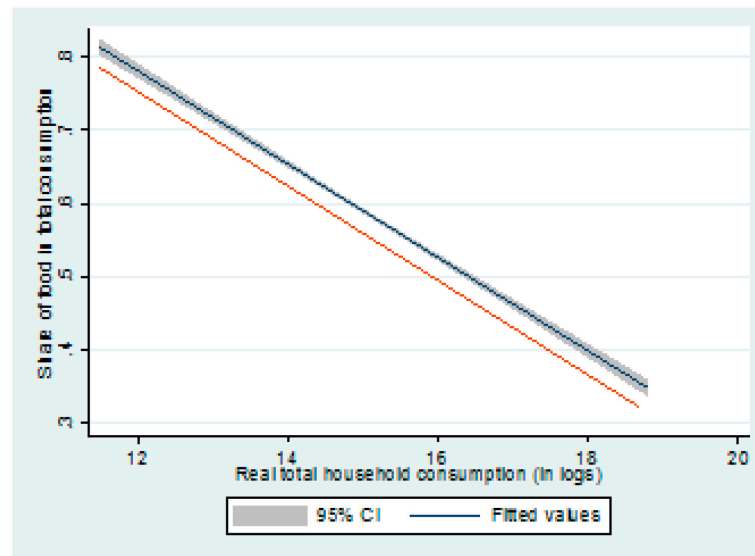
Engle's Curves Estimates

Dependent variable: Food consumption as a share of total household consumption

County	Cameroon		Ghana		Uganda		Zambia	
Periods	**2001-2007**		**1998-2005**		**2002-2010**		**1998-2004**	
Constant	1.546	***	1.515	***	1.970	***	1.283	***
	0.021		0.026		0.021		0.015	
Total real household consumption	-0.089	***	-0.065	***	-0.108	***	-0.061	***
	0.002		0.002		0.001		0.001	
d (second year dummy)	-0.065	***	-0.027	***	0.049	***	-0.063	***
	0.002		0.002		0.003		0.003	
Household size	0.013	***	0.002	***	0.011	***	0.001	***
	0.000		0.001		0.000		0.000	
Age of household head	0.001	***	0.001	***	0.001	***	0.001	***
	0.000		0.000		0.000		0.000	
Male head of household	-0.006	**	-0.006	**	0.016	***	0.031	***
	0.002		0.002		0.002		0.001	
Employed	0.065	***	0.032	***	0.006	*	-0.008	***
	0.003		0.004		0.003		0.001	
Number of observations	22,140		13,950		16,727		29,246	
R-squared	0.2106		0.1318		0.2510		0.1403	
Adjusted R-squared	0.2104		0.1314		0.2507		0.1402	

Insights from Engle's Curves Estimates

- Evidence of real income being underestimated in Cameroon, Ghana and Zambia

- In Uganda, evidence of income being overestimated

- Main reason for the bias in the measurement of income likely because CPI inflation is overstated

Summary

- Cross country evidence of limited value in assessing the link between poverty and growth

- Growth is central for poverty reduction, but not sufficient.

- Strong linkages between agricultural growth and poverty reduction, policies to improve agricultural output and productivity likely to be useful

- Policies that promote broad and sustainable growth should continue, but temporary and well targeted transfer programs could be introduced to protect the poor

- Some evidence supporting those that argue that real income may be being underestimated