Trade, Jobs and Growth in Africa: An empirical investigation of the export-led jobless growth hypothesis

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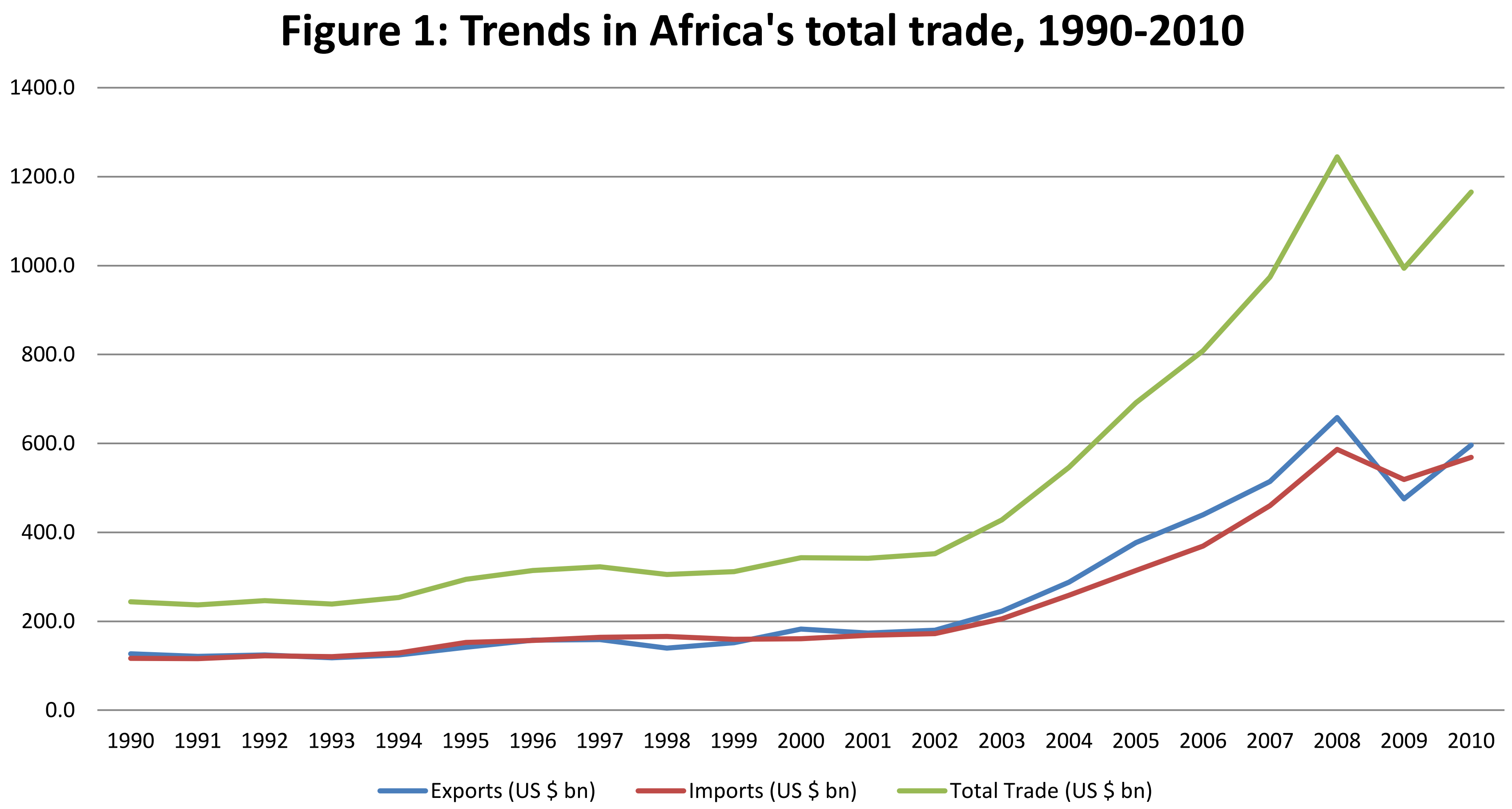
Motivation

- A decade of strong growth in Africa
  - Driven mainly by oil and mineral exports
  - … but also by rising prices of key agricultural exports
  - … and growth in domestic demand.
- However, job creation (3% p.a.) has trailed far behind GDP growth (5.4% p.a.) and even farther behind export growth (18.5% p.a.)
  - Rising unemployment among the youth
  - … and mature workers
- Export-led jobless growth in Africa?

