

Growth, Inequality, and Poverty Reduction: Africa in a Global Context

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Outline

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- Contributions to Poverty Reduction by Country: Income vs. Inequality
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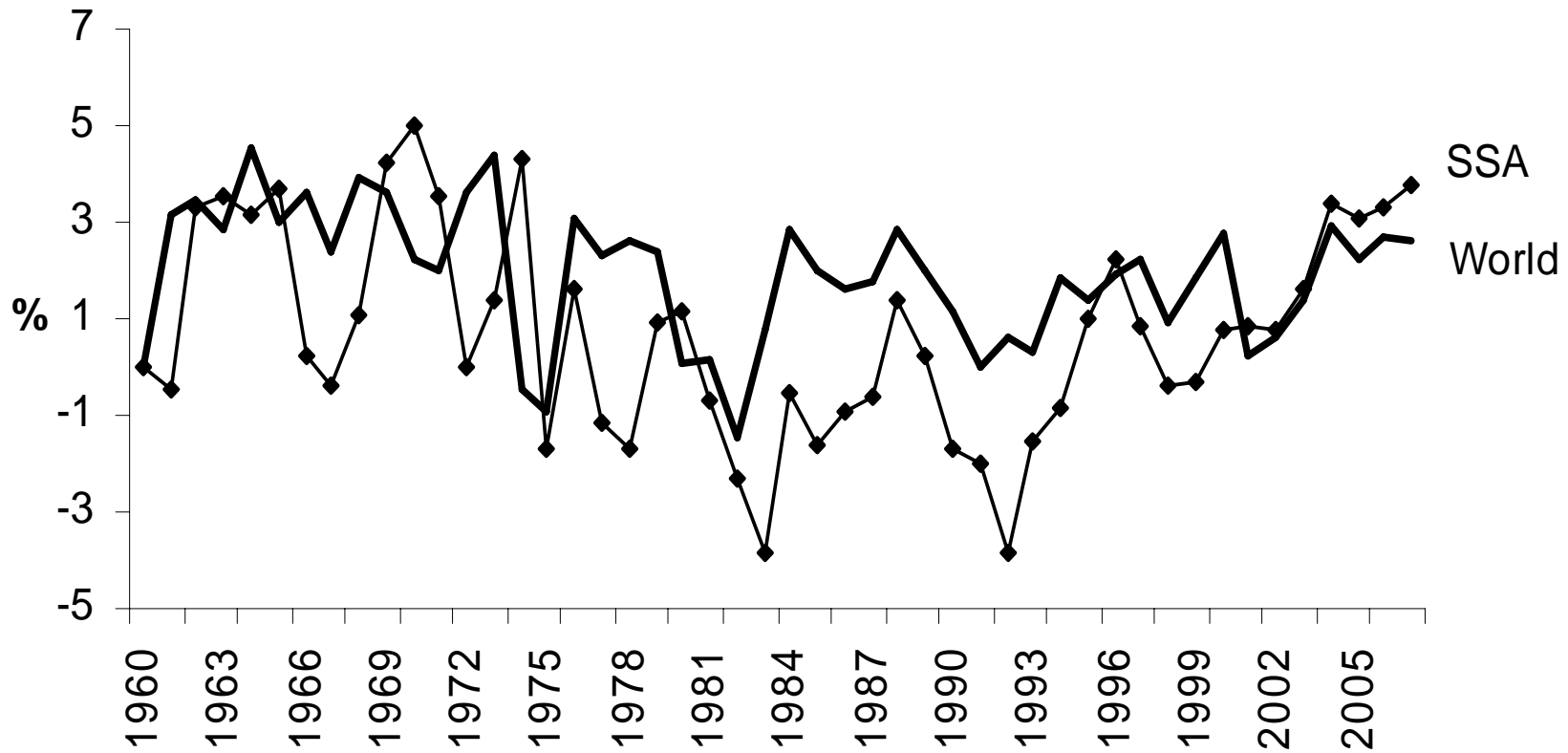
Introduction

- **On average**, growth most powerful engine for development, such as poverty reduction [Ask Dollar and Kraay (2002, *JEG*); also see Fosu (2004, *AJES*; 2002, *ODS*) for evidence on human development (HD)], BUT...
- There is a large variance in its importance relative to income distribution (and the level of income) [for African evidence see, e.g., Fosu (2009, *JDS*)]
- Importance of income and inequality in recent poverty reduction record, by country = ? [Background paper: Fosu (2010): 'Growth, Inequality and Poverty Reduction in Developing Countries: Recent Global Evidence'.]

