

# **The Changing Structure of Africa's Economies**

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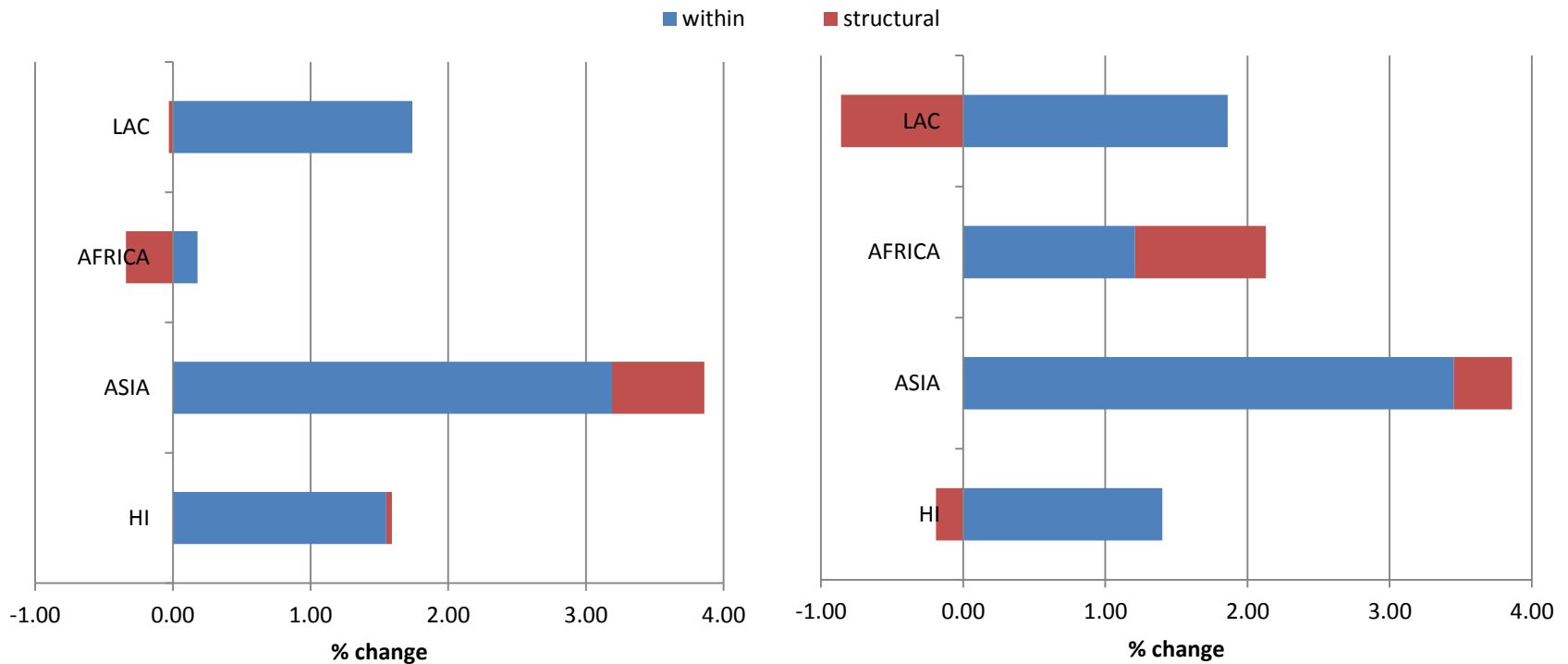
**Based on joint work with Ken Harttgen, Dani Rodrik, and Inigo Verduzco-Gallo. Thanks to DFID/ESRC and the African Development Bank for financial support.**

# Main Messages

1. Post-2000 Structural Change in Sub-Saharan Africa has been growth enhancing
2. Both commodity prices and governance have played an important role in facilitating structural change (Ethiopia leather industry)
3. Apart from movement across sectors, important changes within agriculture – from self-employed to agricultural employee
4. Heterogeneity both across countries and across sub-populations within countries (women and youth) has important policy implications
5. Must include employment/unemployment