Outline of presentation

- Analysis of trends
  - In trade (exports)
  - In GDP growth
  - In employment
- Empirical test of the export-led jobless growth hypothesis
- Findings and discussion

Rapid increase in Africa’s trade since 2002…



But picture is not as positive when we look beyond aggregates…

- A handful of countries (SA, Egypt, Morocco, Tunisia) and an even smaller set of products (the 3Cs) dominate Africa's exports
- Exports have become even more concentrated
  - Increase in aggregate concentration ratio from 0.35 in 2000 to 0.48 in 2008
  - Africa's natural resource exporters increasingly pushed into the raw materials corner

- 4 of the 5 largest exporters are oil exporters (accounting for over half of Africa's merchandise exports
- Oil and gas represent 55% of exports; top 10 products account for over 80% of total exports
- Exports equally concentrated in terms of markets.

Figure 3: Africa's top 15 exporters (2005-10 averages)

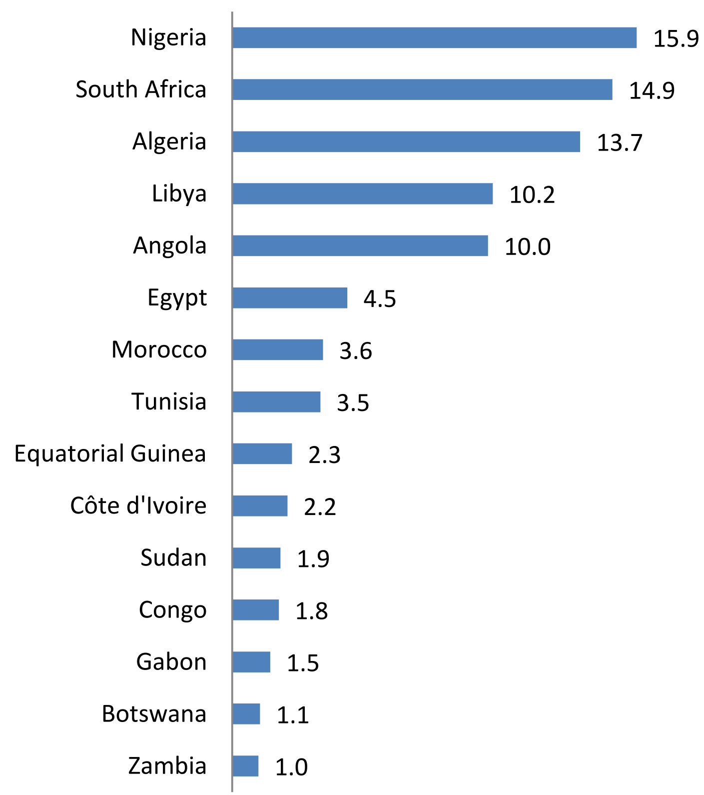
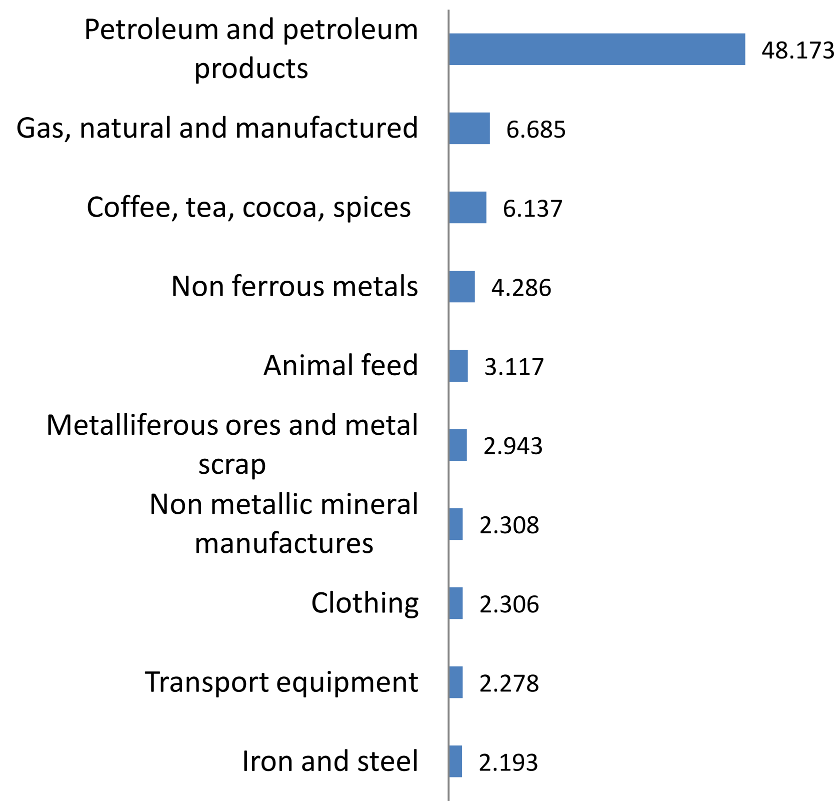