The Growth Record: SSA vs. the World

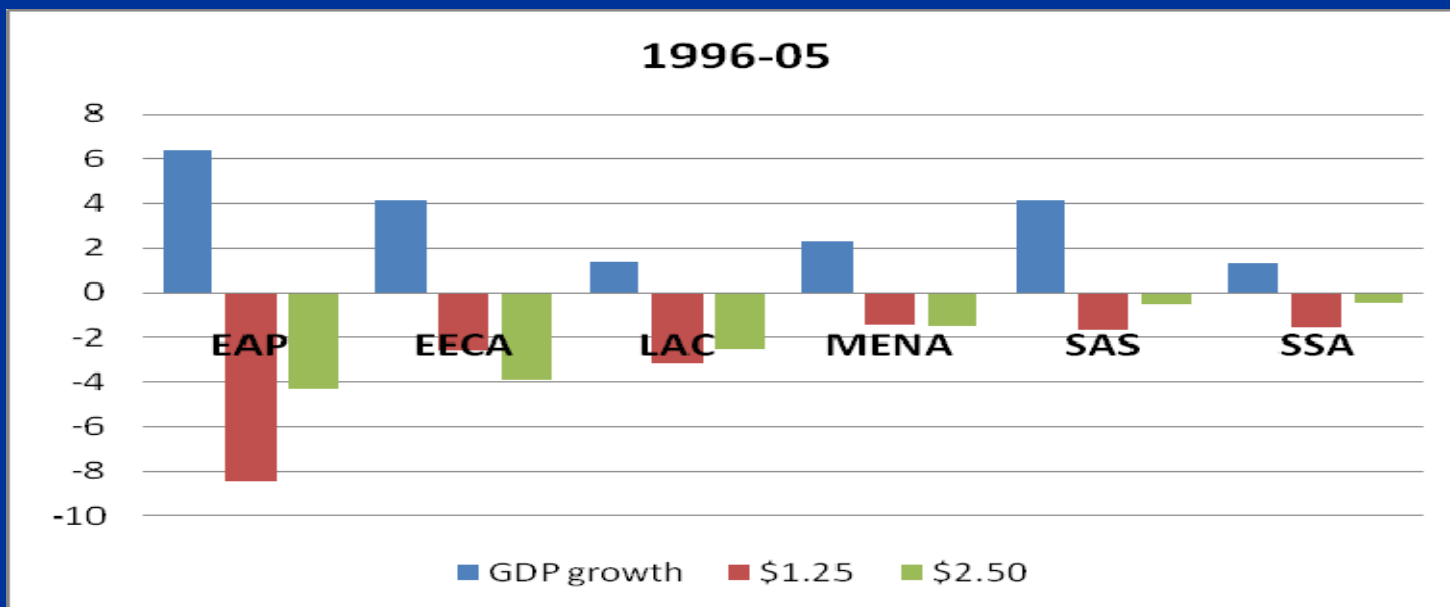
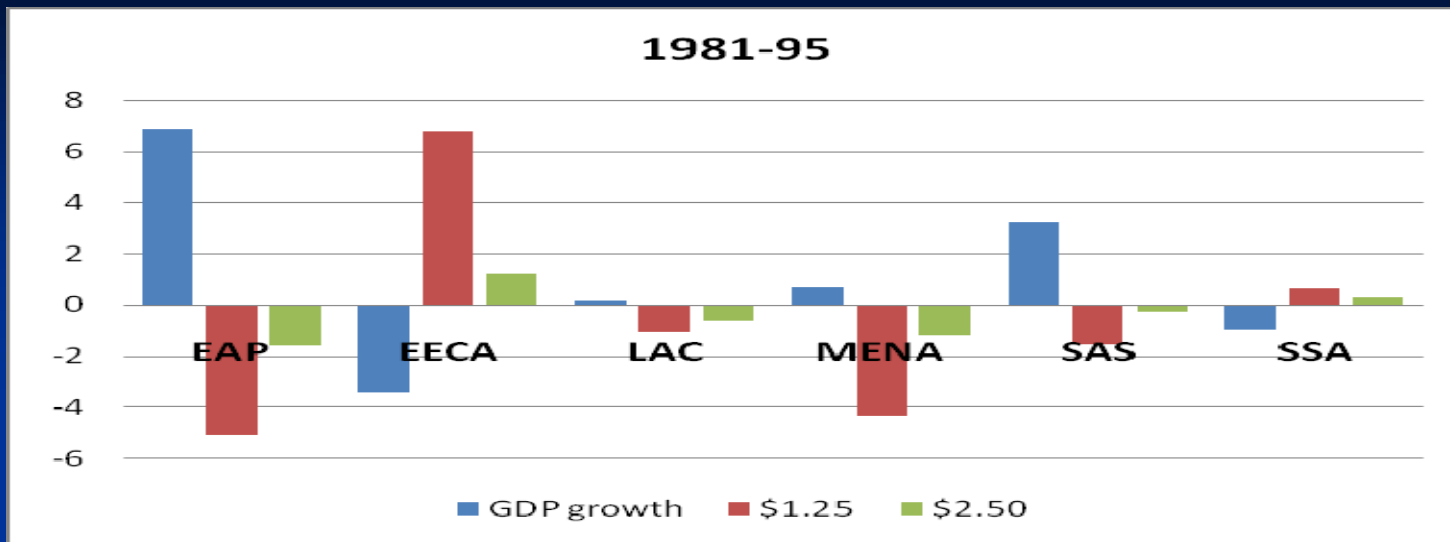
(Data source: World Bank, *WDI Online 2009*)

GDP per capita growth, 1961-2007



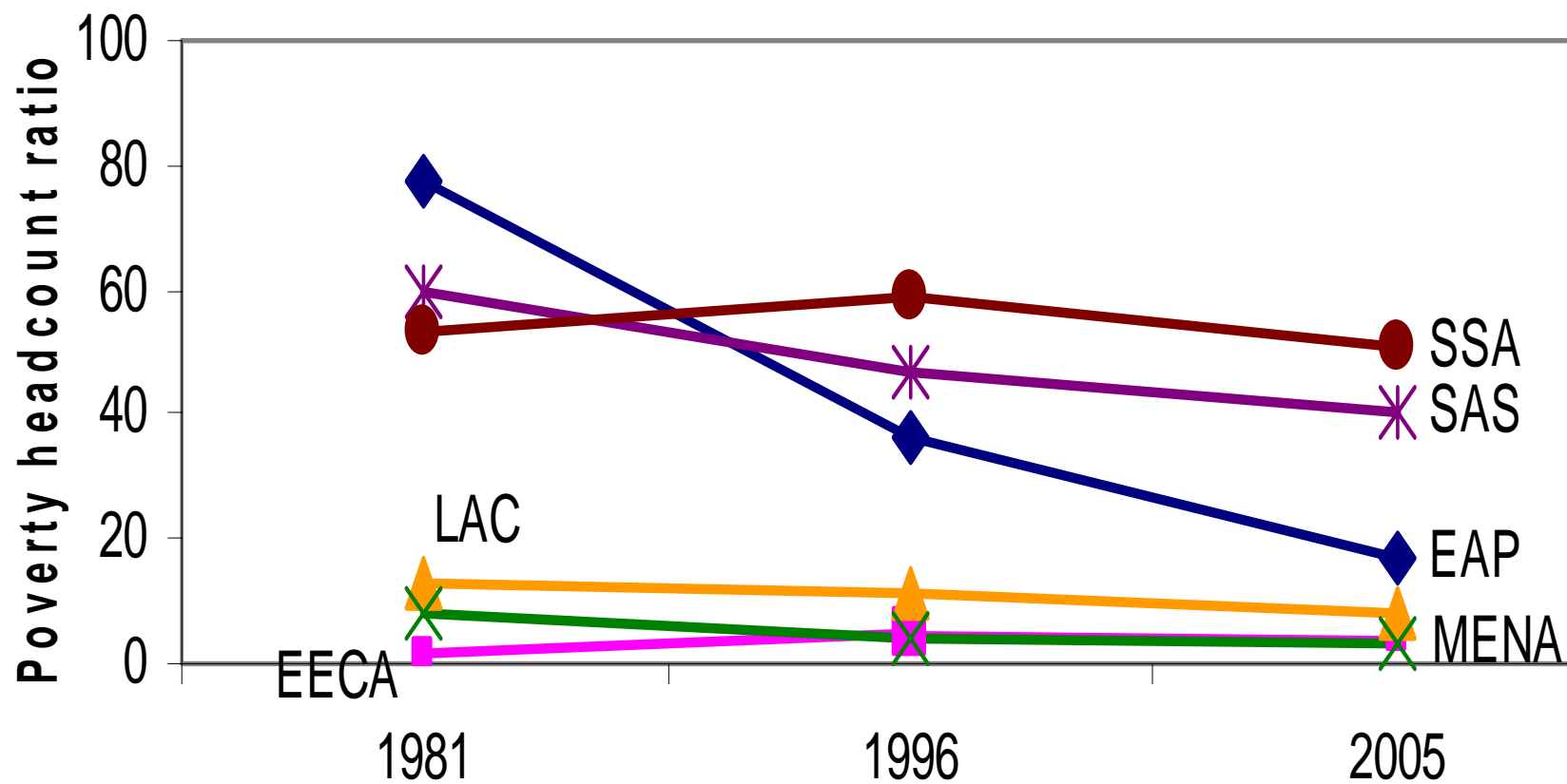
P. C. GDP growth versus poverty reduction by region

[Source: Fosu (2010)]

