

Tracking Economic Transformation

The African Transformation Index (ATI)



Africa is growing rapidly; but will it last?

**Will the growth make our countries
internationally competitive and resilient?**

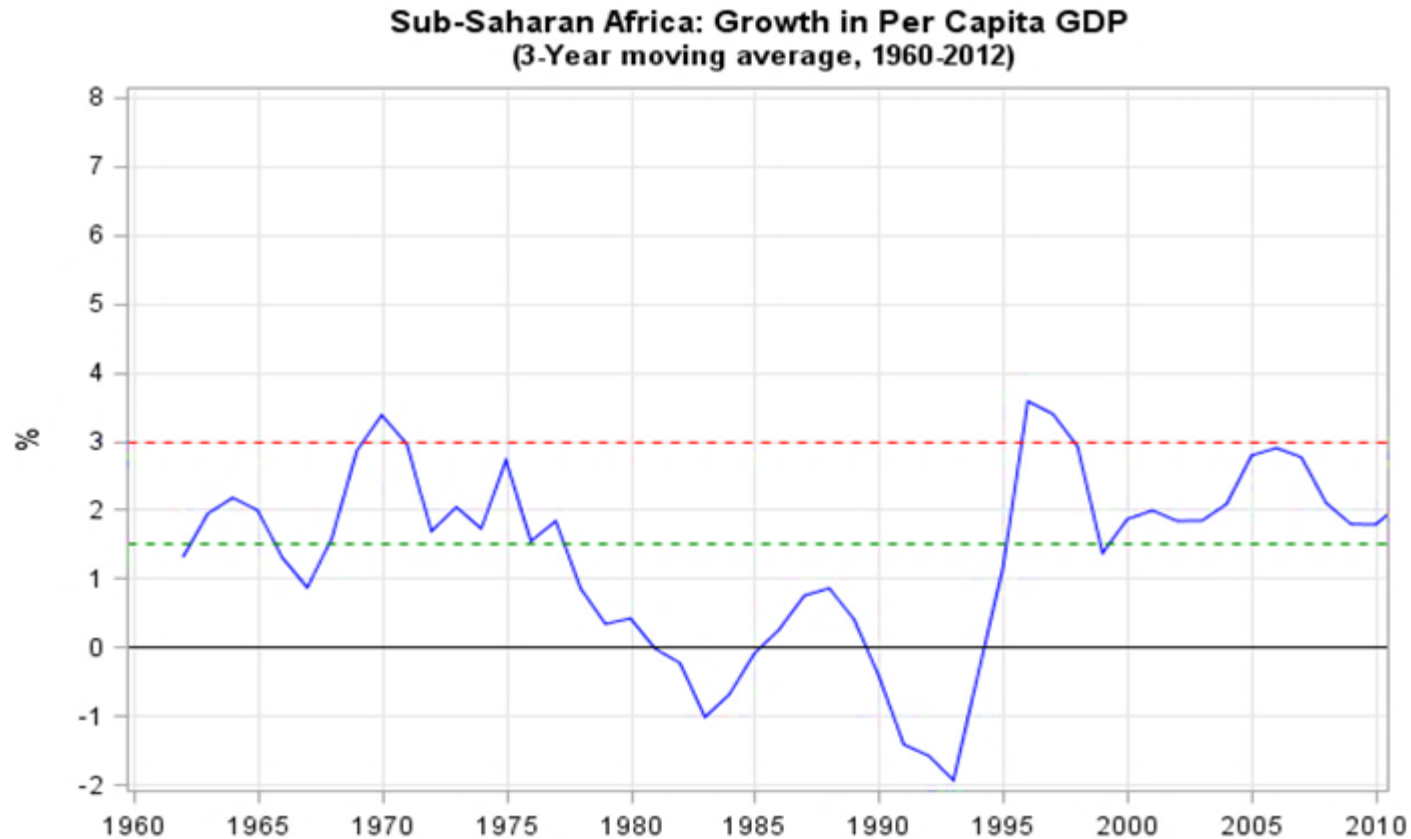
**Will the growth expand formal employment
to bring about shared prosperity?**

AFRICA'S GROWTH REVISITED

Africa had a period of rapid growth before but it did not last

The rapid growth was followed by two decades of economic collapse.

How do we ensure that this time the growth continues?