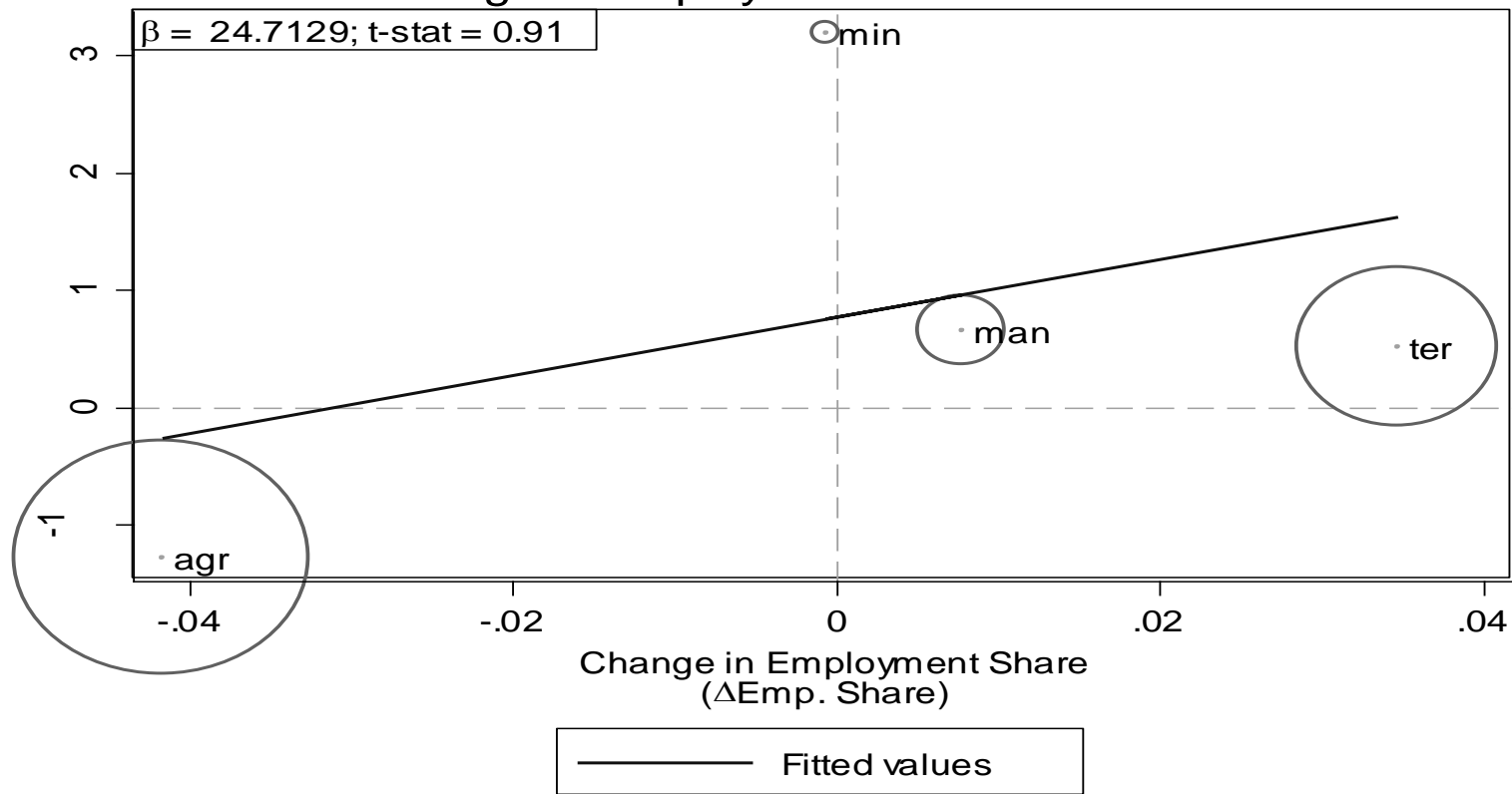
# Structural Transformation in Africa: McMillan & Rodrik Update

Decomposition of productivity growth by country group  
1990-99 2000-10



# Patterns: Africa 2000-2010

Correlation Between Sectoral Productivity and Change in Employment Shares in Africa