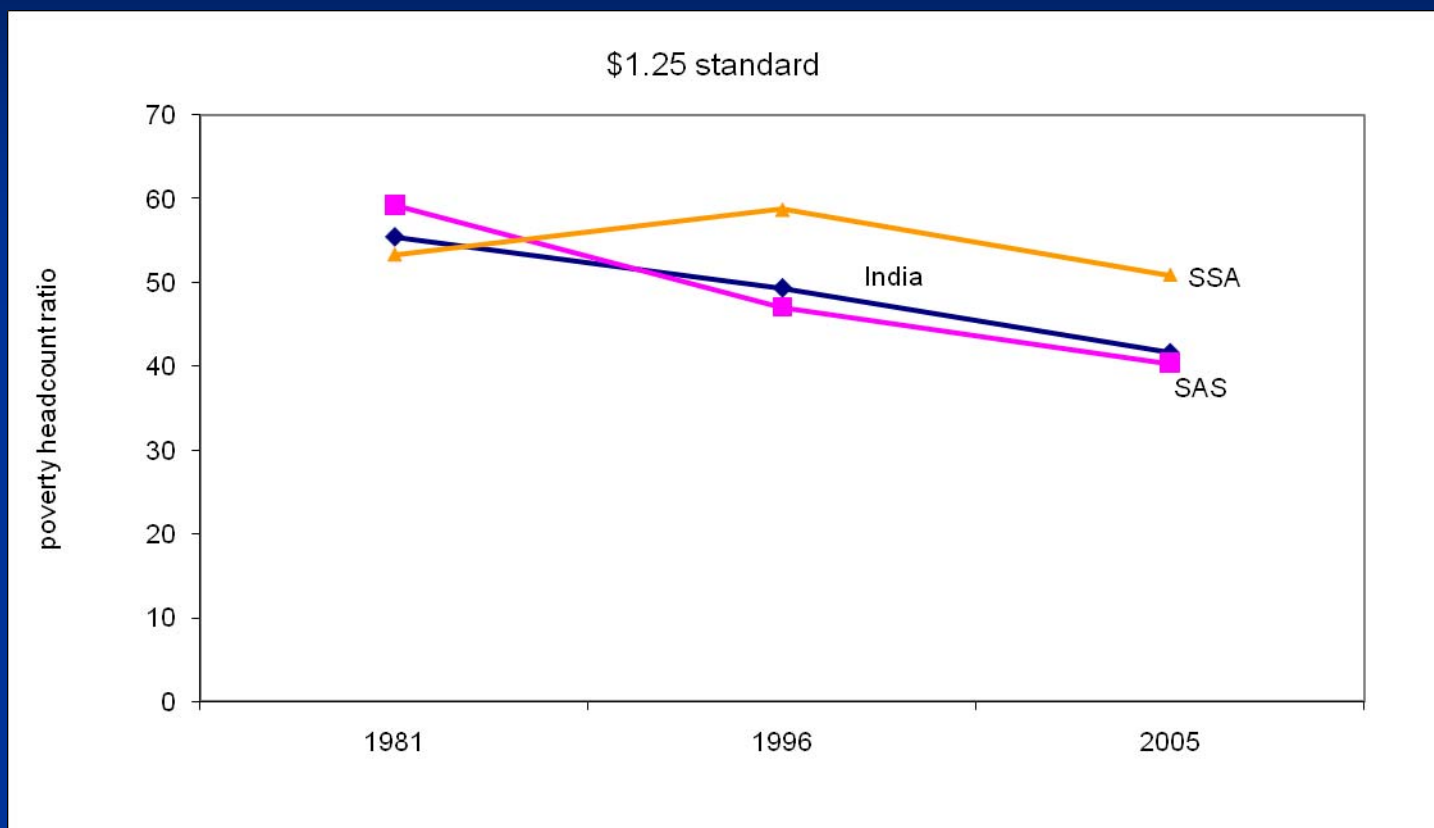


Trends in poverty (headcount ratio) by region, \$1.25: 1981-2005
[Source: Fosu (2010)]

\$1.25 standard

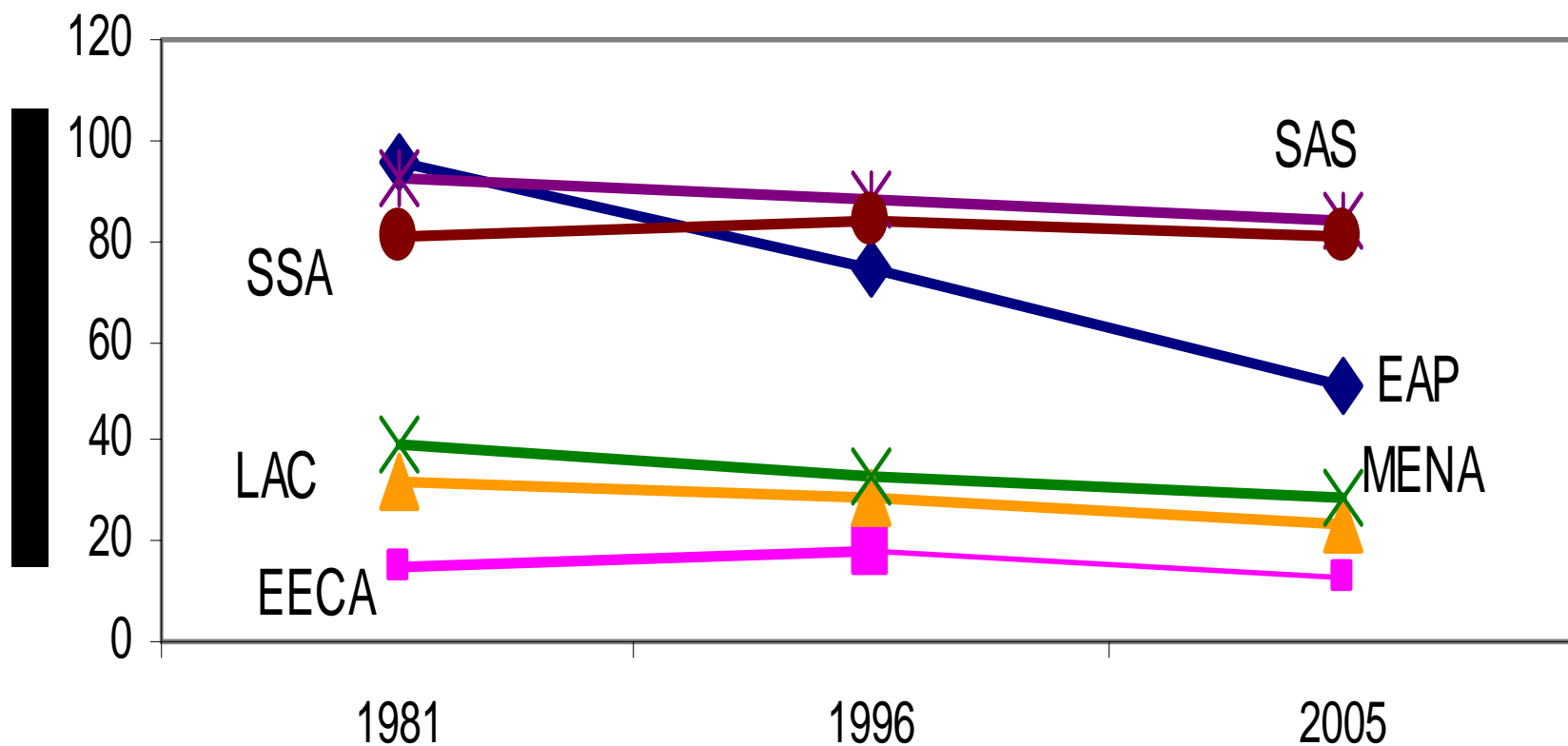


Trends in poverty (headcount ratio), \$1.25: SSA vs. SAS & India, 1981-2005 [Source: Fosu (2010)]