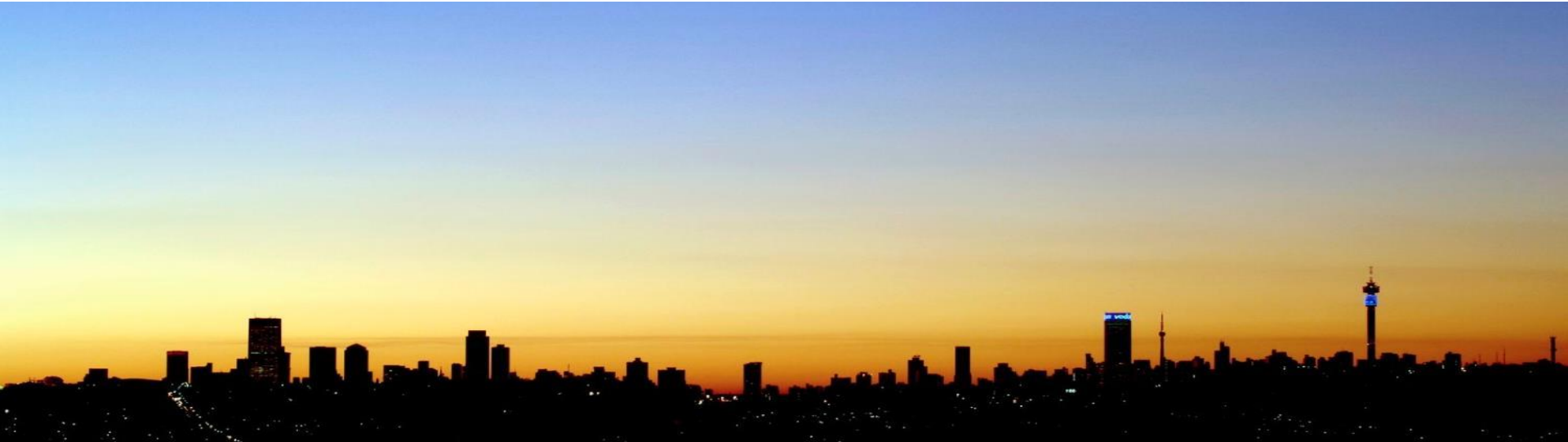
WHAT IS TO BE DONE?

BUILD ON RECENT POLICY IMPROVEMENTS;

PURSUE ECONOMIC TRANSFORMATION

Economic Transformation = Growth with DEPTH

- **D**iversification of economic production and exports
- **E**xport competitiveness
- **P**roductivity increases
- **T**echnological upgrading
- **H**uman well-being improvements



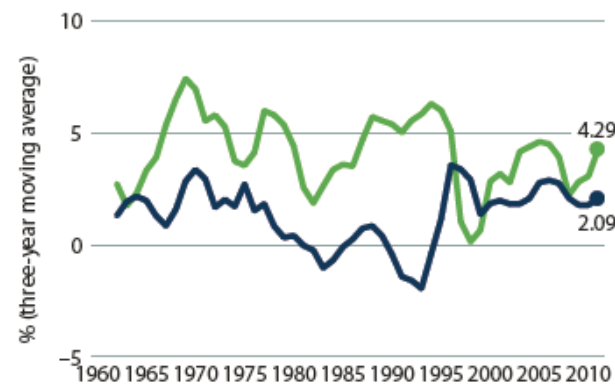
TRANSFORMATION RECORD

Sub-Saharan Africa vs. Comparators (1)

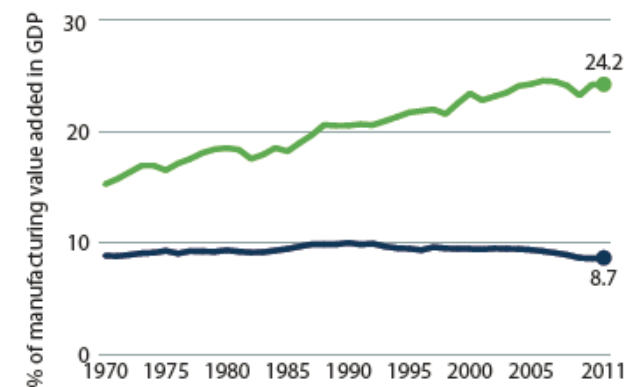
Figure 1 Growth with DEPTH for transformation