\*Note: Size of circle represents employment share at beginning of period

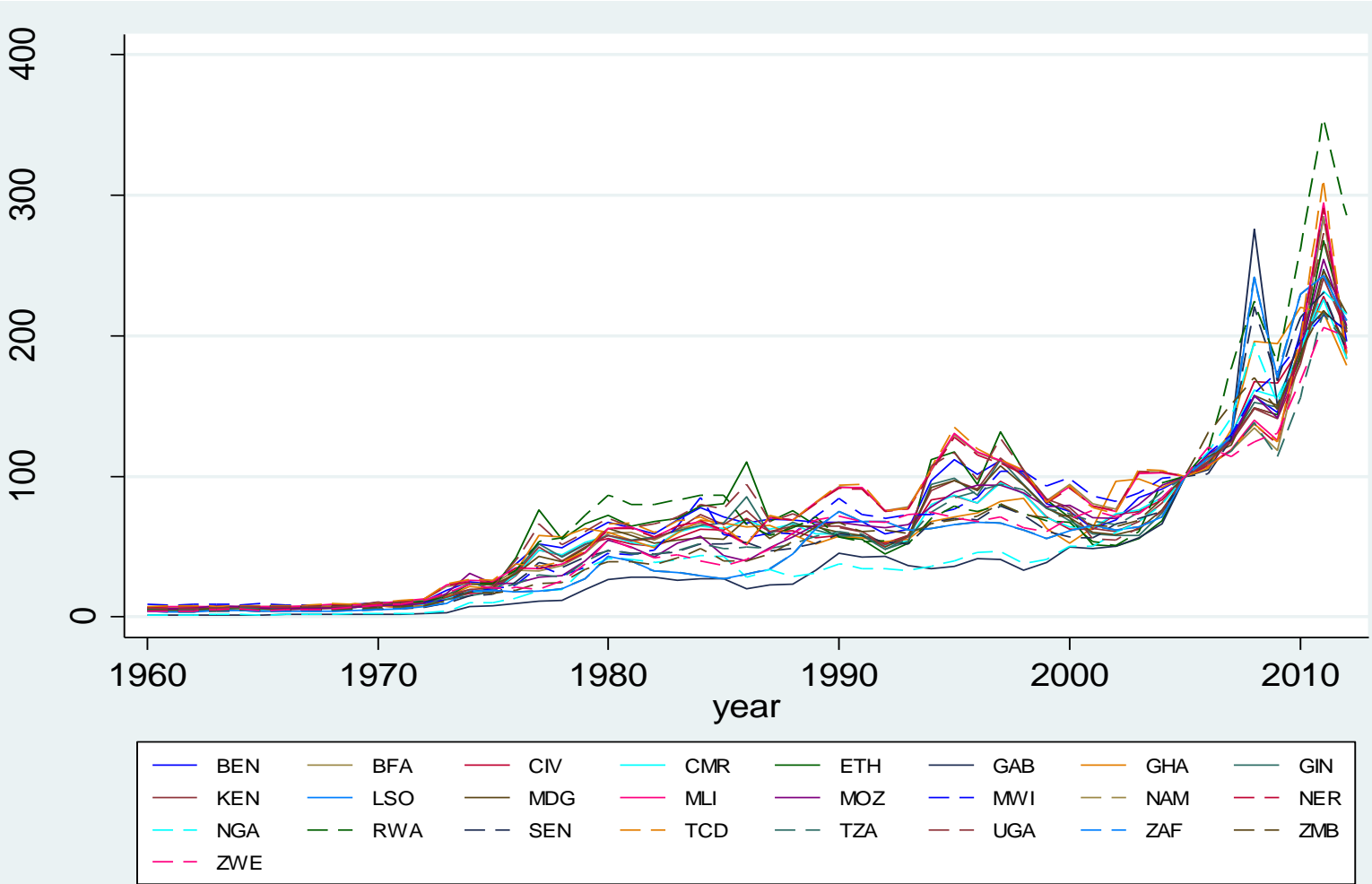
\*\*Note:  $\beta$  denotes coeff. of independent variable in regression equation:  
 $\ln(p/P)_{it} = \alpha + \beta \Delta \text{Emp. Share}_{it}$

Source: Authors' calculations.