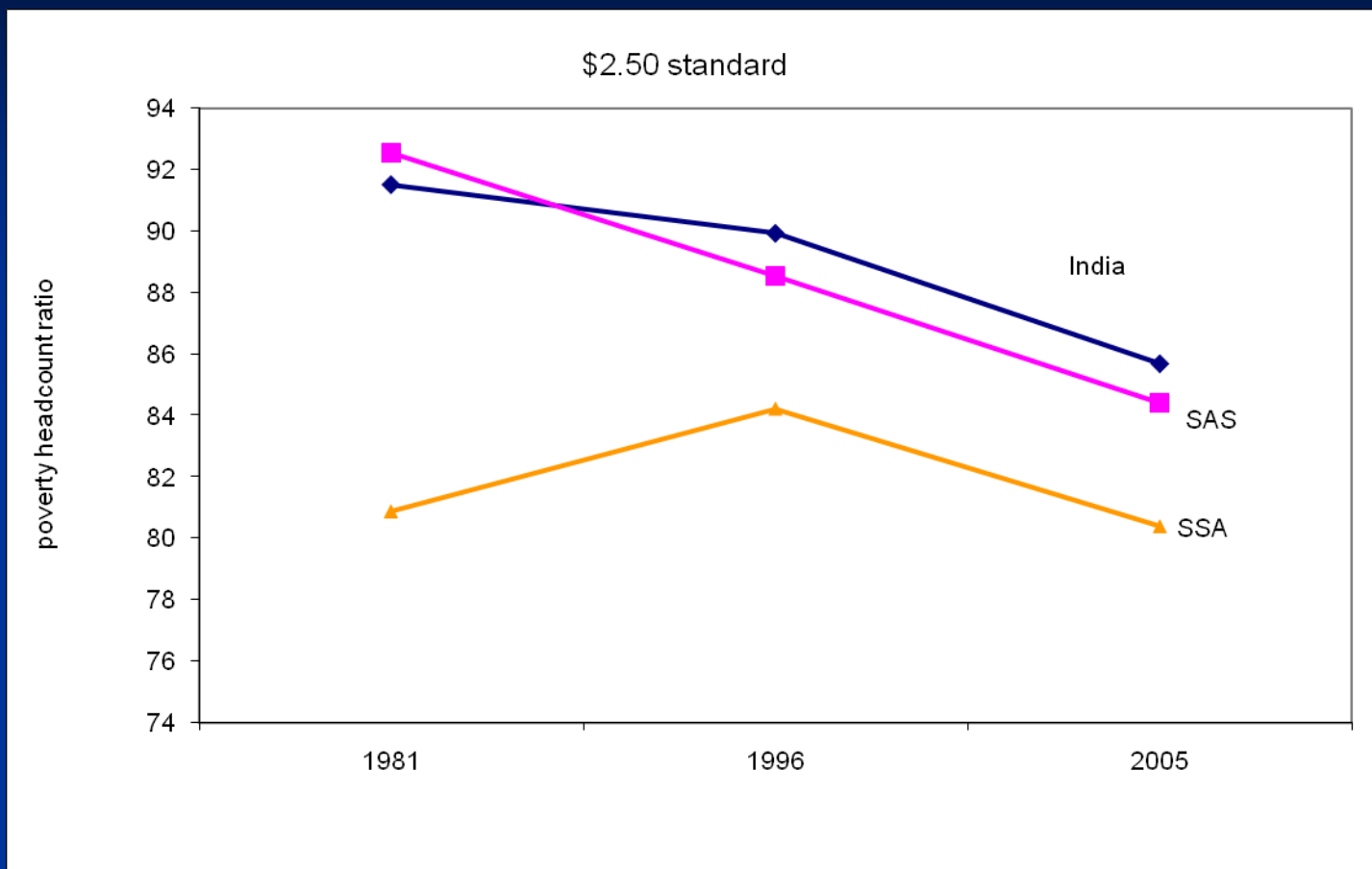


Trends in poverty (headcount ratio) by region, \$2.50: 1981-2005
[Source: Fosu (2010)]

\$2.50 standard



Trends in poverty (headcount ratio), \$2.50: SSA vs. SAS & India, 1981-2005 [Source: Fosu (2010)]



Progress on Poverty by Country, early-mid-1990s to present [Source: Fosu (2010)]

Decile	Poverty growth \$1.25 (min-max)	Poverty growth \$2.50 (min-max)	Decile	Poverty growth \$1.25 (min-max)	Poverty growth \$2.50 (min-max)
1.	Azerbaijan Estonia Jamaica Latvia Poland Russian Fed. Tunisia Ukraine	Azerbaijan Latvia Mexico Poland Russian Fed. Tunisia Ukraine Venezuela	6.	Burkina Faso CAR Egypt Lao PDR Nepal Panama Sri Lanka Uganda	Cambodia CAR Côte d'Ivoire India-Urb. Mali Peru Swaziland Uganda
2.	Belarus Costa Rica Malaysia Mexico Romania Thailand Uruguay-Urb. Venezuela	Brazil Chile China-Urb. Costa Rica Ecuador Estonia Jordan Romania	7.	Cambodia Dominican Rep. India-Rur. Lesotho Mauritania Mozambique Niger Philippines	Dominican Rep. Ethiopia India-Rur. Kazakhstan Lao PDR Morocco Mozambique Niger
3.	Armenia Cameroon Chile China-Urb. Ecuador Indonesia-Urb. Jordan Pakistan	Cameroon Egypt El Salvador Honduras Indonesia-Urb. Jamaica Nicaragua Thailand	8.	Bangladesh Burundi Guinea-Bissau India-Urb. Madagascar Morocco Nigeria Peru	Bangladesh Burkina Faso Burundi Iran Madagascar Nigeria Tanzania Zambia
4.	Brazil China-Rur. Indonesia-Rur. Kazakhstan Moldova Nicaragua Paraguay Vietnam	China-Rur. Ghana Kenya Mauritania Pakistan Paraguay Sri Lanka Vietnam	9.	Colombia Côte d'Ivoire Iran Kyrgyz Rep. Mongolia Tanzania Turkey Zambia	Albania Armenia Colombia Guinea Guinea-Bissau Lesotho Mongolia South Africa
5.	El Salvador Ethiopia Ghana Honduras Kenya Mali Senegal Swaziland	Indonesia-Rur. Malaysia Moldova Nepal Panama Philippines Senegal Turkey	10.	Albania Argentina-Urb. Bolivia Djibouti Georgia Guinea South Africa Yemen	Argentina-Urb. Belarus Bolivia Djibouti Georgia Kyrgyz Rep. Uruguay-Urb. Yemen