— Sub-Saharan Africa — Earlier transformers

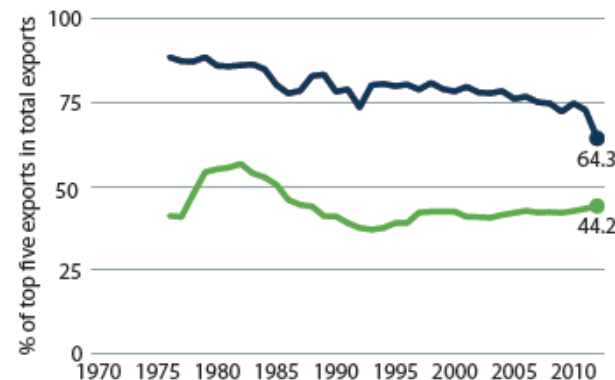
GDP per capita growth



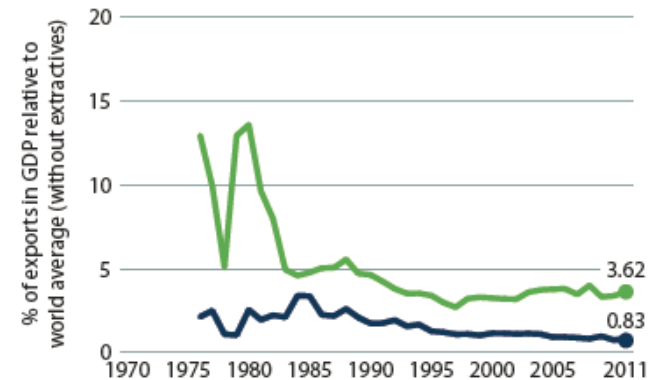
Diversity in production



Diversity in exports



Export competitiveness



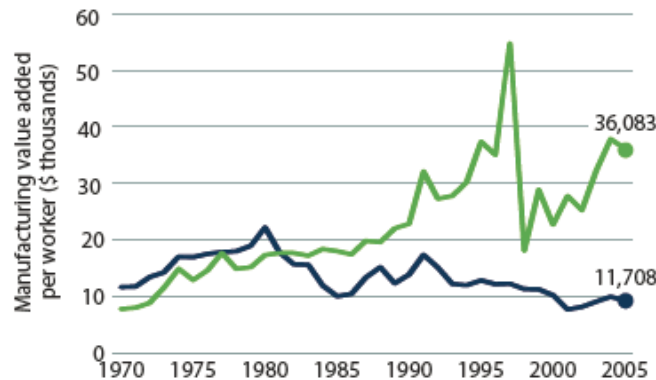
African countries
have not
transformed in
more than 40
years

TRANSFORMATION RECORD

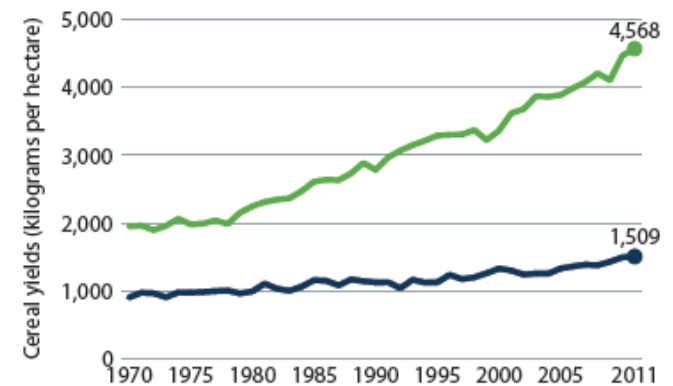
Sub-Saharan Africa vs. Comparators (2)

Whether we look at the period of state-led import-substitution or the subsequent period of “structural adjustment” with liberalizations, privatizations, and “rolling-back” of the state.