Figure 4: Africa's top 10 products (2005-10 average)



Drivers of export growth

- External demand rather than trade policy reforms
  - BRIC's share more than doubled from 6.9% in 2004 to 14.5% in 2010
  - Significant decline in tariffs in a few countries

Trends in real GDP growth

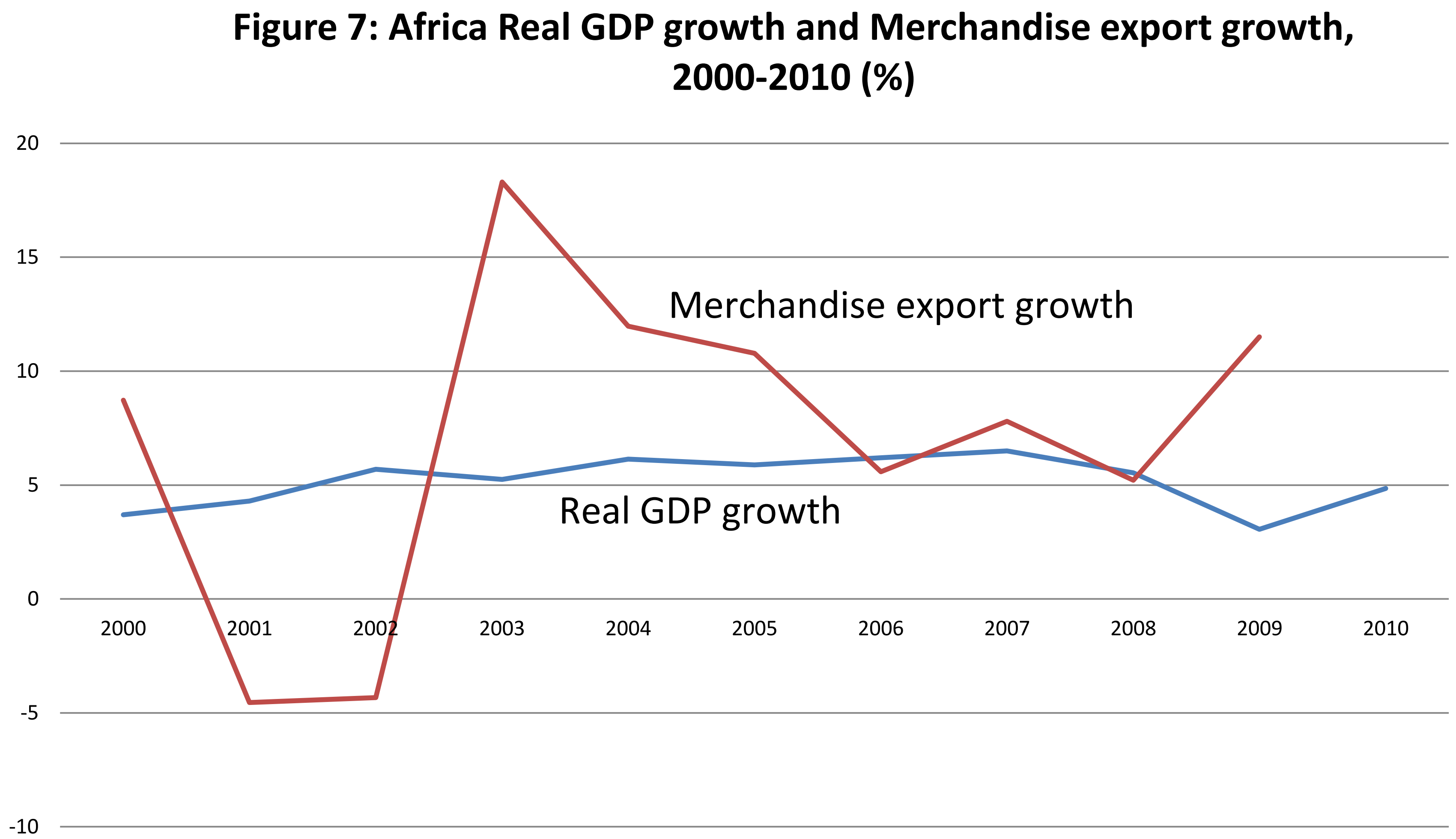
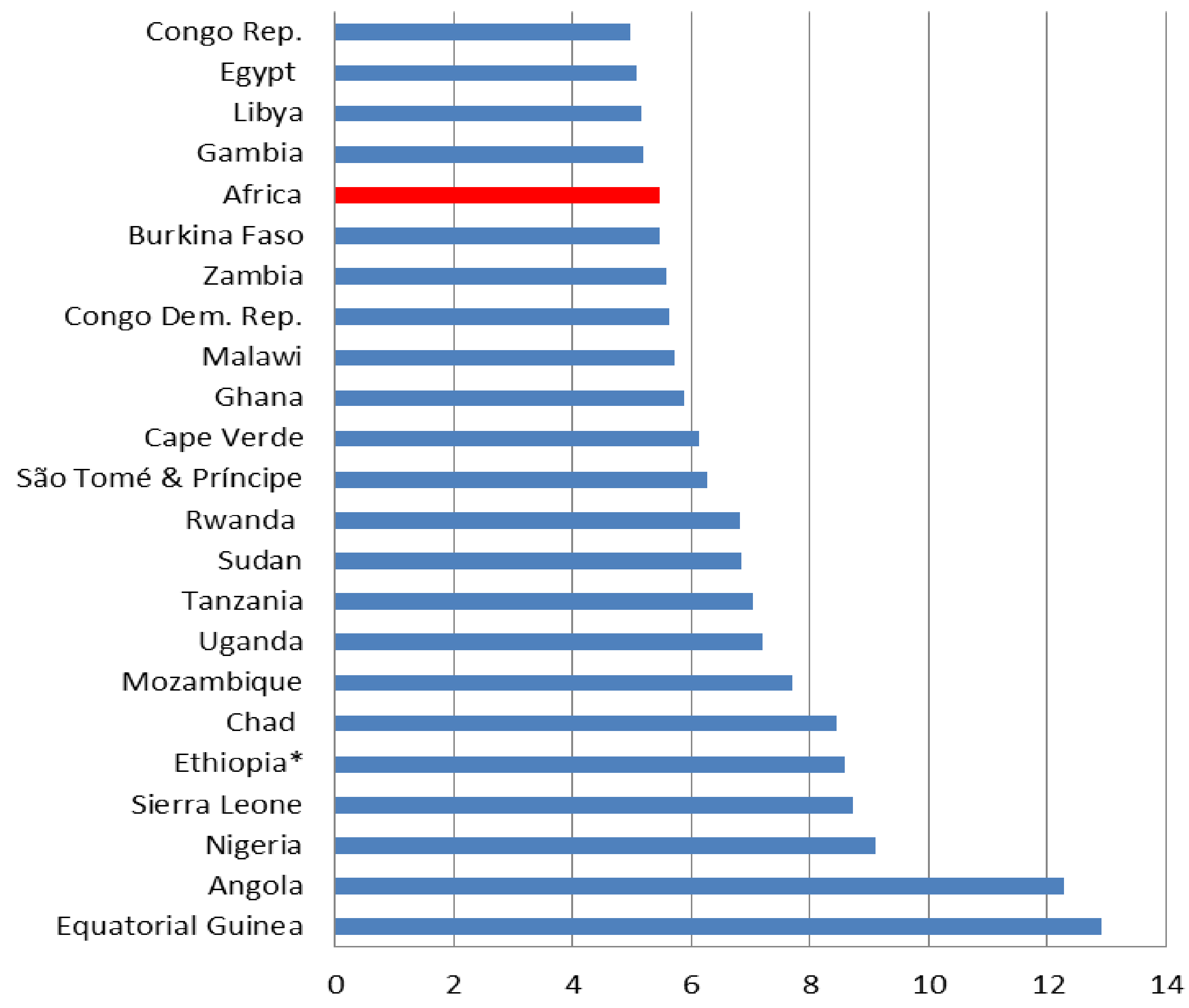


