Economic Growth and the Pursuit of Inequality Reduction in Africa

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Abstract

Economic growth across the African continent has remained robust in the post-2000 period. Despite the promising macroeconomic environment, poverty reduction has been slow and inequality has remained high while rising in some cases. The analysis in this paper shows that Africa's average Gini coefficient is higher than that of other developing regions. The notion of a cluster of high-inequality African economies seems important to understand Africa's higher levels of inequality. Some of the drivers of inequality are then discussed, including demographic changes, the lack of structural change toward more complex, higher value-added manufacturing sectors, as well as the challenges associated with managing resource-dependent economies in a way that is more inclusive. Some insights that emerge from this empirical overview are that to meet the challenge of job creation in a continent with a fast-growing youth population, it would require an effective industrialization strategy that includes the provision of high-quality education and social services.

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Introduction

Given three decades of weak economic growth and poor social welfare progress, Africa's post-2000 growth boom has signaled a promising change in the continent's economic trajectory. The last two decades have thus witnessed significantly higher GDP per capita growth rates across many African countries, some of which have been the fastest growing countries in the world in recent times. Figure 1 shows that since the turn of the century, African GDP per capita levels have grown faster on average than that of the Latin American and Caribbean region and whilst these growth rates still lag behind East Asia, it is a remarkable improvement on historical patterns.

The concern remains, however, that Africa's growth boom is not translating adequately into lowered poverty levels and improvements in other important social indicators such as education and health outcomes. Whilst extreme poverty has fallen since 1990, almost 50 percent of Africa's population (413 million people) continues to live below the extreme poverty line (Africa Progress Panel, 2014). In addition, recent attention has been drawn to Africa's high and, in some cases, rising levels of inequality and the potential challenge this presents for Africa's growth and poverty dynamics going forward (Fosu, 2014; Shimeles and Nabasagga, 2018; UNDP, 2017).

There are three stylized facts about the growth-poverty-inequality linkages that have emerged from a fairly voluminous literature, summarized well by Ferriera and Ravallion (2008). First, growth rates among developing countries are virtually uncorrelated with changes in inequality.

Second, in the absence of the above relationship, there must be a strong relationship between growth and changes in poverty. Empirical evidence has thus shown that faster growing economies reduce poverty more rapidly. Lastly, high initial inequality reduces the poverty-reducing impact of growth, and more so if inequality rises through the growth process. There are a few but growing number of studies examining the growth-poverty-inequality nexus in Africa (previously few owing to issues of data availability and quality), that are able to provide valuable insight into these relationships, which are discussed in the next section.

Figure 1: GDP per Capita Growth Rates, By Decade
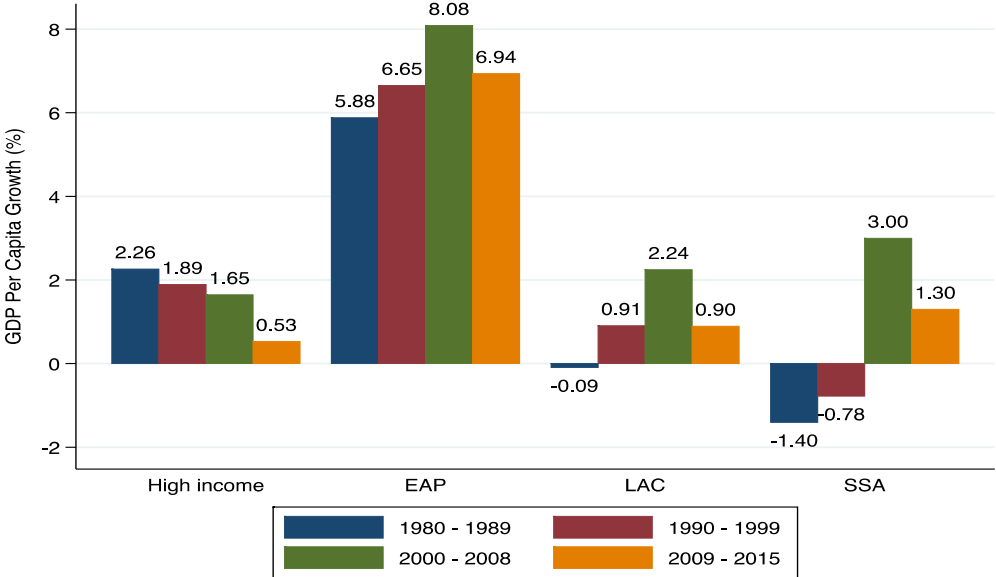
Source: Authors' own calculations using World Development Indicators (2017).
Notes: EAP: East Asia and Pacific (excluding high-income countries); LAC: Latin America and the Caribbean (excluding high-income countries); Sub-Saharan Africa (excluding high-income countries).

