Growth, Poverty and Inequality Interactions in Africa: An Overview of Key Issues

Haroon Bhorat
Development Policy Research Unit
University of Cape Town
Contact: haroon.bhorat@uct.ac.za

Columbia/SIPA - Centre on Global Economic Governance
Seminar in collaboration with the SIPA Pan-African Network

Monday, 26 October 2015
Outline

• Growth, Poverty and Inequality Interactions
• Growth, Poverty and Inequality: The African Context
  – The Nature, Size and Pattern of Inequality in Africa
  – Africa’s Growth-Poverty-Inequality Nexus
• Inequality and Structural Change in Africa
• Drivers of Inequality in Africa: Microeconomic and Institutional Considerations
  – Natural Resources and Inequality
  – Demographic Changes and the Labour Market
  – Education and Human Capital Development
  – Gender Dimensions of Inequality
• Summary & Policy Issues
Introduction

• Six of the world’s ten fastest growing economies (2001-2010): In Sub-Saharan Africa
• Global sentiment around SSA changed significantly
• Current dominant global view: Africa is last of great untapped markets, ripe for rapid growth and development.
• Supported by the Data: Six of the world’s ten fastest growing economies during 2001-2010 were in Sub-Saharan Africa*
• Focus: Inequality Outcomes and their Determinants in SSA:
  – Understanding the Nature of Inequality in Africa
  – Evolution of Inequality in Africa
  – Key Drivers of Inequality in Africa

*: The countries are Angola, Nigeria, Ethiopia, Chad, Mozambique, and Rwanda
Growth, Poverty and Inequality Interactions: Some Basics Relationships

- High level of economic growth necessary but not sufficient condition for poverty reduction:
- Key intermediary in growth-poverty outcome: Growth-Inequality Interaction
  1. Growth accompanied by rise in income inequality reduces growth-poverty elasticity.
  2. Higher initial level of income inequality reduces growth-poverty elasticity.
  3. Income inequality-growth elasticities are inertial over time

Ravallion and Chen (1997); Kanbur (2004); Kanbur & Squire (1999). Kakwani (1993); Datt & Ravallion (1992); Ravallion (2001, 1997); Ravallion & Datt (2002); Bourguignon (2002); Kanbur (2005); Clarke (1999); Adams (2004); Li, Squire & Zou (1998); Fosu (2009).
Inequality in Africa vs. Other Developing Economies

<table>
<thead>
<tr>
<th>Gini</th>
<th>Africa</th>
<th>Other developing countries</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>0.43</td>
<td>0.39</td>
<td>0.04**</td>
</tr>
<tr>
<td>Median</td>
<td>0.41</td>
<td>0.38</td>
<td></td>
</tr>
<tr>
<td>Min</td>
<td>0.31</td>
<td>0.25</td>
<td></td>
</tr>
<tr>
<td>Max</td>
<td>0.65</td>
<td>0.52*</td>
<td></td>
</tr>
<tr>
<td>Ratio of incomes: Top 20% / Bottom 20%</td>
<td>10.18</td>
<td>8.91</td>
<td></td>
</tr>
<tr>
<td>Average Gini</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low-income</td>
<td>0.42</td>
<td>(7.66)</td>
<td>(8.54)</td>
</tr>
<tr>
<td>Lower-middle-income</td>
<td>0.44</td>
<td>(8.31)</td>
<td>(8.55)</td>
</tr>
<tr>
<td>Upper-middle income</td>
<td>0.46</td>
<td>(11.2)</td>
<td>(8.29)</td>
</tr>
</tbody>
</table>

Source: WIDER Inequality Database, 2014; World Development Indicators, 2014

Notes: 1. Other Developing Economies have been chosen according to the World Bank classification of a developing economy, which includes a range of countries from Latin America, Asia and Eastern Europe. 2. The latest available data was used for each country (after 2000). 3. Standard deviations are shown in parenthesis. 4. * The small island nation of the Federated States of Micronesia has the highest Gini coefficient 0.61 in the ‘other developing countries’ category, which has been excluded here for comparability purposes.
5. ** significant at the 5% level, * significant at the 10% level. 6. The small sample size of other developing countries in the low income group makes determining statistical significance difficult.
The Nature, Size and Pattern of Inequality in Africa

The Distribution of Gini Coefficients: Africa and Other Developing Economies

- An outstanding feature of this graph is the prevalence of extreme inequality in Africa, which is not observed in other developing economies.