Figure 8: Africa's top growing economies, 2002-2010 average (%)



Country-wise correlation between export growth and GDP growth

- Positive but not significant for Africa (nor for SSA, nor for North Africa)
- Limited support for export-led growth hypothesis.
- Oil exporters like Angola, Gabon, and Nigeria among the countries show strong correlation between GDP growth and export growth.

Table 1: Correlation between real GDP growth and growth rate of merchandise exports

Country/region	Correlation coefficient	t-stat	Significance
Africa	0.393	1.111	NS
North Africa	0.395	1.214	NS
SSA	0.251	0.734	NS
Algeria	0.010	0.029	NS
Angola	0.902	5.904	***
Botswana	0.794	3.688	***
Cameroon	0.620	2.237	**
Cote d'Ivoire	0.358	1.086	NS
Egypt	0.493	1.603	*
Ethiopia	0.228	0.662	NS
Gabon	0.458	1.459	*
Ghana	0.212	0.615	NS
Guinea-Bissau	0.011	0.030	NS
Kenya	0.153	0.438	NS
Lesotho	-0.109	-0.309	NS
Madacascar	0.648	2.407	**
Malawi	-0.101	-0.287	NS
Mauritius	0.120	0.341	NS
Morocco	-0.194	-0.559	NS
Mozambique	0.484	1.564	*
Namibia	-0.011	-0.032	NS
Nigeria	0.625	2.263	**
Rwanda	0.160	0.459	NS
Senegal	0.021	0.059	NS
Seychelles	0.207	0.599	NS
Sierra Leone	-0.097	-0.275	NS
South Africa	0.072	0.204	NS
Tunisia	0.663	2.503	**
Uganda	0.085	0.240	NS
Zambia	-0.295	-0.874	NS
Zimbabwe	0.894	5.630	***

Trends in Employment across Africa

- Total employment increased at 3% p.a. between 1991 and 2007
- Faster increase in female job creation
- Decline in M/F ratio from 1.55 (during 1991-95) to 1.48 (during 2003-07)