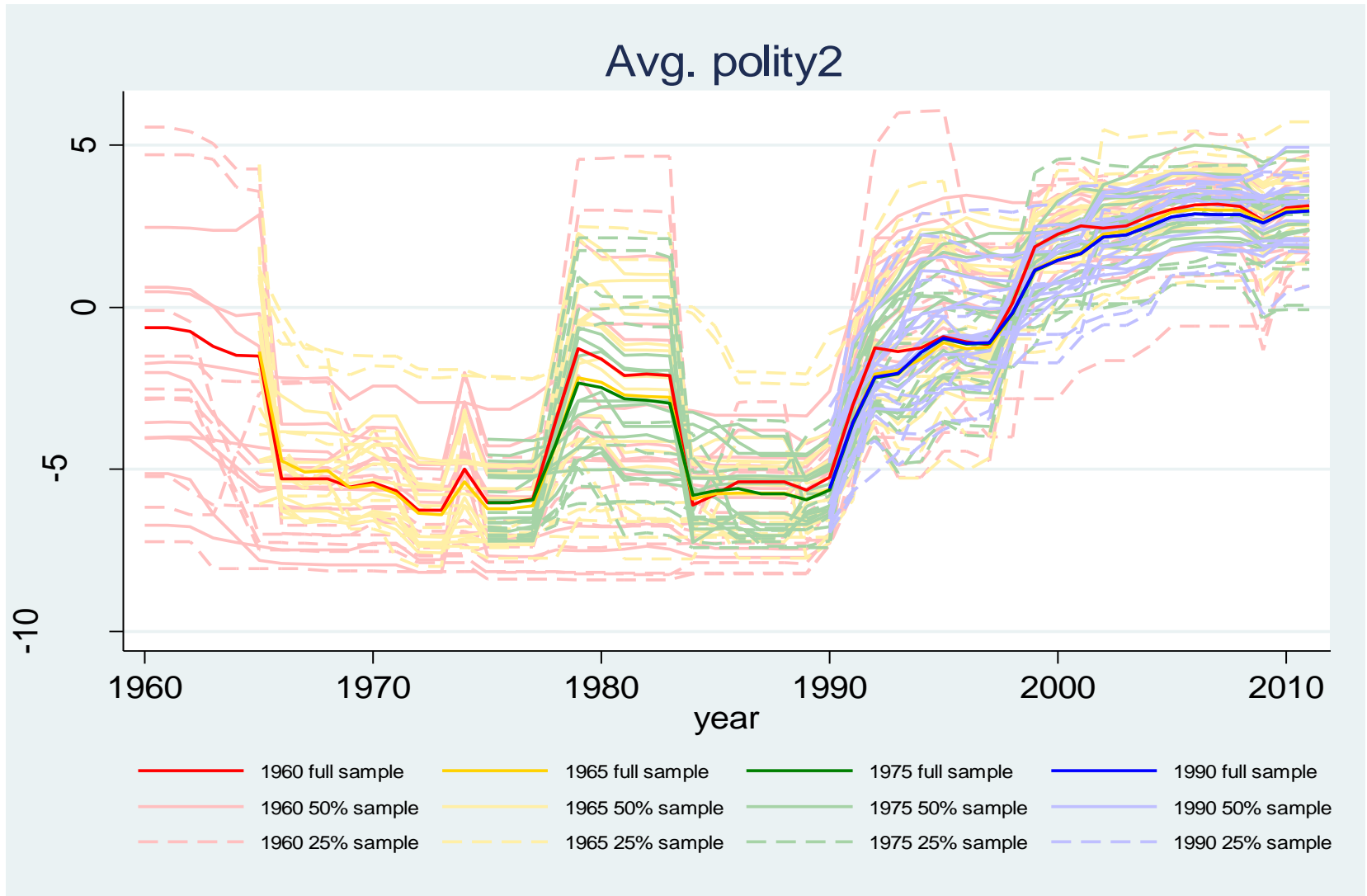
# Explaining the Reversal

- 1990s still going through adjustment
- Commodity Prices
- Fewer civil wars (Moz, Rwanda)
- Political change – governments more accountable