- 7 outlier African economies that have a Gini coefficient of above 0.55: Angola, Central African Republic, Botswana, Zambia, Namibia, Comoros and South Africa.

Source: WIDER Inequality Database, 2014; World Development Indicators, 2014; Own graph
Notes: 1. The latest available data was used for each country (after 2000).
2. Kolmogorov-Smirnov tests for equality of distributions are rejected at the 5% level.
The Nature, Size and Pattern of Inequality in Africa

Movements in the Gini Over Time

- When excluding the 7 outlier African economies, we see that the average Gini coefficient for the rest of the continent declines from 0.45 in the early 1990s to a current level of 0.40 (a 9 percent decline).

- This latter average is almost equal to that of the rest of the developing world.

Source: WIID, 2014; World Development Indicators, 2014; Own graph
The Nature, Size and Pattern of Inequality in Africa

Rates of Change in Inequality in Africa

- After 1999, the overall decline in inequality in Africa has been driven disproportionally by the decline in inequality of the ‘low inequality’ sub-sample of African economies.
- The cohort of ‘high inequality’ African economies have jointly served to restrict the aggregate decline in African inequality.

Source: WIID, 2014; World Development Indicators, 2014; Own graph
The Nature, Size and Pattern of Inequality in Africa

Country level heterogeneity in the changes of the Gini coefficient

- Countries such as Egypt, Malawi and Madagascar have witnessed a narrowing of the income distribution over time.
- Whereas Cote d’Ivoire, South Africa and Uganda have experienced a rise in inequality since the 1990s.
- South Africa remains the most unequal African country, and indeed one of the most unequal in the world.

Source: WIID, 2014; World Development Indicators, 2014; Own graph
The Nature, Size and Pattern of Inequality in Africa

Change in GDP and Gini (early 1990s vs most recent), Africa

- Fairly weak relationship between the rate of economic growth and the change in the Gini coefficient for a large sample of African economies.

- However, the relationship is visibly stronger for the subset of economies that have an initially high Gini coefficient, as represented by the green fitted line.

Source: WIID, 2014; World Development Indicators, 2014; Authors have calculated the changes in the Gini coefficient and the GDP per capita growth rates over time.
The Nature, Size and Pattern of Inequality in Africa: Five Key Results

• Africa: Higher mean and median level of inequality when compared with the rest of the developing region.

• Presence of ‘African Outliers’: 7 economies exhibiting extremely high levels of inequality. Excluding the African Outliers - Africa’s level of inequality approximates those of other developing economies.

• Inequality has on average declined in Africa, driven by economies not highly unequal.

• No obvious trend around nature and pattern of African inequality over time

• High inequality African economies: Stronger relationship between economic growth and inequality.
Poverty Rates Across Africa, LAC and South Asia, 2010

- Poverty rates and the depth of poverty is greater in Africa.
- Two-thirds of the population in the four African regions, excluding North Africa, living below the $2 a day poverty line, are living in extreme poverty.
- DRC, Ethiopia, Nigeria & Tanzania constitute almost 50% of Africa’s poor.

Source: World Bank, 2014, PovcalNet; Authors have calculated average poverty rates per region, using the United Nations regional classifications.
The estimated growth elasticity of poverty in the two decades since 1990 in SSA is -0.7, which implies that a one percent growth in consumption is estimated to reduce poverty by 0.7 percent. For the rest of the world (excl. China), this elasticity is substantially higher at -2.

The impact of growth on poverty reduction is lower when initial inequality and mineral resource dependence are higher.
Drivers of Inequity in Economic Growth Patterns