'Poverty transformation efficiency', by country [Source: Fosu (2010)]

Country	Efficiency Vector	Country	Efficiency Vector
Albania	(2, 8, 10, 9)	Kyrgyz Rep.	(5, 10, 9, 10)
Argentina-Urb.	(9, 9, 10, 10)	Lao PDR	(3, 6, 6, 7)
Armenia	(1, 10, 3, 9)	Latvia	(1, 1, 1, 1)
Azerbaijan	(1, 2, 1, 1)	Lesotho	(5, 10, 7, 9)
Bangladesh	(4, 8, 8, 8)	Madagascar	(9, 5, 8, 8)
Belarus	(2, 3, 2, 3)	Malaysia	(4, 9, 2, 5)
Bolivia	(8, 7, 10, 10)	Mali	(4, 1, 5, 6)
Brazil	(8, 5, 4, 2)	Mauritania	(9, 5, 7, 4)
Burkina Faso	(4, 6, 6, 8)	Mexico	(8, 2, 2, 1)
Burundi	(10, 7, 8, 8)	Moldova	(4, 6, 4, 5)
Cambodia	(2, 5, 7, 6)	Mongolia	(3, 9, 9, 9)
Cameroon	(7, 1, 3, 3)	Morocco	(6, 8, 8, 7)
CAR	(10, 1, 6, 6)	Mozambique	(2, 4, 7, 7)
Chile	(3, 6, 3, 2)	Nepal	(7, 2, 6, 5)
China-Rur.	(1, 2, 4, 4)	Nicaragua	(5, 4, 4, 3)
China-Urb.	(1, 1, 3, 2)	Niger	(10, 4, 7, 7)
Colombia	(9, 7, 9, 9)	Nigeria	(7, 8, 8, 8)
Costa Rica	(6, 4, 2, 2)	Pakistan	(7, 3, 3, 4)
Côte d'Ivoire	(10, 4, 9, 6)	Panama	(6, 8, 6, 5)
Djibouti	(10, 10, 10, 10)	Paraguay	(10, 8, 4, 4)
Dominican Rep.	(3, 7, 7, 7)	Peru	(6, 5, 8, 6)

'Poverty transformation efficiency', by country - continued

Country	Efficiency Vector	Country	Efficiency Vector
Ecuador	(8 , 2, 3, 2)	Philippines	(6, 6, 7, 5)
Egypt	(5, 6, 6, 3)	Poland	(2, 1, 1, 1)
El Salvador	(8, 5, 5, 3)	Romania	(4, 1, 2, 2)
Estonia	(1, 3, 1, 2)	Russian Fed.	(3, 8, 1, 1)
Ethiopia	(5, 7, 5, 7)	Senegal	(7, 5, 5, 5)
Georgia	(1, 10, 10, 10)	South Africa	(8, 9, 10, 9)
Ghana	(6, 3, 5, 4)	Sri Lanka	(3, 5, 6, 4)
Guinea	(8, 10, 10, 9)	Swaziland	(9, 2, 5, 6)
Guinea-Bissau	(10, 9, 8, 9)	Tanzania	(5, 10, 9, 8)
Honduras	(7, 3, 5, 3)	Thailand	(5, 6, 2, 3)
India-Rur.	(2, 7, 7, 7)	Tunisia	(3, 4, 1, 1)
India-Urb.	(2, 7, 8, 6)	Turkey	(4, 7, 9, 5)
Indones-Rur.	(7, 4, 4, 5)	Uganda	(3, 4, 6, 6)
Indones-Urb.	(7, 3, 3, 3)	Ukraine	(5, 3, 1, 1)
Iran	(4, 9, 9, 8)	Uruguay-Urb.	(8, 9, 2, 10)
Jamaica	(9, 2, 1, 3)	Venezuela	(10, 2, 2, 1)
Jordan	(6, 6, 3, 2)	Vietnam	(1, 1, 4, 4)
Kazakhstan	(2, 8, 4, 7)	Yemen	(6, 10, 10, 10)
Kenya	(9, 3, 5, 4)	Zambia	(9, 9, 9, 8)

Models and Estimation [Source: Fosu (2010)]

- (1) $p = b_1 + b_2\gamma + b_3\gamma G^I + b_4\gamma(Z/Y) + b_5g + b_6gG^I + b_7g(Z/Y) + b_8G^I + b_9Z/Y$

- (2) $E_y = b_2 + b_3G^I + b_4Z/Y$

- (3) $E_g = b_5 + b_6G^I + b_7Z/Y$

For \$1.25 standard:

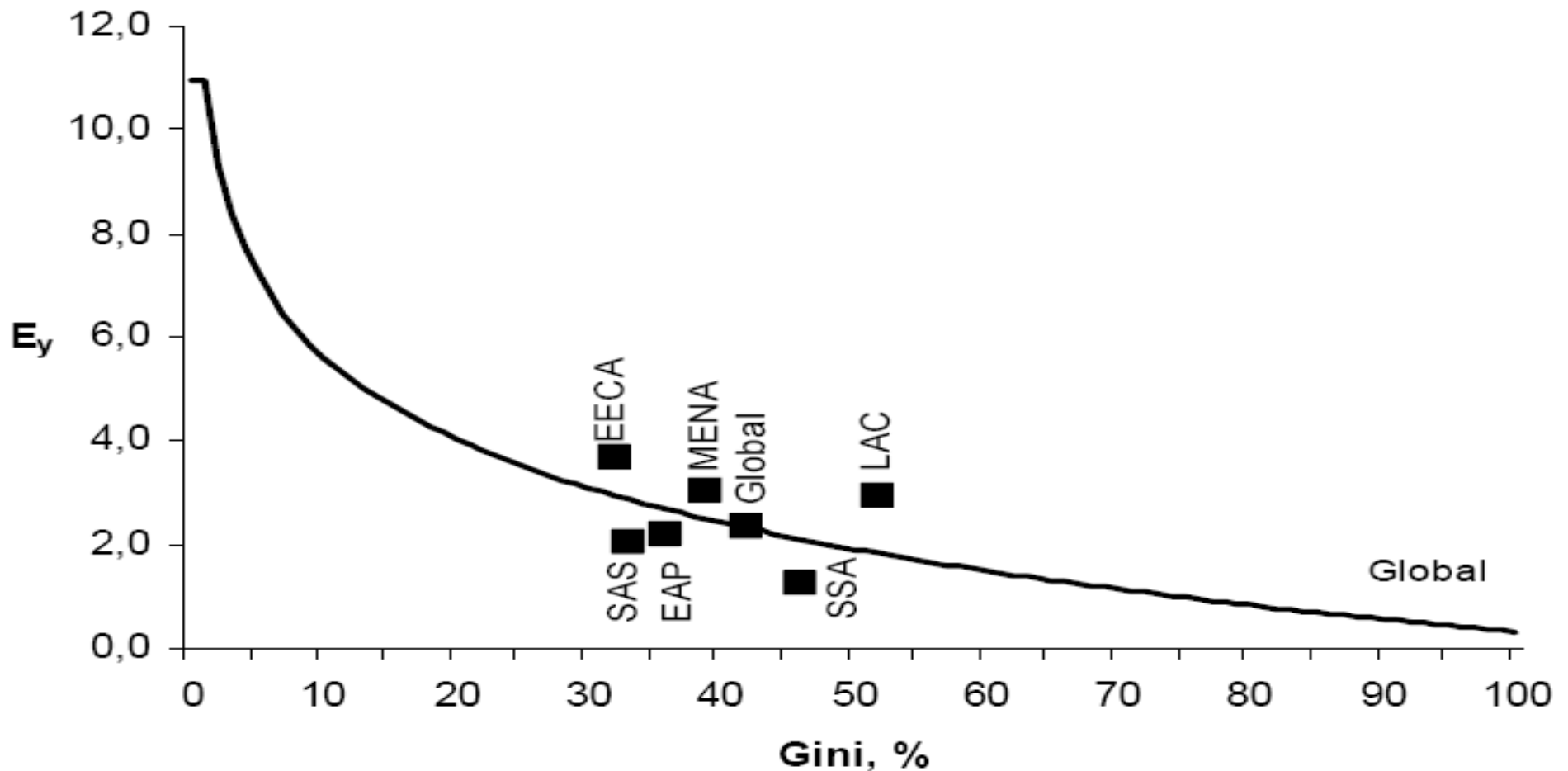
- (4) $E_y = -9.757 + 2.307 G^I + 1.333 Z/Y$