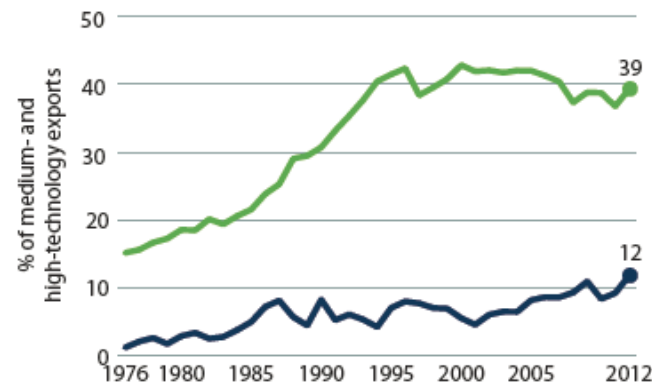
Productivity in manufacturing



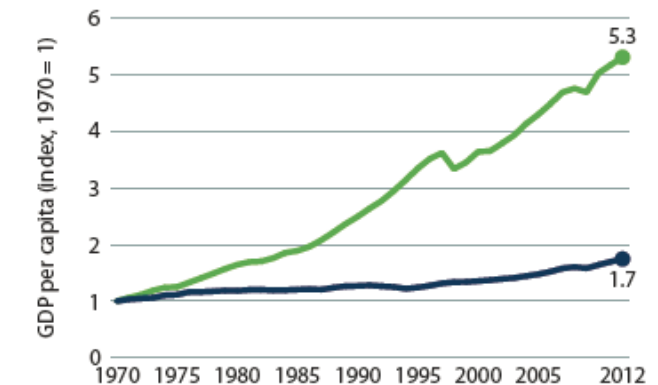
Productivity in agriculture



Technological upgrading



Human well-being



Economic Transformation Index

Each of the **DEPTH** indicators is constructed as an index, in most cases by aggregating sub-indicators.

The resulting five indexes are combined to form the

Africa Transformation Index (ATI).

ATI: Indicators And Associated Sub-indicators (1)

D: Economic Diversification

- Production Sector Diversification: Share of manufacturing value added in GDP **(D1)**
- Exports Commodity Diversification: One minus the share of top 5 exports **(D21)**
- Exports Sector Diversification: Share of manufacturing and services exports **(D22)**

E: Export Competitiveness

- Country's share of world non-extractives exports of goods and services divided by country's share of world GDP. Extractives are excluded from both country and world exports.

ATI: Indicators And Associated Sub-indicators (2)

P: Productivity

- ▣ Manufacturing: MVA per manufacturing worker (2005 US\$) **(P1)**
- ▣ Agriculture: Cereal yield (kilograms per hectare) **(P2)**

T: Technology

- ▣ Production: Share of Medium and High Technology products in manufacturing value-added (MVA) (Lall) **(T1)**
- ▣ Exports: Share of Medium and High Tech products in merchandize exports (Lall) **(T2)**

H: Human Economic Wellbeing: Income and Employment, and Health

- ▣ The level of GDP per capita (in terms of US\$ PPP 2005) **(H1)**
- ▣ The ratio of formal sector employment to the labor force **(H2)**

(Data and data sources: See 2014 African Transformation Report).

Normalization of Sub-indicators

- Each sub-indicator for each country is normalized into an index ranging from 0 to 100 according to the procedure below:

$$\text{NCS} = [\text{RCS} - \text{Min (RCS)}] / [\text{Max (RCS)} - \text{Min (RCS)}] * 100 \quad (1)$$

Where:

- NCS = Normalized country score (on sub-indicator)
- RCS = Raw country score (i.e. raw data on the sub-indicator for the country)
- Min (RCS) = Minimum RCS among the group of countries (on sub-indicator)
- Max (RCS) = Maximum RCS among the group of countries (on sub-indicator)
- NCS = 0 when RCS = Min (RCS)
- NCS = 100 when RCS = Max (RCS)

Specification of Main DEPTH Indicators

The main country indicators are constructed as follows:

Diversification $D = 0.5D1 + 0.25D21 + 0.25D22$

Export Competitiveness $E = 1.0E$

Productivity $P = 0.5P1 + 0.5P2$

Technology $T = 0.5T1 + 0.5T2$

Human economic well-being $H = 0.5H1 + 0.5H2$

Each country gets an index score for each of the 5 indicators and can be compared to others on each indicator. Finally the 5 indicator indexes are combined to produce an aggregate index—the African Transformation Index (ATI).