Figure 9: Evolution of total employment in Africa, 1991-2007

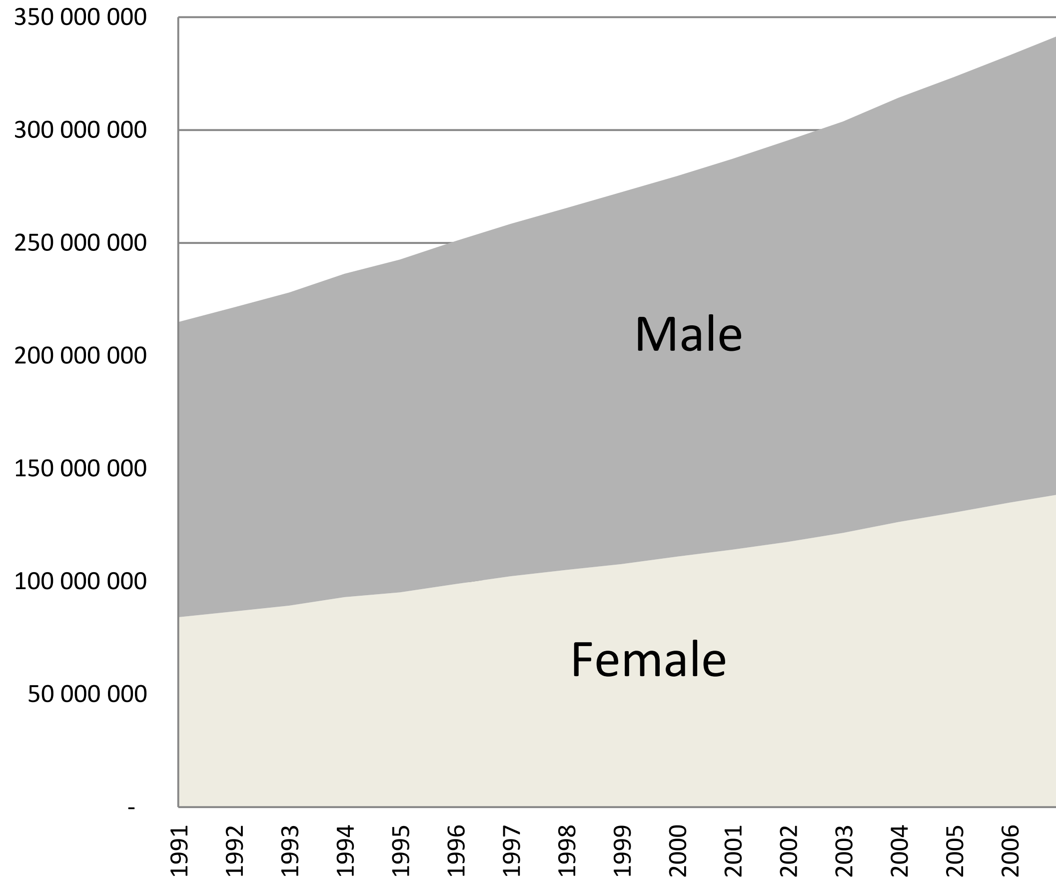
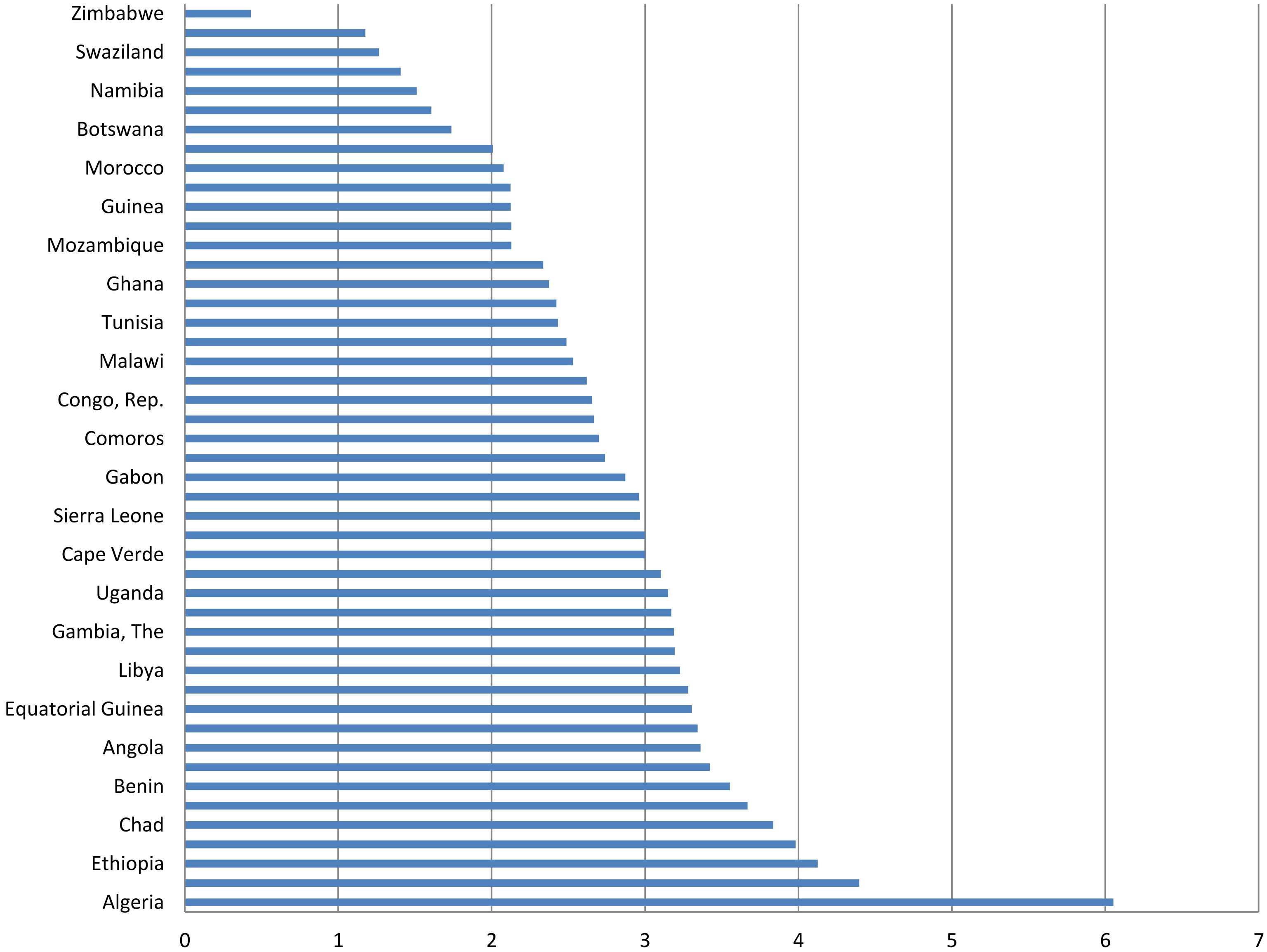