<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>North Africa</td>
<td>Agriculture (% of GDP)</td>
<td>21.46</td>
<td>18.81</td>
<td>14.18</td>
<td>14.33</td>
<td>14.95</td>
<td>-2.65</td>
<td>-3.87</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Industry (% of GDP)</td>
<td>31.83</td>
<td>34.40</td>
<td>35.59</td>
<td>35.65</td>
<td>35.69</td>
<td>2.58</td>
<td>1.29</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>of which: Manufacturing (% of GDP)</td>
<td>15.17</td>
<td>14.28</td>
<td>13.87</td>
<td>13.93</td>
<td>12.89</td>
<td>-0.89</td>
<td>-1.38</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Services (% of GDP)</td>
<td>46.71</td>
<td>46.78</td>
<td>50.24</td>
<td>50.02</td>
<td>49.36</td>
<td>0.07</td>
<td>2.58</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Africa</td>
<td>Agriculture (% of GDP)</td>
<td>34.97</td>
<td>34.47</td>
<td>31.27</td>
<td>29.54</td>
<td>28.83</td>
<td>-0.50</td>
<td>-5.64</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Industry (% of GDP)</td>
<td>21.82</td>
<td>23.41</td>
<td>22.37</td>
<td>24.47</td>
<td>29.18</td>
<td>1.59</td>
<td>5.77</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>of which: Manufacturing (% of GDP)</td>
<td>9.56</td>
<td>8.91</td>
<td>6.00</td>
<td>5.87</td>
<td>5.99</td>
<td>-0.65</td>
<td>-2.92</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Services (% of GDP)</td>
<td>43.21</td>
<td>42.12</td>
<td>47.26</td>
<td>47.12</td>
<td>43.08</td>
<td>-1.10</td>
<td>0.96</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Africa</td>
<td>Agriculture (% of GDP)</td>
<td>39.91</td>
<td>32.74</td>
<td>32.63</td>
<td>32.92</td>
<td>35.95</td>
<td>-7.17</td>
<td>3.21</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Industry (% of GDP)</td>
<td>16.60</td>
<td>16.58</td>
<td>18.45</td>
<td>18.65</td>
<td>17.06</td>
<td>-0.02</td>
<td>0.49</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>of which: Manufacturing (% of GDP)</td>
<td>8.82</td>
<td>7.81</td>
<td>8.41</td>
<td>8.26</td>
<td>7.84</td>
<td>-1.01</td>
<td>0.03</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Services (% of GDP)</td>
<td>43.49</td>
<td>50.68</td>
<td>48.92</td>
<td>48.43</td>
<td>46.99</td>
<td>7.19</td>
<td>-3.69</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central Africa</td>
<td>Agriculture (% of GDP)</td>
<td>30.83</td>
<td>25.01</td>
<td>32.32</td>
<td>32.13</td>
<td>39.73</td>
<td>-5.83</td>
<td>14.72</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Industry (% of GDP)</td>
<td>27.26</td>
<td>38.49</td>
<td>36.71</td>
<td>37.90</td>
<td>27.59</td>
<td>-11.23</td>
<td>-10.90</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>of which: Manufacturing (% of GDP)</td>
<td>10.97</td>
<td>7.05</td>
<td>4.06</td>
<td>4.13</td>
<td>4.35</td>
<td>-3.91</td>
<td>-2.71</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Services (% of GDP)</td>
<td>41.91</td>
<td>36.51</td>
<td>30.97</td>
<td>29.97</td>
<td>32.68</td>
<td>-5.40</td>
<td>-3.83</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southern Africa</td>
<td>Agriculture (% of GDP)</td>
<td>18.44</td>
<td>14.68</td>
<td>12.15</td>
<td>11.78</td>
<td>9.15</td>
<td>-3.76</td>
<td>-5.54</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Industry (% of GDP)</td>
<td>34.68</td>
<td>33.21</td>
<td>32.84</td>
<td>32.98</td>
<td>31.73</td>
<td>-1.47</td>
<td>-1.49</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>of which: Manufacturing (% of GDP)</td>
<td>17.92</td>
<td>15.39</td>
<td>14.78</td>
<td>14.16</td>
<td>11.44</td>
<td>-2.53</td>
<td>-3.95</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Services (% of GDP)</td>
<td>46.88</td>
<td>52.40</td>
<td>55.01</td>
<td>55.24</td>
<td>59.13</td>
<td>5.52</td>
<td>6.72</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: World Development Indicators, 2014 and own regional average and change calculations
Inequality and Structural Change in Africa

• Gradual shift away from Agriculture - But not toward manufacturing.
• Services sector absorbed most of the shift away from Agriculture, becoming the largest share in GDP for many African Economies
• Industry in Africa: Dominated by Mining activities.
• Considerable decline in manufacturing value added since the 1990s and 2000s across the continent.
• Africa’s growth path and pattern of structural change:
  o One heavily dependent on natural resources
  o Poor performance of the manufacturing sector (limiting employment creation)
  o Over-reliance on subsistence farming.
In most African economies – 35 out of 50 – mining and utilities have seen a rising share in GDP.