- (5) $E_g = 14.391 - 3.649 G^I - 2.754 Z/Y$

Income Elasticity of Poverty vs. Initial Inequality

[Source: Fosu (2010)]

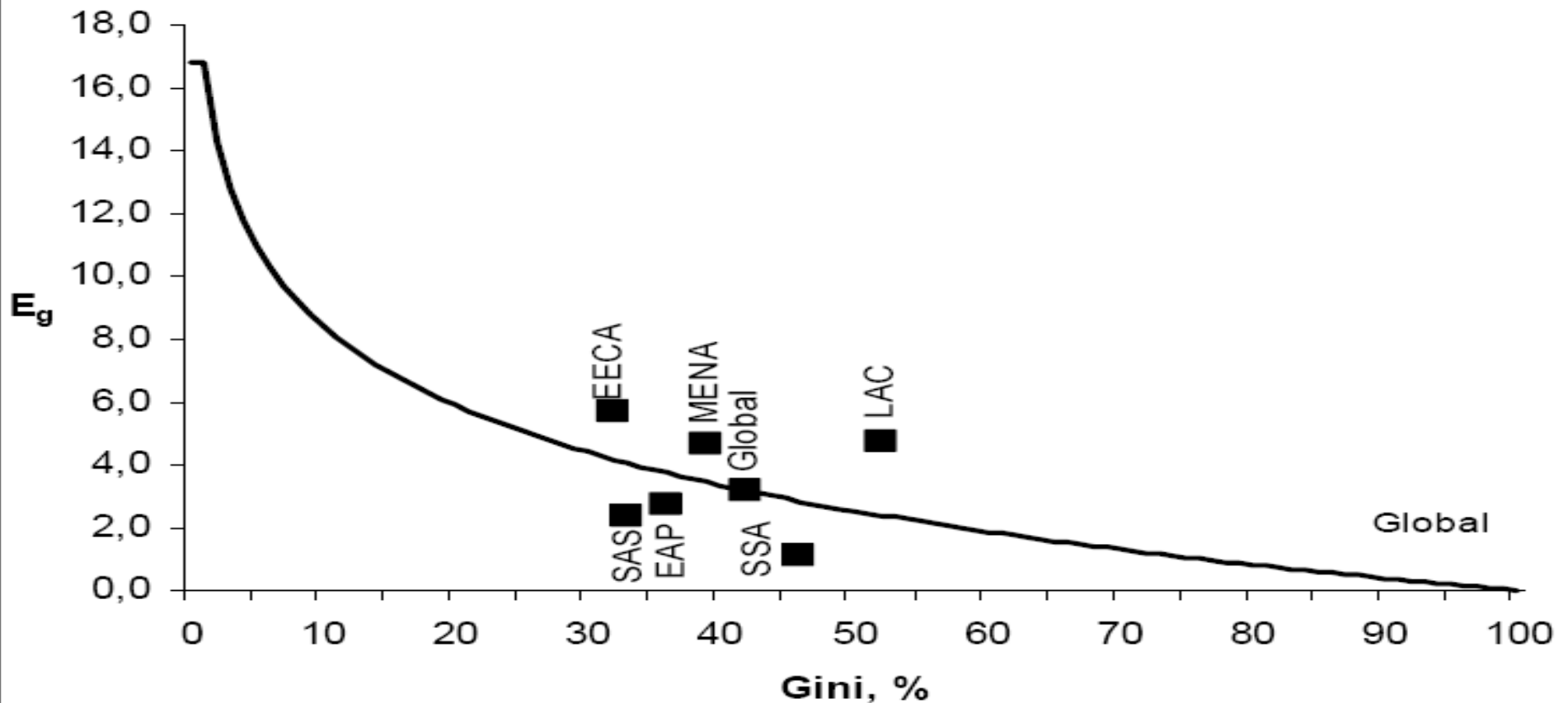
Income elasticity, E_y , \$1.25 Headcount



Inequality Elasticity of Poverty vs. Initial Inequality

[Source: Fosu (2010)]

Inequality elasticity, E_g , \$1.25 Headcount



Explaining poverty growth since mid-1990s, income(A) vs. inequality(B):
 Countries with poverty reduction, \$1.25 headcount [Source: Fosu(2010)]

Country	Region	Pov _g	A E _Y *dlnY	B E _G *dlnG	A+B Pred Pov _g
Armenia	EECA	-7.122	8.580	-13.363	-4.783
Azerbaijan	EECA	-62.506	-11.656	-27.118	-38.774
Belarus	EECA	-24.964	-17.208	16.707	-0.501
Brazil	LAC	-7.142	-5.505	-3.198	-8.704
Burkina Faso	SSA	-2.557	-1.220	-0.715	-1.936
Burundi	SSA	-0.252	-0.881	-0.007	-0.888
Cambodia	EAP	-1.890	-3.354	1.813	-1.541
Cameroon	SSA	-9.001	-8.362	-1.497	-9.859
CAR*	SSA	-2.823	1.454	6.023	7.476
Chile	LAC	-8.168	-5.124	-3.304	-8.428
China-Rur.	EAP	-7.103	-7.872	1.268	-6.603
China-Urb.	EAP	-17.681	-19.252	6.686	-12.566
Costa Rica	LAC	-12.160	-10.217	0.181	-10.036
Dominican Rep.	LAC	-1.827	-2.453	1.434	-1.020
Ecuador	LAC	-9.377	-12.016	1.402	-10.614
Egypt	MENA	-2.356	-4.829	3.228	-1.601
El Salvador	LAC	-3.469	-5.377	-2.338	-7.714
Estonia	EECA	-61.350	-14.269	13.219	-1.050
Ethiopia	SSA	-4.384	-1.848	-4.188	-6.035