Africa's inequality stems in part from its history of colonialism and Apartheid in Southern Africa and is at risk of reinforcing these inequalities through the patterns of growth experienced across the continent. The focus of this paper is on the macro-structural factors that are seen to sustain high levels of inequality in Africa such as the sectoral composition of economic activity and the expected demographic changes that have important implications for the labor markets of these countries. It is in turn these labor market implications that will be important in shaping the long-run patterns of inequality on the continent.

1 Inequality and Poverty in Africa: Key Stylized Facts

More recently, it has increasingly been acknowledged that some of the most unequal economies in the world are in Africa. Using the Gini coefficient as the measure of within-country income inequality, Table 1 shows that the average Gini coefficient in Africa is 0.43, which is 1.1 times the coefficient for the rest of the developing world at 0.39. Furthermore, the upper bound of the continent's range of Gini coefficients exceeds that of the developing world,

indicating that extreme inequality is also a distinct feature on the African continent. Using another measure of income inequality – the share of income of the top 20 percent of the population to the bottom 20 percent – shows that, on average, the top 20 percent of earners in Africa have an income that is over 10 times that of the bottom 20 percent. For other developing economies, this average stands at below 9.

Table 1: Inequality in Africa and Other Developing Economies

	Africa		Other developing countries		Difference
Gini					
Average	0.43	(8.52)	0.39	(8.54)	0.04**
Median	0.41		0.38		
Min	0.31 (Egypt)		0.25 (Ukraine)		
Max	0.65 (South Africa)		0.52[a] (Haiti)		
Ratio of incomes: Top 20% / bottom 20%	10.18		8.91		
Average Gini					
Low-income	0.42	(7.66)	0.39	(11.84)	0.03
Lower-middle-income	0.44	(8.31)	0.40	(8.55)	0.05*
Upper-middle income	0.46	(11.2)	0.40	(8.29)	0.06*

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. [a] 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 distribution of Gini coefficients as illustrated in Figure 2 shows that the African distribution lies to the right of that of the rest of the developing world – which confirms the earlier observation that Africa's average levels of inequality are higher than other developing countries. In fact, 60 percent (30 out of 50) of the African countries in this sample fall above the median Gini coefficient of all developing economies. In addition, Kolmogorov-Smirnov tests for equality of distributions are rejected at the 5% level suggesting that the distribution of inequality in Africa is distinct from that for the rest of the developing world.

Therefore, while the extent of measured inequality may differ according to different measurement techniques, the overall message is that inequality in Africa is high in both absolute and relative terms. The notion of a cluster of high-inequality African economies is also an important component of this comparative exercise. This is explored in more detail below

and points to the idea that there is the presence of extreme inequality in a select group of African countries.

Figure 2: The Distribution of Gini Coefficients: Africa and Other Developing Economies
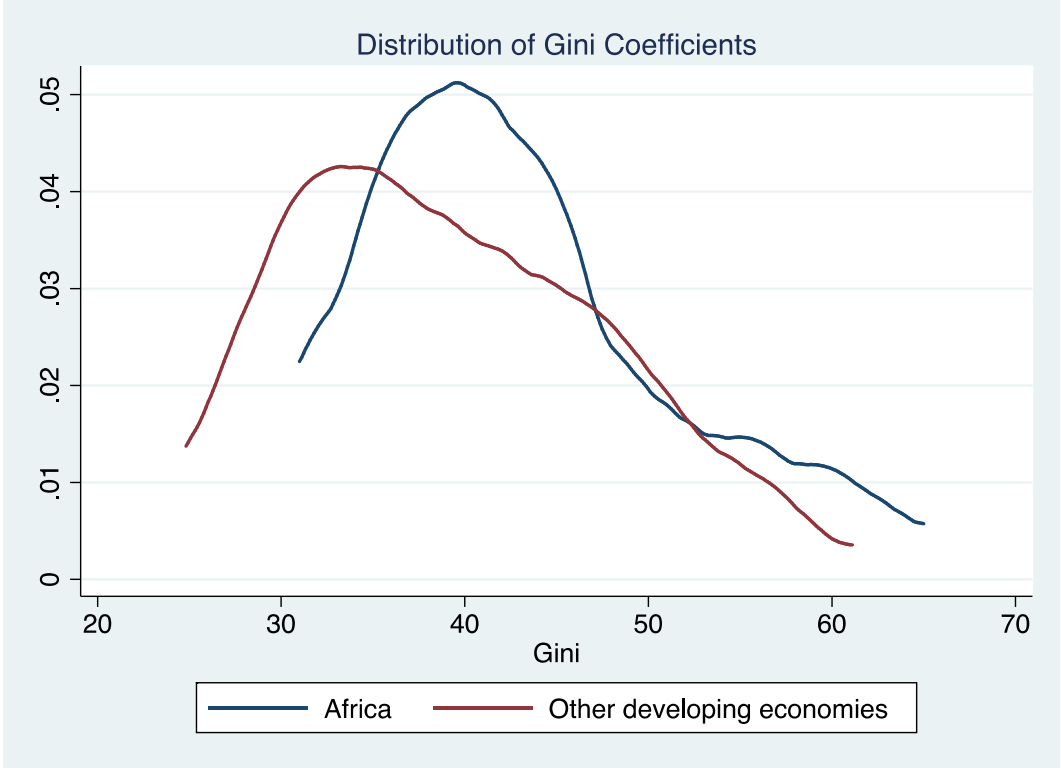