# Commodity Prices 1960 -2010



# Governance Africa 2000-2010



# Armed Conflict SSA 1960-2008

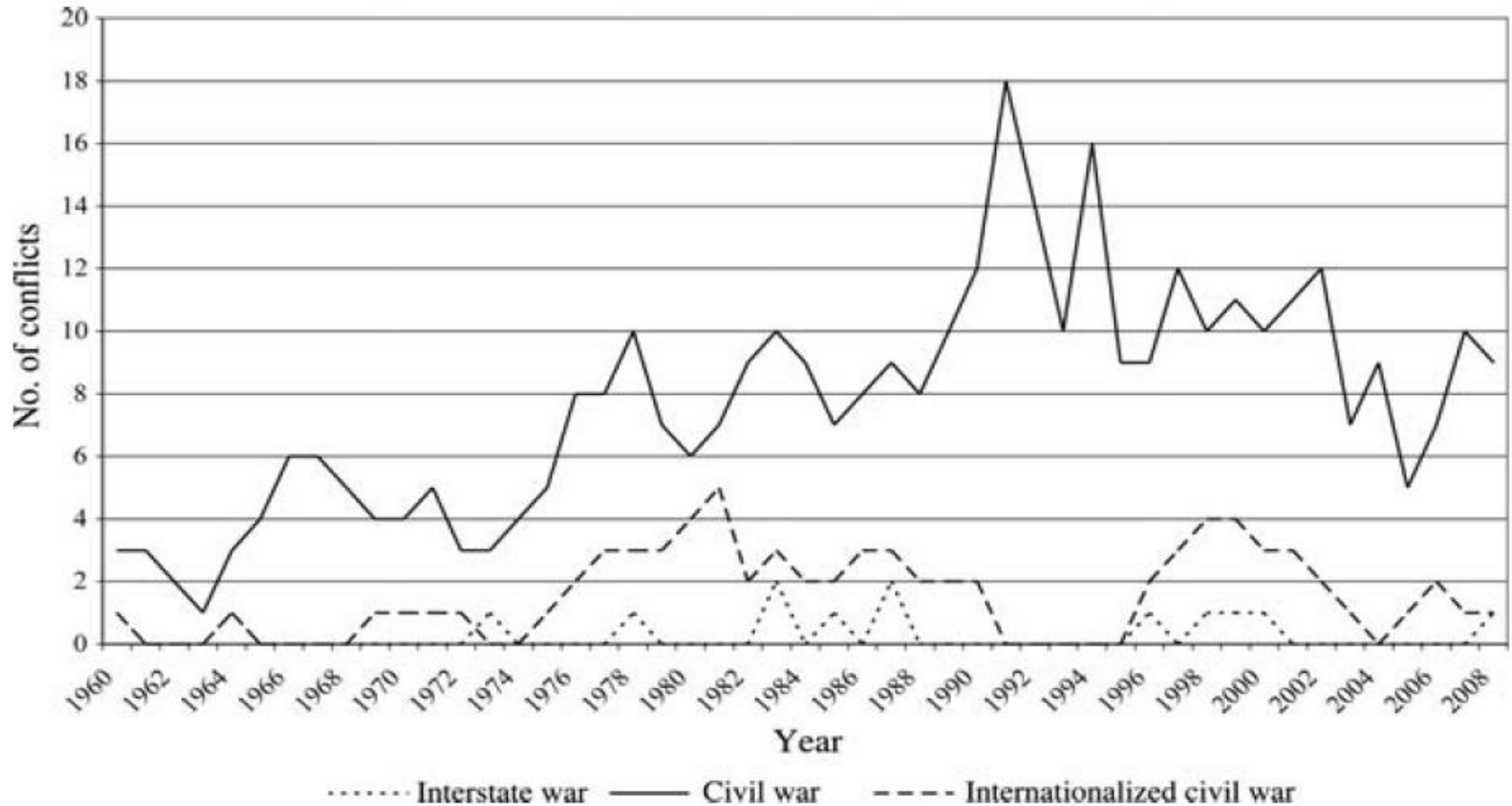


Figure 1. Armed conflicts in sub-Saharan Africa by type, 1960–2008.