- Fast growing resource-rich economies have some of the largest shifts of economic activity toward these two sectors.
- Representative of Africa’s lack of Structural Change.

Source: World Development Indicators, 2014 and own calculations regarding the changes over time
Notes: 1. Industry comprises value added in mining, construction, electricity, water, and gas. Manufacturing has been removed from this category and represented separately. 2. For some countries where 2010 data was not available, the latest available year after 2005 was used.
Drivers of Inequality in Africa: Microeconomic and Institutional Considerations

• High levels of initial inequality in SSA: Related to how natural endowments shaped nature of colonial institutions

• Post-independence Inequality:
  • Small European populations (that still retained wealth)
  • Small highly extractive administrations
  • Focus on law & order rather than economic development.

• Independence: Wealth transferred to small group of African elite.

• Sub-national tensions (ethnicity, religion and/or race) further determined initial distribution of resources

• Continue to determine provision of public goods and access to labour market opportunities.
Drivers of Inequality in Africa: Natural Resources and Inequality

While the average levels of inequality are relatively similar between resource-dependent and non-resource-dependent economies – there are a number of resource dependent countries with very high levels of inequality, close to and above 60.

There is a greater risk of high inequality outcomes in resource dependent economies.

Source: World Bank WDI, PovcalNet; Own calculations regarding the population weighting of the Gini coefficient
Notes: 1. Kolmogorov-Smirnov tests for equality of distributions cannot be rejected at the 5% level.
2. Data weighted by population, and based on latest available Gini coefficient
Drivers of Inequality in Africa: Drivers of Inequality in Resource-Rich Countries

Resource Governance Index: Composite Scores for Developed and Developing Countries, 2013

Source: Own graph, Revenue Watch, 2013
Drivers of Inequality in Africa: Drivers of Inequality in Resource-Rich Countries

• Number of potential channels through which a natural resource dependent economy may lead to rising inequality:
  – Political capture of rents
  – Ineffective and unprogressive tax systems
  – Overly complicated ownership structures of extractive industry companies;
  – Industrialisation and human capital upgrading strategies are poorly realised;
  – States do not fully consider appropriate social welfare programmes.

• Above in turn all inextricably linked to poor governance and lack of transparency in government revenue collection and expenditure allocations.
Drivers of Inequality in Africa: Demographic Changes and the Labour Market

Percentage increase in size of age groups in working-age population, 2010 to 2030 (Medium Variant)

Source: ILO (2011)
### Drivers of Inequality in Africa:
Demographic Changes and the Labour Market

The Global Labor Market at a Glance, 2010 (millions)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SSA</strong></td>
<td>61.00</td>
<td>236.00</td>
<td>181.00</td>
<td>55.00</td>
<td>297.00</td>
<td>23.00</td>
<td>320.00</td>
</tr>
<tr>
<td></td>
<td>(0.19)</td>
<td>(0.74)</td>
<td>(0.56)</td>
<td>(0.17)</td>
<td>(0.93)</td>
<td>(0.07)</td>
<td>(1.00)</td>
</tr>
<tr>
<td><strong>Other Non-OECD</strong></td>
<td>1 118.00</td>
<td>1 068.00</td>
<td>584.00</td>
<td>484.00</td>
<td>2 186.00</td>
<td>134.00</td>
<td>2 320.00</td>
</tr>
<tr>
<td></td>
<td>(0.48)</td>
<td>(0.46)</td>
<td>(0.25)</td>
<td>(0.21)</td>
<td>(0.94)</td>
<td>(0.06)</td>
<td>(1.00)</td>
</tr>
<tr>
<td><strong>OECD</strong></td>
<td>333.00</td>
<td>50.00</td>
<td>7.00</td>
<td>43.00</td>
<td>383.00</td>
<td>32.00</td>
<td>415.00</td>
</tr>
<tr>
<td></td>
<td>(0.80)</td>
<td>(0.12)</td>
<td>(0.02)</td>
<td>(0.10)</td>
<td>(0.92)</td>
<td>(0.08)</td>
<td>(1.00)</td>
</tr>
<tr>
<td><strong>Global total</strong></td>
<td>1 512</td>
<td>1 354</td>
<td>772.00</td>
<td>581.00</td>
<td>2 866</td>
<td>189.00</td>
<td>3 055</td>
</tr>
<tr>
<td></td>
<td>(0.50)</td>
<td>(0.44)</td>
<td>(0.25)</td>
<td>(0.19)</td>
<td>(0.94)</td>
<td>(0.06)</td>
<td>(1.00)</td>
</tr>
</tbody>
</table>