Specification of the Aggregate ATI

- The ATI is constructed from the five main indicators using equal weights.

$$\text{ATI} = 0.2D + 0.2T + 0.2P + 0.2E + 0.2H \quad (2)$$

- Since the ATI is a weighted sum of indices, it also is an index ranging from 0 to 100.
- Each country has an ATI score and countries can be compared according to their ATI scores. The higher the score, the better the performance.
- **Time periods:** Average for 1999–2001 and average for 2009–2011

The ATI and Economic Policy

- The ATI is an attempt to systematically specific and quantify economic transformation and compare countries on it.
- It focuses only on outcome measures of the economy, not on policy inputs or institutional forms that are believed to affect outcomes.
- The outcomes are what policymakers care about, and policies and institutional forms are means to achieving them. Whether a country's policies and institutional forms are appropriate depend on the country's economic objective and context.
- The expectation is that for policymakers keen on promoting economic transformation, poor performance on the desired outcomes would prompt them to ask questions and begin to look for answers appropriate for their country context.

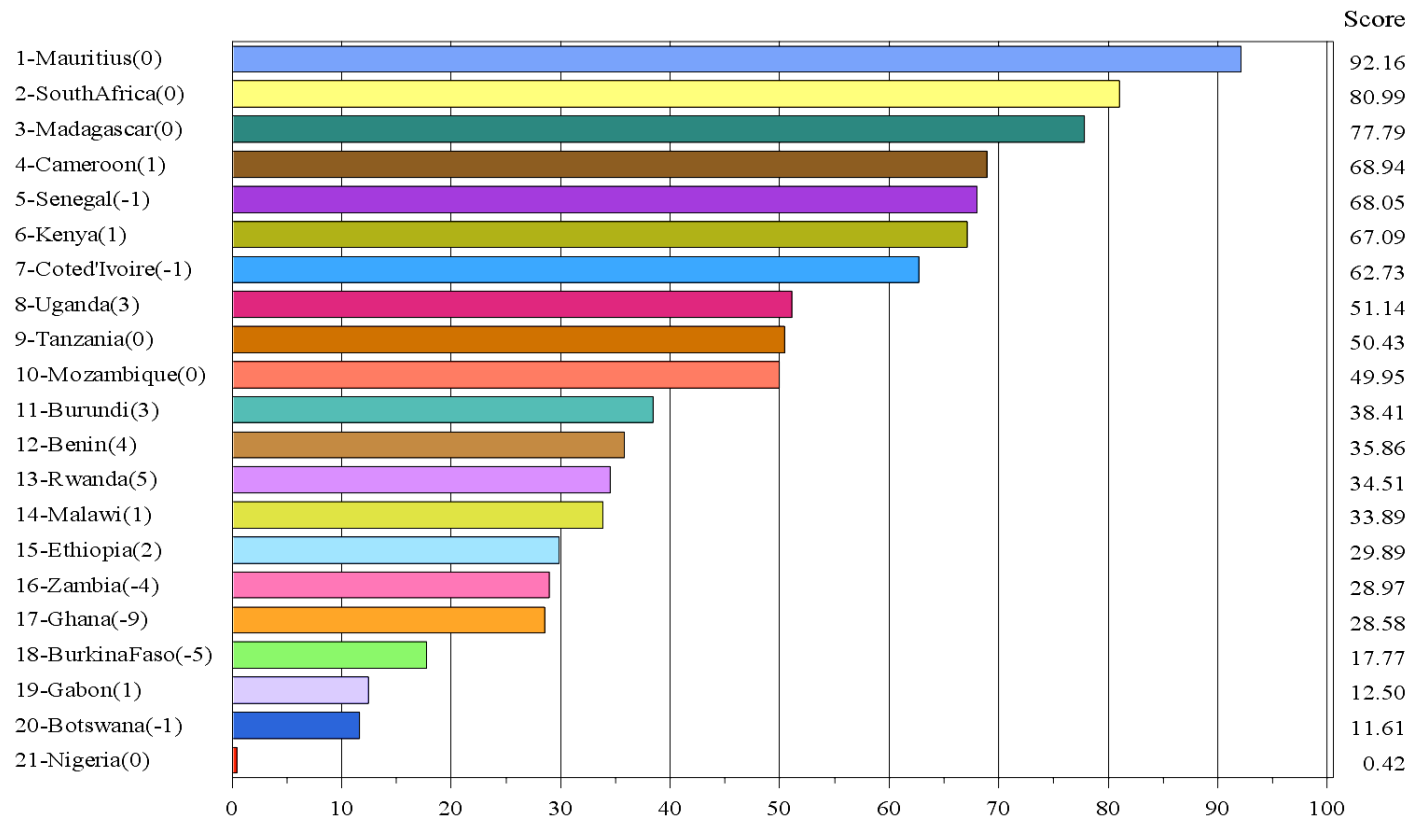
TRANSFORMATION COMPARISONS

How countries rank on diversification

African Transformation Index

Year= 2010

Diversification



Note: The 2010 score is the average for 2009–11. The numbers in parentheses after each country name show the change in ranks between 2000 and 2010; positive signifies improvement