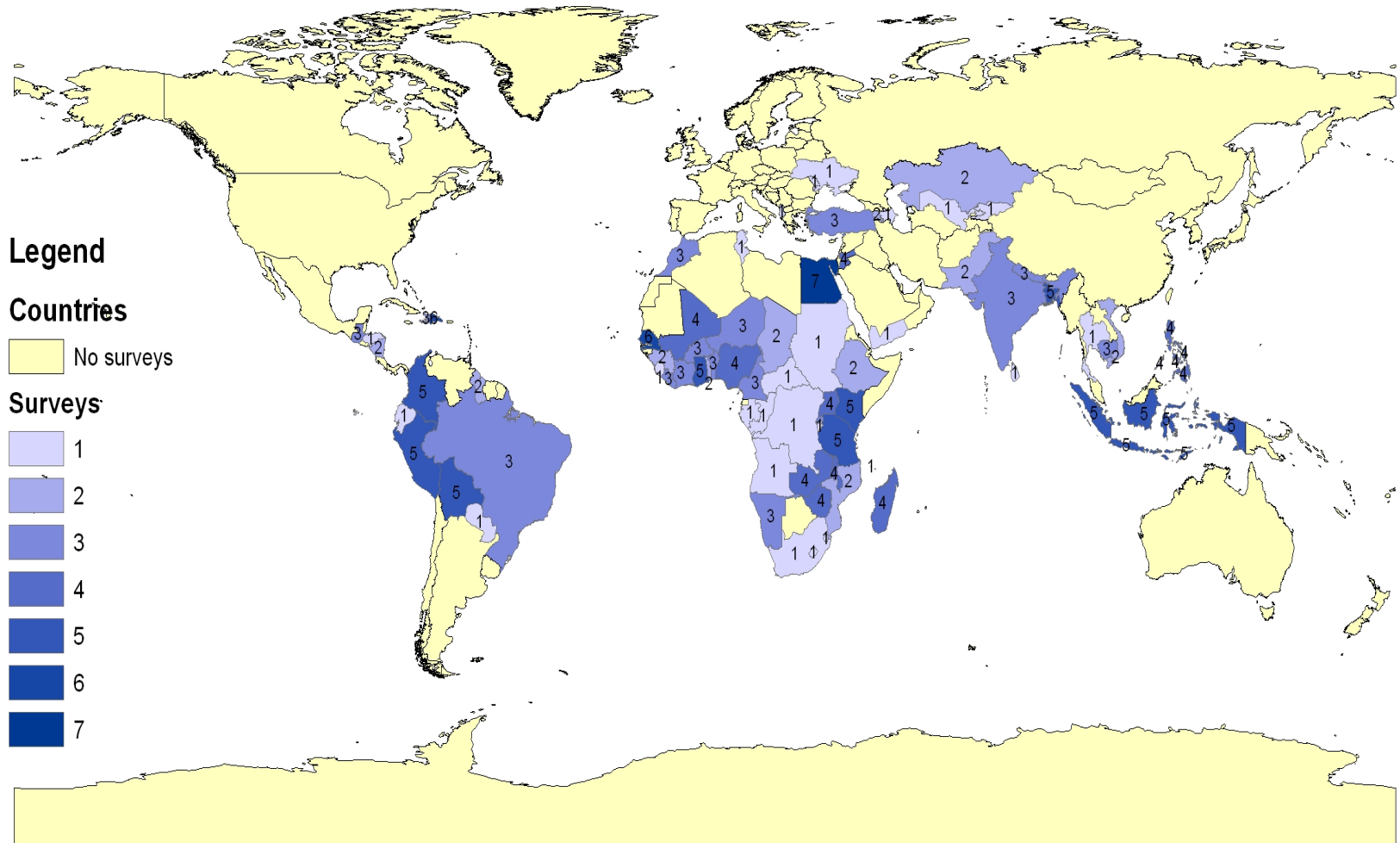
# Summarizing Results from Macro Data

- Roughly half of Africa's recent growth can be attributed to structural change
- The expansion in services is only sustainable if commodity prices remain high
- High skilled services cannot (now) be engine of growth in Africa – not enough skilled labor
- Manufacturing has potential but is still very much lagging (Ethiopia shoes, Blue Skies Ghana)