**Source:** Adapted from Bhorat (2013)

**Notes:** 1. The data is based on the World Bank’s International Income Distribution Database (I2D2) dataset, which is a harmonized set of household and labor force surveys drawn from a multitude of countries.
Drivers of Inequality in Africa: Demographic Changes and the Labour Market

Wage-Agricultural Employment and Inequality

• The (weakly) negative relationship suggests that in countries with a high ratio of wage to agricultural employment – i.e. where wage employment is sufficiently dominant – income inequality is lower.

Source: World Bank (2012); Own graph
Drivers of Inequality in Africa: Education and Human Capital Development

Enrolment Rates in Africa, 2011

<table>
<thead>
<tr>
<th></th>
<th>Central Africa</th>
<th>East Africa</th>
<th>North Africa</th>
<th>West Africa</th>
<th>Southern Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-primary (% gross)</td>
<td>22.85</td>
<td>24.92</td>
<td>56.94</td>
<td>69.34</td>
<td>15.72</td>
</tr>
<tr>
<td>Primary (% gross)</td>
<td>108.55</td>
<td>99.31</td>
<td>108.57</td>
<td>120.23</td>
<td>98.84</td>
</tr>
<tr>
<td>Secondary (% gross)</td>
<td>32.99</td>
<td>43.99</td>
<td>69.17</td>
<td>51.27</td>
<td>45.73</td>
</tr>
<tr>
<td>Tertiary (% gross)</td>
<td>6.88</td>
<td>6.92</td>
<td>23.03</td>
<td>10.20</td>
<td>9.78</td>
</tr>
</tbody>
</table>

Source: World Development Indicators, 2014;
Notes: 1. Latest available data 2. Gross enrolment rates can exceed 100% due to the inclusion of over-aged and under-aged students because of early or late school entrance and grade repetition.
Drivers of Inequality in Africa: Education and Human Capital Development

Percent of Schoolchildren Below Minimum Learning Threshold (Primary school, Grades 4 and 5)

Source: Center for Universal Education at Brookings, 2014; Own graph
Drivers of Inequality in Africa: Education and Human Capital Development

Grade 8 Science (left) and Mathematics (right) Results

Source: TIMMS, 2011; Own graph
Drivers of Inequality in Africa: Education and Human Capital Development

Conversion Rates from Primary to Tertiary Education, 2011

- For Africa, the data shows that for every 100 children of primary school age, we can expect only 4 to enter a tertiary educational institution.

Source: Bhorat (forthcoming) using data from UNESCO Institute of Statistics (2013)
Notes: 1. Primary refers to the net enrolment ratio (NER) in primary education rate of primary school aged children. 2. Secondary is calculated as the product of the NER and the ratio of the transition from primary to secondary education for each region. 3. Tertiary is calculated as the product of Secondary and the gross enrolment in tertiary education for each region.
Drivers of Inequality in Africa: Gender Dimensions of Inequality

Since the late 1990s, there has been some progress in equalizing access to education for girls and boys in SSA - predominantly at the primary school level.

There has been no progress on average in achieving gender parity in secondary schooling, whilst there has been a widening of gender inequality in tertiary educational enrolment.

Source: The Economist, 2013 using United Nations data
Conclusions

• On average, Africa has higher than average and median inequality when compared to the rest of the developing regions
• Seven ‘African outlier’ economies exhibiting extremely high levels of inequality – serve to drive this inequality differential with the rest of the developing world
• Over time, based on available data, average levels of inequality have declined in Africa, driven mostly by the economies not classified as highly unequal
• For countries with initially high levels of inequality, there is a stronger relationship between economic growth and inequality – confirmation of the cross-country evidence outside of Africa.
Conclusions

Drivers of Inequality in Africa:

1. Dependence on natural resources has deleterious impact on building effective, transparent and accountable institutions.
2. Lack of a dynamic manufacturing sector to absorb new work-seekers and diversify employment opportunities.
4. Low stock of human capital: Without rapid rise in supply of skilled workers, inequality-inducing skills premia will persist in African labour markets.
Thank you