Source: WIDER Inequality Database, 2014; World Development Indicators, 2014; Own graph
Note: 1. The latest available data was used for each country (after 2000).
2. Kolmogorov-Smirnov tests for equality of distributions are rejected at the 5% level.

An outstanding feature of this graph is the prevalence of extreme inequality in Africa, which is not observed in other developing economies. We find that there are 15 African countries in the fourth quartile of the entire distribution of Gini coefficients for all developing economies. Furthermore, there are 7 outlier African economies that have a Gini coefficient of above 0.55: Angola, Central African Republic, Botswana, Zambia, Namibia, Comoros and South Africa. A few of these are Southern African middle-income countries (South Africa, Namibia, Botswana, and Zambia), which all exhibit considerably high levels of inequality with Gini coefficients within the 0.57 − 0.64 range. Notably though, some of the fast growing, populous countries on the continent such as Nigeria, Tanzania and the DRC have significantly lower Gini coefficients of between 0.34 and 0.44.

Using the population data from the World Development Indicators (WDI) (2014), we calculated the population weighted Gini for Africa to be 0.41. In this sense, about 10 percent of the African population lives in the seven most unequal economies of the continent. A further 50 percent of the African population live in countries with a Gini coefficient in the range of 0.402 − 0.505.

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Given the poor quality of historical economic data, it is difficult to assess the changes in inequality in Africa over time. However, the UNU-WIDER world income inequality dataset (WIID) has compiled the best available Gini coefficients over time, which we use in Figure 3. The estimates show that for Africa, on average, there has been a slight reduction in the Gini coefficient from 0.48 during the early 1990s to the current level of 0.43 – an 11 percent decline.