Countries experiencing poverty reduction (\$1.25), continued

Ghana	SSA	-3.802	-5.636	1.463	-4.173
Guinea*	SSA	-0.722	0.722	2.081	2.803
Honduras	LAC	-3.677	-6.394	0.032	-6.362
India-Rur.	SAS	-1.634	-2.650	1.466	-1.184
India-Urb.	SAS	-1.091	-2.438	2.056	-0.382
Indonesia-Rur.	EAP	-7.399	-7.968	2.048	-5.920
Indonesia-Urb.	EAP	-7.779	-8.254	1.559	-6.694
Jamaica	LAC	-24.763	-14.958	7.789	-7.169
Jordan	MENA	-14.189	-4.137	-4.806	-8.943
Kazakhstan	EECA	-6.680	1.097	-3.014	-1.917
Kenya	SSA	-3.364	-6.101	2.645	-3.456
Lao PDR	EAP	-2.363	-3.390	1.597	-1.793
Latvia	EECA	-75.503	-23.416	10.401	-13.015
Lesotho*	SSA	-1.313	4.383	-3.391	0.992
Madagascar	SSA	-0.554	-1.505	0.057	-1.448
Malaysia	EAP	-14.984	9.512	-15.174	-5.661
Mali*	SSA	-4.292	-0.529	2.602	2.073
Mauritania	SSA	-2.012	-4.510	2.262	-2.248
Mexico	LAC	-23.738	-15.623	-0.456	-16.080
Moldova	EECA	-6.122	-4.710	1.146	-3.564
Mozambique	SSA	-1.422	-2.403	-0.158	-2.561
Nepal	SAS	-2.706	-6.678	3.336	-3.342

Countries experiencing poverty reduction (\$1.25), continued

Nicaragua	LAC	-6.005	-5.026	-1.609	-6.635
Niger	SSA	-1.555	-3.107	0.297	-2.809
Nigeria	SSA	-0.882	-0.047	-1.060	-1.107
Pakistan	SAS	-9.458	-9.174	2.646	-6.528
Panama	LAC	-2.717	-2.044	-1.239	-3.283
Paraguay	LAC	-5.639	1.079	-4.127	-3.048
Peru	LAC	-0.787	-6.203	3.548	-2.654
Philippines	EAP	-1.811	-2.972	0.608	-2.364
Poland	EECA	-29.323	-32.323	4.229	-28.094
Romania	EECA	-17.192	-22.965	5.992	-16.973
Russian Fed.	EECA	-34.218	-1.930	-13.718	-15.648
Senegal	SSA	-4.359	-3.032	-0.445	-3.477
Sri Lanka*	SAS	-2.242	-6.977	7.533	0.556
Swaziland*	SSA	-3.725	-0.808	2.582	1.774
Thailand	EAP	-19.411	-4.251	-1.229	-5.480
Tunisia	MENA	-18.653	-10.268	-1.927	-12.196
Uganda	SSA	-2.475	-3.995	1.533	-2.462
Ukraine	EECA	-32.890	-17.240	-15.845	-33.085
Uruguay-Urb.*	LAC	-35.553	3.075	3.982	7.057
Venezuela	LAC	-14.272	-13.057	-5.479	-18.536
Vietnam	EAP	-7.779	-8.194	0.607	-7.587
	Mean	-11.406	-6.072	-0.022	-6.094

Explaining poverty growth since mid-1990s, income(A) vs. inequality(B):
 Countries with **poverty increases**, \$1.25 headcount [Source: Fosu(2010)]

Country	Region	Pov _g	A E _Y *dlnY	B E _G *dlnG	A + B Pred Pov _g
Albania	EECA	16.077	-2.916	8.253	5.338
Argentina-Urb.	LAC	11.700	4.135	2.177	6.312
Bangladesh	SAS	0.184	0.257	-0.174	0.083
Bolivia	LAC	10.552	-3.176	10.742	7.566
Colombia*	LAC	1.676	-2.113	1.865	-0.248
Côte d'Ivoire	SSA	1.448	-7.903	13.516	5.613
Djibouti	MENA	22.929	26.000	6.973	32.973
Georgia	EECA	12.207	13.203	5.474	18.677
Guinea-Bissau	SSA	7.174	8.655	1.222	9.877
Iran*	MENA	0.190	5.142	-5.748	-0.606
Kyrgyz Rep.	EECA	1.442	20.209	-17.896	2.313
Mongolia	EAP	1.748	2.673	-0.189	2.484
Morocco	MENA	0.119	-0.705	1.205	0.500
South Africa	SSA	4.019	1.370	1.491	2.861
Tanzania	SSA	2.204	6.203	0.297	6.500
Turkey*	EECA	2.352	-4.349	1.976	-2.373
Yemen	EAP	10.409	15.401	-1.721	13.680
Zambia	SSA	0.439	0.633	0.064	0.696
	Mean	5.937	4.595	1.640	6.236

Explaining poverty growth since mid-1990s, income (A) vs. inequality (B):
 Countries with poverty reduction, \$2.50 headcount [Source: Fosu(2010)]

Country	Region	Pov _g	A E _Y *dlnY	B E _G *dlnG	A + B Pred Pov _g
Azerbaijan	EECA	-34.310	-6.751	-10.520	-17.271
Brazil	LAC	-4.584	-2.916	-1.657	-4.573
Burkina Faso*	SSA	-0.251	-0.220	0.384	0.164
Burundi	SSA	-0.091	-0.403	0.004	-0.398
Cambodia	EAP	-0.950	-1.720	0.530	-1.189
Cameroon	SSA	-3.598	-3.553	-0.476	-4.028
CAR*	SSA	-0.585	3.331	3.724	7.054
Chile	LAC	-8.414	-2.864	-1.695	-4.559
China-Rur.	EAP	-2.576	-4.267	0.218	-4.049
China-Urb.	EAP	-8.945	-11.826	2.341	-9.485
Costa Rica	LAC	-5.367	-5.804	0.087	-5.717
Côte d'Ivoire*	SSA	-0.799	-4.468	5.227	0.759
Dominican Rep.	LAC	-0.384	-1.367	0.704	-0.663
Ecuador	LAC	-5.108	-6.359	0.681	-5.678
Egypt	MENA	-2.757	-2.929	1.272	-1.657
El Salvador	LAC	-3.202	-2.877	-1.130	-4.007
Estonia	EECA	-4.808	-8.786	6.054	-2.733
Ethiopia	SSA	-0.329	-0.862	-0.870	-1.732