# Digging Deeper: Using DHS data to understand structural changes in Africa

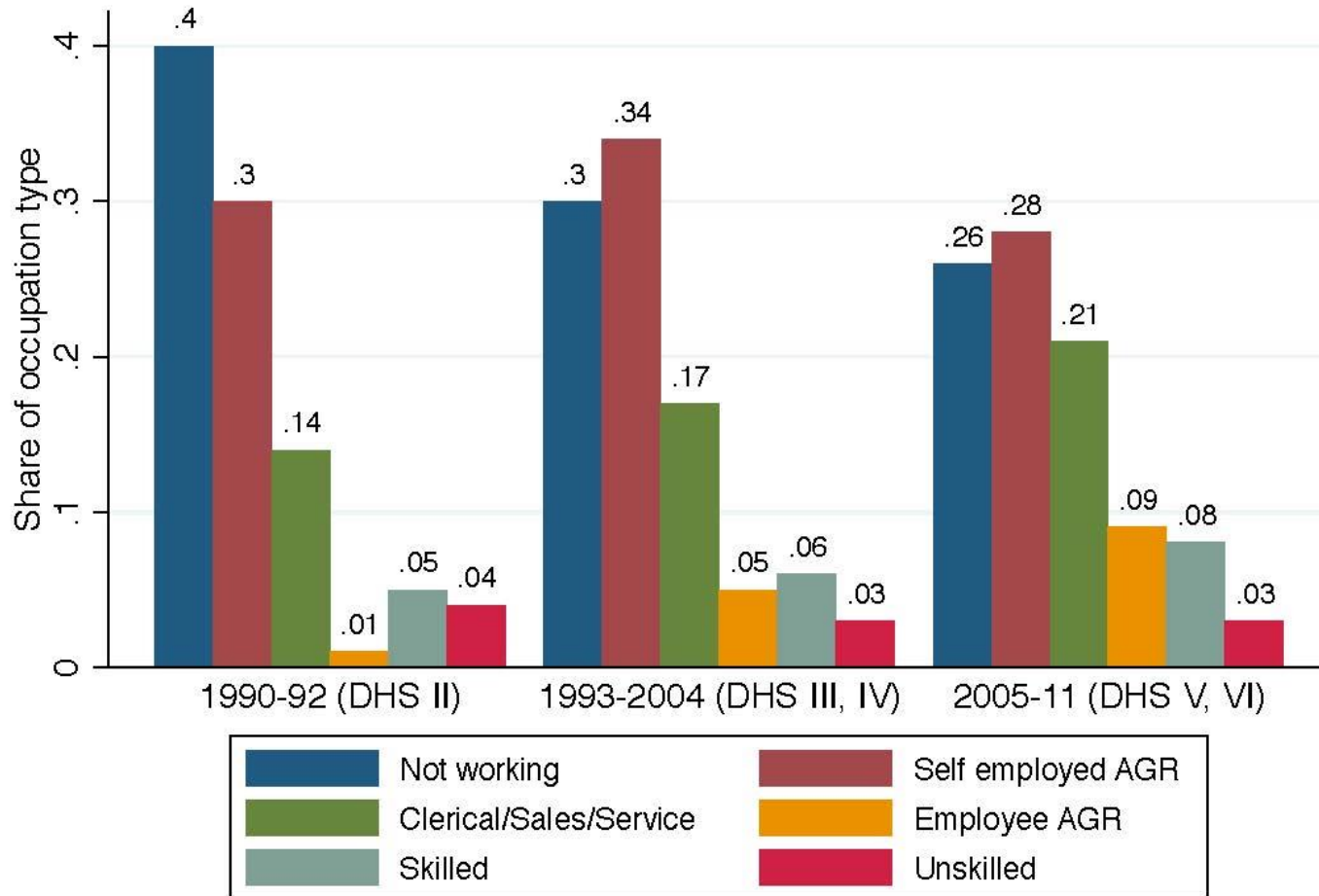
- Occupations include: self-employed agriculture, agricultural employee, sales, clerical, services, professional, skilled and unskilled manual labor and unemployed.
- Importantly, surveys are consistent across countries and over time and take into account the seasonality of agriculture.
- Can distinguish between rural/urban, gender, youth for 25 countries in Sub-Saharan Africa.
- Determine to what extent growth has been inclusive and the relative importance of commodity prices, politics, and other determinants of structural change

# DHS regions



Source: Günther and Harttgen 2013.

# Changes in Occupational Structure Across Time



Sample size: 1990-1992: n=13; 1993-2004: n=45; 2005-2011: n=26.