We compare Sub-Saharan African countries for three-year periods centered on 2000 and 2010 (1999-2001 and 2009-2011). Due to lack of data, only 21 countries are represented

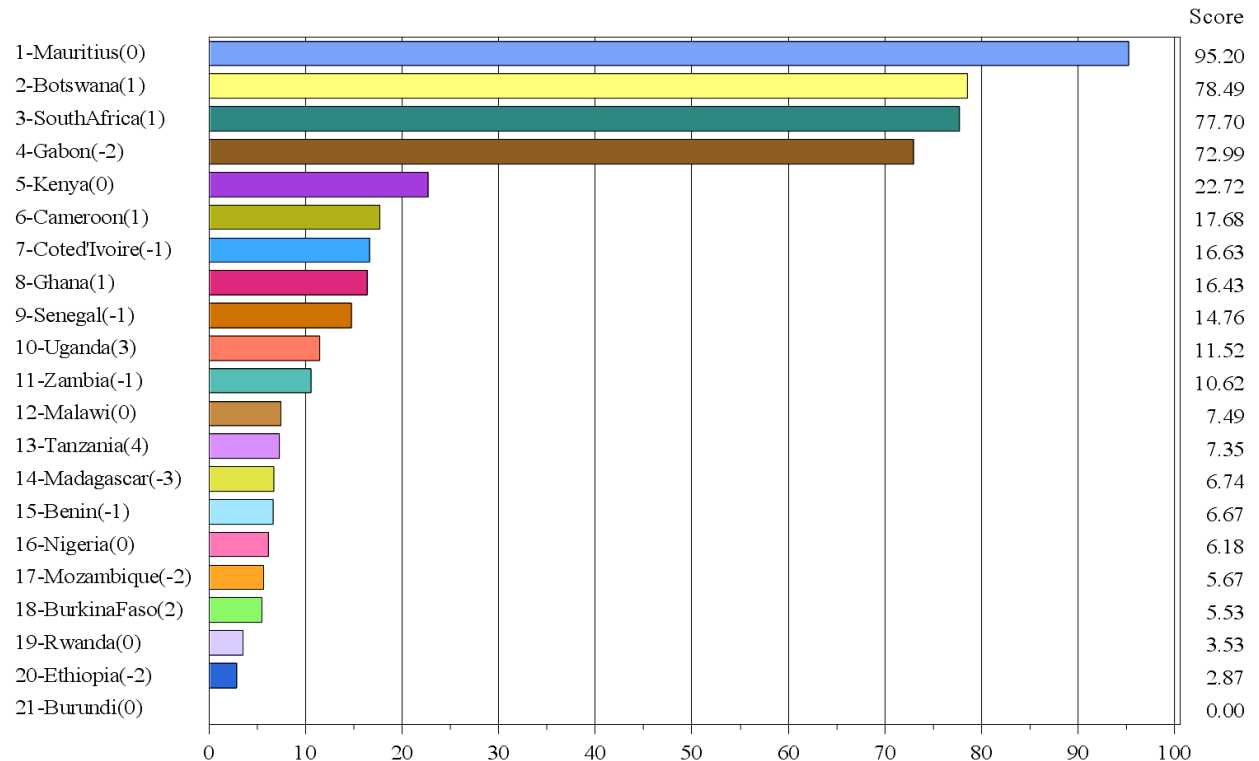
TRANSFORMATION COMPARISONS

How countries rank on human well-being

African Transformation Index

Year= 2010

Human Wellbeing



Note: The 2010 score is the average for 2009–11. The numbers in parentheses after each country name show the change in ranks between 2000 and 2010; positive signifies improvement.