Figure 10: Employment growth by country, average over 2000-07 (%)



Employment by sector and sex

Table 2: Distribution of employment shares across sectors and sex (recent years)*				
Sector's share in total employment	Total	Male	Female	M:F ratio
Agriculture	0.516	0.480	0.567	0.847
Industry	0.121	0.156	0.074	2.106
Of which manufacturing	0.075	0.080	0.067	1.200
Services	0.349	0.352	0.345	1.022

Table 3: The best and worst in gender balance in employment

(Ratios of male to female employment averaged over 2000-07)

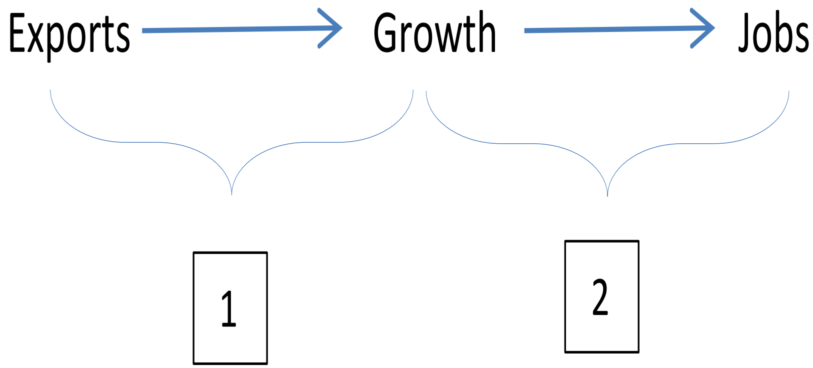
Mozambique	0.77		Egypt, Arab Rep.	3.77
Rwanda	0.88		Libya	3.54
Burundi	0.91		Morocco	3.00
Sierra Leone	0.93		Tunisia	2.89
Tanzania	1.02		Sudan	2.48
Malawi	1.03		Algeria	2.35
Lesotho	1.04		Cote d'Ivoire	2.27
Ghana	1.04		Niger	2.08
Chad	1.06		Mauritius	2.04
Swaziland	1.07		Equatorial Guinea	1.97
Uganda	1.07		Nigeria	1.82
Madagascar	1.08		Mali	1.64
Mauritania	1.09		Togo	1.59
Burkina Faso	1.10		Guinea-Bissau	1.58
Guinea	1.11		Congo, Dem. Rep.	1.56

Best achievers in gender disparity reduction
(% change in M:F ratio between 1991-95 and 2003-2007)

Libya	**-30.6279**
Algeria	-28.0421
Tunisia	-19.5511
Sudan	-19.2081
Chad	-13.3625
Ethiopia	-13.325
Mali	-12.7316
Botswana	-12.4963
Egypt, Arab Rep.	-12.1132
Lesotho	-10.9014
Cape Verde	-10.0546
South Africa	-9.03687
Mauritania	-7.41132
Morocco	-6.42612
Nigeria	-6.04122

Empirical analysis

Figure 11: The export-led jobless growth hypothesis



Model

[1] $GR = \beta_0 + \beta_1 INV + \beta_2 EDUC + \beta_3 GCON + \beta_4 XG + \beta_5 GPPPC_0$

[4] $EMPLGR = \gamma_0 + \gamma_1 INFL + \gamma_2 GR$

Estimation procedure: We use the fixed-effects IV method with bootstrapped SEs.

Results

$$\underset{(0.278)}{EMPLGR = 2.515} - \underset{(0.035)}{0.0005\,INFL} + \underset{(0.016)^{**}}{0.036\,GR}$$

R-sq. within = 0.007, no. of obs. = 280, no. of groups = 47

- GDP growth has a positive significant effect on job creation. However, the effect is very small
  - A 1 p.p. increase in real GDP per capita causes employment growth to increase by 0.036 p.p.

Results, cont.

Table 6: Regression Results of growth equation

Dependent variable: Real GDP growth (g)			
Variable	*Coefficient*	*z-stat*	*Significance*
INV	0.214	1.90	**
EDUC	0.041	1.38	NS
GCON	-0.140	-1.50	Sig. at 15%
XG	0.058	3.95	***
Time	-0.093	-0.08	NS
R-sq (within) = 0.229			
No. of observations = 327			
No. of groups = 47			

Conclusion

- Little evidence that export-led growth has caused employment growth to increase strongly enough to generate inclusive development
- Export-led jobless growth hypothesis is confirmed to hold true.
- Other signs in support of the hypothesis:
  - Employment increased at 3% p.a. during 1991-1999; 2.9% in 2000-2007.
  - Corr(export growth, GDP growth) = 0.663 (sig. at 1%)
  - Corr(empl. growth, GDP growth) = 0.268 (sig. at 5%)
  - Corr(empl. growth, export growth) = 0.185 (sig. at 10%)

Policy implications

- Relationship between jobs and growth is not automatic. Therefore, need to focus attention on job creation rather than GDP growth per se.
- Need to promote the services sector and labor-intensive manufacturing and processing activities within a strategy of industrial diversification.