# Socio-Economic Determinants of Occupational Structure: Full Sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total sample	Total sample	Total sample	Total sample	Total sample	Total sample	Total sample	Total sample
VARIABLES	Agriculture (employee or self employed)	Agriculture self employed	Agriculture employee	Professional	Clerical or sales or service	Skilled manual	Unskilled manual	Not working
No education	0.0811*** (0.00128)	0.0643*** (0.00121)	0.0169*** (0.000660)	-0.0538*** (0.000542)	-0.0446*** (0.00112)	-0.0186*** (0.000720)	-0.000868* (0.000465)	0.0355*** (0.00127)
Age 15-24	-0.0490*** (0.00117)	-0.0478*** (0.00111)	-0.00124** (0.000560)	-0.0348*** (0.000457)	-0.0477*** (0.00102)	-0.00608*** (0.000677)	0.000171 (0.000467)	0.130*** (0.00123)
Urban	-0.359*** (0.00107)	-0.301*** (0.00102)	-0.0585*** (0.000507)	0.0468*** (0.000691)	0.173*** (0.00123)	0.0526*** (0.000824)	0.0300*** (0.000590)	0.0401*** (0.00124)
Female	-0.160*** (0.00139)	-0.100*** (0.00133)	-0.0593*** (0.000778)	-0.0314*** (0.000748)	0.0903*** (0.00117)	-0.0656*** (0.000978)	-0.0210*** (0.000660)	0.185*** (0.00113)
Log GDP per capita	0.0157*** (0.00551)	-0.0281*** (0.00545)	0.0124*** (0.00216)	0.0368*** (0.00285)	-0.0306*** (0.00494)	0.0639*** (0.00338)	0.0194*** (0.00239)	-0.0763*** (0.00596)
Polity IV score	0.00626*** (0.000289)	0.00406*** (0.000284)	0.00220*** (0.000118)	0.00177*** (0.000128)	0.00191*** (0.000240)	0.00116*** (0.000166)	-0.00547*** (0.000150)	-0.00612*** (0.000294)
Observations	791085	791085	791085	791085	791085	791085	791085	791085
R-squared	0.310	0.327	0.192	0.065	0.131	0.047	0.054	0.241
Country FE	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

# Caveat: Important X-Country Heterogeneity

Determinants of Self-Employment in Agriculture for Selected Countries							
Country	Gender	Urban	Noedu	Youth	Last Year	Base Year	Last Year
Ethiopia	Female	-.5345*** (.00584)	.1189*** (.00678)	-.01605*** (.00581)	-.08366*** (.00646)	2000	2011
Ethiopia	Male	-.76325*** (.00567)	.11602*** (.00523)	.02476*** (.00497)	-.00515 (.00631)	2000	2011
Kenya	Female	-.38387*** (.00582)	.05332*** (.01023)	-.04883*** (.00703)	.01095 (.00896)	1993	2009
Kenya	Male	-.43022*** (.00714)	.15428*** (.0176)	.05668*** (.01005)	-.19633*** (.01223)	1993	2009
Mozambique	Female	-.38148*** (.00516)	.12787*** (.00438)	.00892* (.00455)	-.61828*** (.00454)	1997	2011
Mozambique	Male	-.30515*** (.00899)	.12136*** (.0138)	-.01079 (.01017)	-.30314*** (.01194)	1997	2011
Rwanda	Female	-.53303*** (.0068)	.08322*** (.0035)	-.057*** (.00399)	.06189*** (.0044)	1992	2010
Rwanda	Male	-.56*** (.00932)	.12894*** (.00999)	-.09704*** (.00896)	.02584** (.01006)	1992	2010
Uganda	Female	-.60444*** (.00616)	.10401*** (.00633)	.01623*** (.00561)	-.0887*** (.00815)	1995	2011
Uganda	Male	-.61303*** (.00971)	.07781*** (.01869)	.039*** (.01043)	-.02814** (.01366)	1995	2011
Population Weighted Averages for All 25 Countries							
	Female	-.4152329	.1180172	-.0036134	.0000313		
	Male	-.4550147	.1314593	.011321	-.0876881		

# Preliminary Results from DHS Data

- Broad patterns are consistent with macro data.
- Growth appears to be inclusive in so much as has had quantitatively more important positive effects in rural areas (caveat, may be increasing rural urban migration).
- Women much more likely to be unemployed and much less likely to be employed in agriculture.
- Youth much more likely to be unemployed across the board but problem more severe in urban areas.