Countries experiencing poverty reduction (\$2.50), continued

Ghana	SSA	-1.934	-2.827	0.374	-2.454
Honduras	LAC	-3.332	-2.816	0.015	-2.801
India-Rur.	SAS	-0.348	-1.555	0.362	-1.194
India-Urb.	SAS	-0.609	-1.348	0.625	-0.724
Indonesia-Rur.	EAP	-1.779	-4.790	0.492	-4.298
Indonesia-Urb.	EAP	-3.079	-4.432	0.461	-3.972
Jamaica	LAC	-3.934	-8.820	3.551	-5.269
Jordan	MENA	-7.169	-2.362	-2.226	-4.589
Kazakhstan	EECA	-0.434	0.660	-1.277	-0.617
Kenya	SSA	-2.337	-2.844	1.114	-1.729
Lao PDR	EAP	-0.569	-1.931	0.377	-1.554
Latvia	EECA	-14.682	-14.792	4.564	-10.228
Malaysia	EAP	-1.796	5.429	-7.437	-2.008
Mali*	SSA	-0.971	2.035	2.048	4.083
Mauritania	SSA	-1.784	-2.269	0.867	-1.402
Mexico	LAC	-10.397	-8.712	-0.225	-8.938
Moldova	EECA	-1.835	-2.745	0.442	-2.302
Morocco	MENA	-0.437	-0.412	0.538	0.126
Mozambique	SSA	-0.299	-0.339	-0.463	-0.802
Nepal	SAS	-1.127	-3.115	0.309	-2.806

Countries experiencing poverty reduction (\$2.50), continued

Nicaragua	LAC	-2.809	-2.267	-0.764	-3.031
Niger	SSA	-0.417	-1.239	-0.093	-1.332
Nigeria	SSA	-0.260	-0.017	-0.159	-0.177
Pakistan	SAS	-2.215	-5.260	0.704	-4.556
Panama	LAC	-1.391	-1.103	-0.634	-1.738
Paraguay	LAC	-2.662	0.596	-2.001	-1.405
Peru	LAC	-0.886	-3.547	1.684	-1.863
Philippines	EAP	-1.103	-1.536	0.243	-1.294
Poland	EECA	-28.956	-19.851	1.832	-18.018
Romania	EECA	-4.749	-14.568	2.463	-12.104
Russian Fed.	EECA	-12.270	-1.118	-6.746	-7.864
Senegal	SSA	-1.676	-1.048	-0.076	-1.123
Sri Lanka	SAS	-2.089	-4.051	2.819	-1.232
Swaziland*	SSA	-1.051	1.854	1.810	3.664
Thailand	EAP	-3.677	-2.382	-0.569	-2.951
Tunisia	MENA	-6.878	-5.910	-0.867	-6.777
Turkey	EECA	-1.273	-2.546	0.921	-1.625
Uganda	SSA	-0.982	-1.729	0.096	-1.633
Ukraine	EECA	-27.105	-10.807	-6.959	-17.766
Venezuela	LAC	-8.416	-7.359	-2.569	-9.928
Vietnam	EAP	-2.784	-4.122	0.097	-4.025
	Mean	-4.399	-3.570	0.010	-3.560

Explaining poverty cont'd: Countries experiencing poverty increases, \$2.50 headcount

Country	Region	Pov _g	E _Y *dlnY	E _G *dlnG	Pred Pov _g
Albania	EECA	0.473	-1.826	3.478	1.652
Argentina-Urb.	LAC	3.515	2.434	1.082	3.517
Armenia*	EECA	2.608	4.591	-5.798	-1.207
Bangladesh	SAS	0.069	0.147	-0.044	0.103
Belarus*	EECA	3.203	-11.339	7.023	-4.316
Bolivia	LAC	2.450	-1.833	4.943	3.110
Colombia*	LAC	0.543	-1.109	0.945	-0.164
Djibouti	MENA	13.644	15.438	3.060	18.498
Georgia	EECA	7.745	7.864	2.437	10.301
Guinea	SSA	0.367	-0.079	2.496	2.417
Guinea-Bissau	SSA	2.170	3.373	0.460	3.833
Iran	MENA	0.180	2.988	-2.717	0.271
Kyrgyz Rep.	EECA	5.284	10.554	-8.791	1.763
Lesotho*	SSA	0.728	1.319	-1.514	-0.195
Madagascar*	SSA	0.193	-0.381	-0.041	-0.423
Mongolia	EAP	1.008	1.566	-0.071	1.495
South Africa	SSA	0.870	0.678	0.749	1.427
Tanzania	SSA	0.346	3.091	0.003	3.094
Uruguay-Urb.	LAC	4.096	1.853	1.954	3.807
Yemen	EAP	7.417	8.991	-0.771	8.219
Zambia	SSA	0.046	0.082	-0.018	0.064
	Mean	2.712	2.305	0.422	2.727

Country Simulation Illustrations [Source: Fosu(2010)]

Tanzania: Linkage between GDP and Income Matters

Scenario	Link between PC GDP and Income	Contrib. of Income to Pov. (\$1.25)
Current Situation	Weak: Income growth=-4.3%, despite PC GDP growth=2.6% (annually)	6.2% (annually) - Rising poverty
Simulation	Strong: Let income growth=2.6%	-3.7% (annually) – Falling poverty

Cote d'Ivoire: Rising Inequality Hurts

Scenario	Income Inequality	Poverty (\$1.25)
Current Situation	Rising by 4.0% annually	Rise by 1.4% (5.6% pred.) annually
Simulation	No rise	Fall by 7.9% annually

Ethiopia: Falling Inequality Helps

Scenario	Income Inequality	Poverty (\$1.25)
Current Situation	Falling by 2.9% annually	Fall by 4.4% (6.0% pred.) annually
Simulation	No fall	Fall by only 1.8% annually

Country Simulation Illustrations continued

Burkina Faso: Low Income is a Bane

BURKINA FASO	Income Inequality (Gini Coefficient)	GDP growth	Income	Income Elast.	Inequality Elast.	Poverty Headcount Ratio (\$1.25)
Scenarios						
Current Situation	- Initial: 0.51 - Falling 2.75% annually	1.5% annually	Lower Income (\$40 monthly)	-0.794	0.260	Fall by 2.6% annually
Simulation			<u>The same as Chile's</u>	-3.82	6.51	Fall by 23.6% annually
CHILE						
Current Situation	- Initial: 0.55 - Falling 0.57% annually	1.5% annually	Higher Income (\$387 monthly)	-3.419	5.779	Fall by 8.2% annually

Summary & Conclusion

- Changing trends in SSA's econ. growth and poverty record
- Growth has mattered a great deal
- Indeed, **on average**, growth has been the main driver of poverty reduction globally
- BUT, there are major differences across countries
- The relationship between GDP and income has mattered
- Initial inequality has mattered
- Initial income has mattered (low-income ctrys. need help!)
- Income growth has mattered
- Inequality changes have mattered
- SSA's record on poverty most recently is comparable to SAS's (and India's), despite the large difference in PC growth rates
- However, SSA's recent brisk march toward prosperity must continue

Thank you!