We compare Sub-Saharan African countries for three-year periods centered on 2000 and 2010 (1999-2001 and 2009-2011). Due to lack of data, only 21 countries are represented

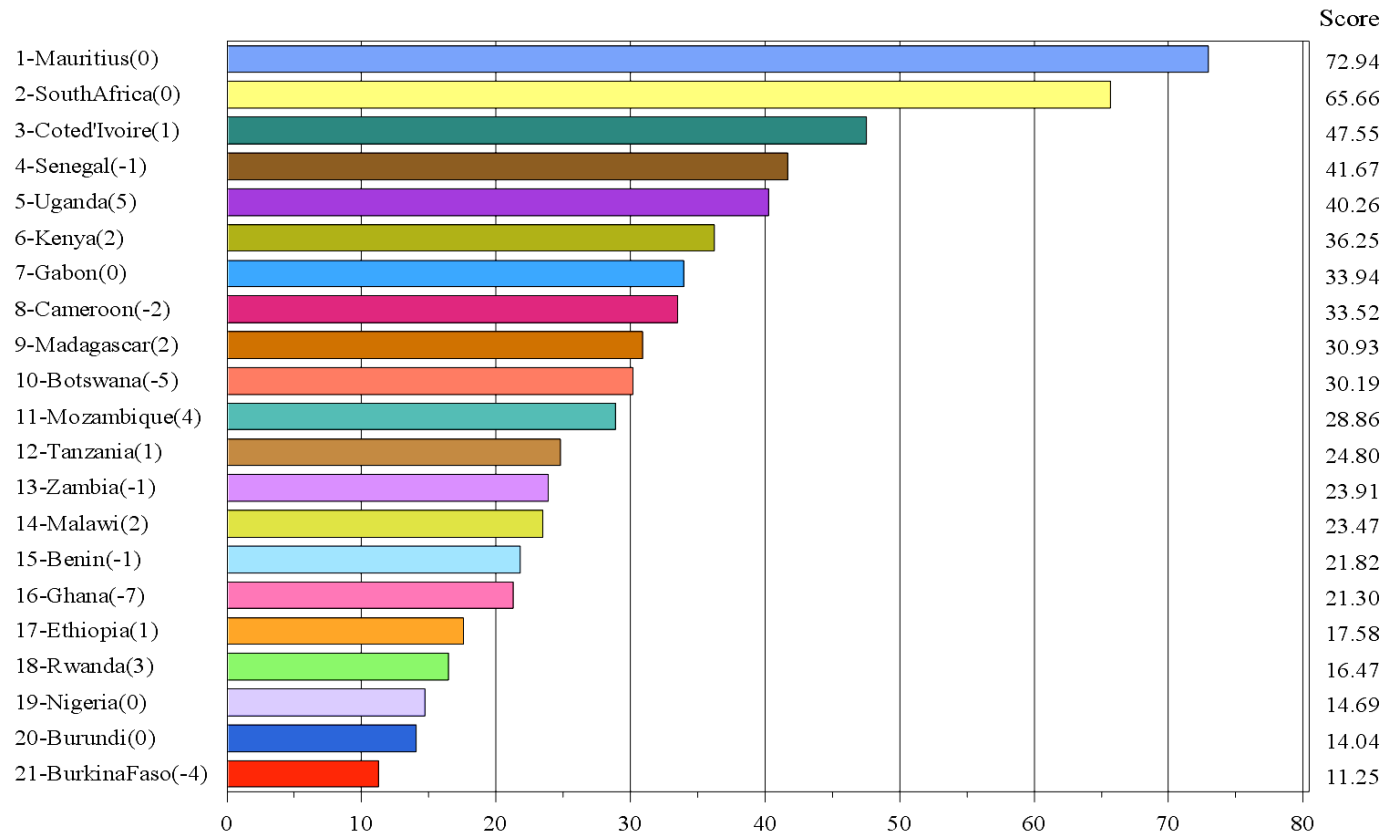
TRANSFORMATION COMPARISONS

How countries rank on overall economic transformation

African Transformation Index

Year= 2010

Overall Index



Note: The 2010 score is the average for 2009–11. The numbers in parentheses after each country name show the change in ranks between 2000 and 2010; positive signifies improvement.

We compare Sub-Saharan African countries for three-year periods centered on 2000 and 2010 (1999-2001 and 2009-2011). Due to lack of data, only 21 countries are represented

DATA ISSUES

- Production data: Sporadic at best—Can we successfully transform the structure of our economies without good and timely data on economic sectors—regular agric censuses; manufacturing surveys....etc?
- Employment data: Everyone agrees employment, particularly youth employment, is important, but why don't we collect relevant data regularly?
- Regular and transparent data on government expenditures, particularly on investment?
- Possibilities to leverage technology?

THANK YOU!