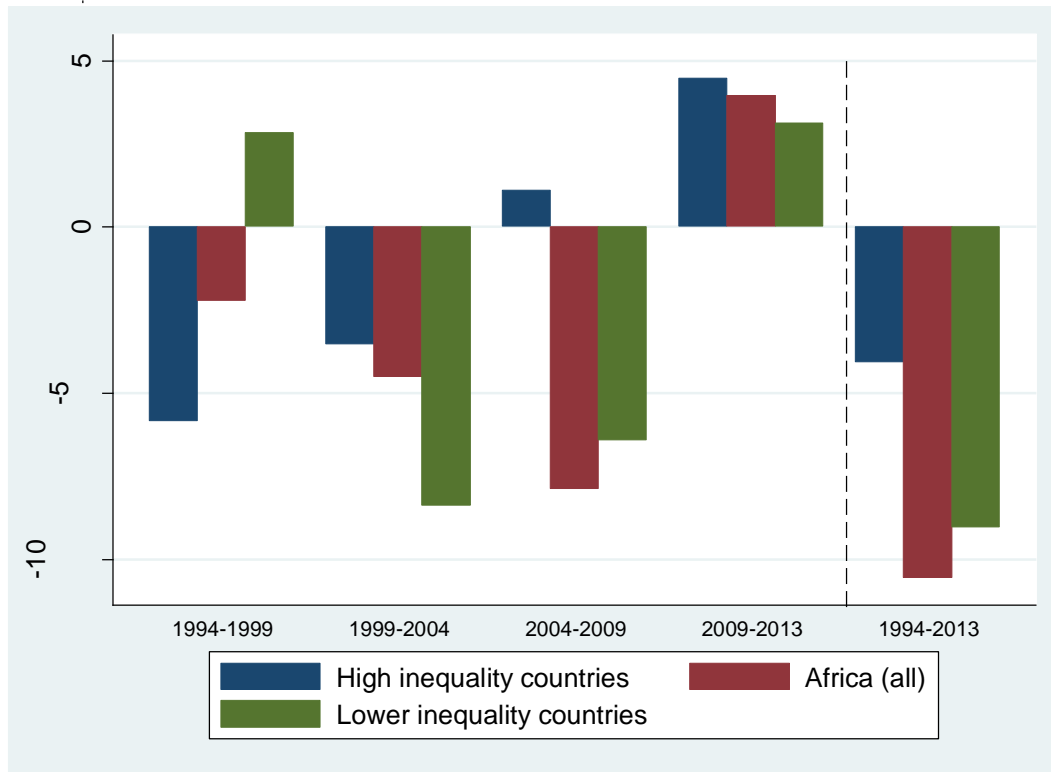**Figure 3: Shifts in African Inequality, 1990-2013**
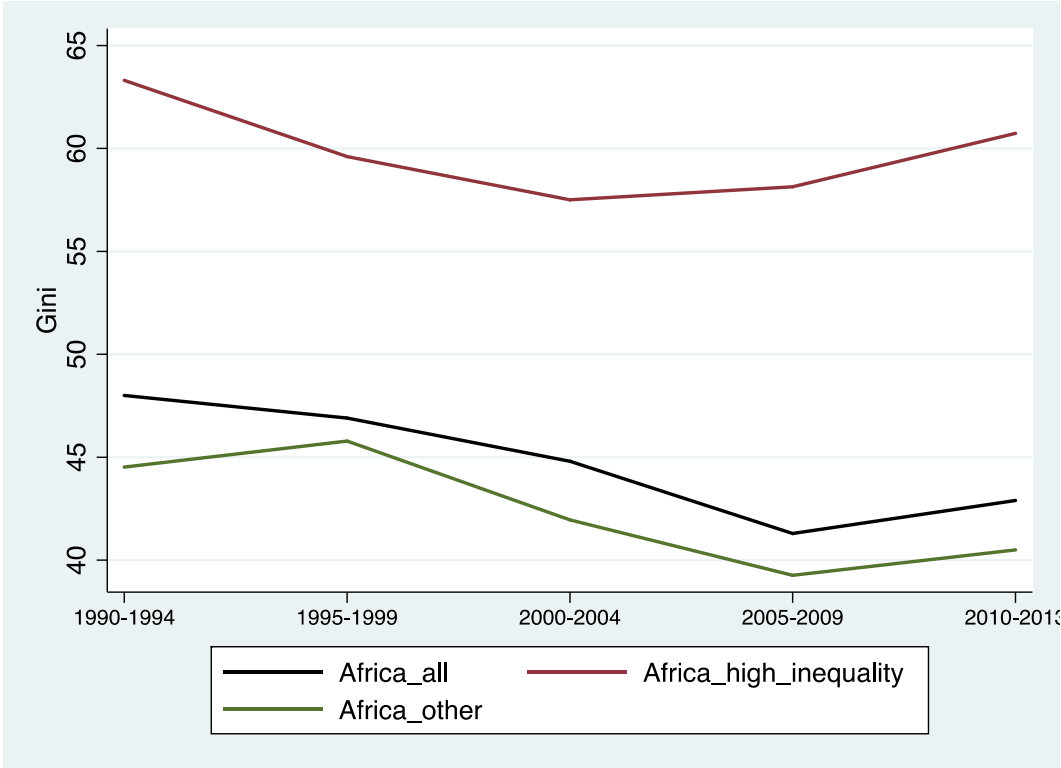
Source: WIID, 2014; World Development Indicators, 2014; Own graph

Note:
1. For the Africa average, the sample sizes per period are as follows: 27 (1990-1994), 24 (1995-1999), 38 (2000-2004), 28 (2005-2009), 25 (2010-2013).
2. The High Inequality countries are: Angola, Botswana, Comoros, Central African Republic, Namibia, South Africa, Zambia. The sample sizes per period are as follows: 5 (1990-1994), 2 (1995-1999), 7 (2000-2004), 3 (2005-2009), 3 (2010-2013).

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). Notably, this latter average when compared with the data in Table 1 is almost equal to that of the rest of the developing world. In essence, the data here would suggest that it is the seven extremely unequal African countries then that are driving the results which place African inequality levels above that of other developing economies. The most recent Gini coefficients for these seven countries have an average of 0.51. Figure 4 in turn, emphasizes the fact that after 1999, the overall decline in inequality in Africa has been driven disproportionately by the decline in inequality of the 'low inequality' sub-sample of African economies. Put differently, the cohort of 'high inequality' African economies has jointly served to restrict the aggregate decline in African inequality.

Figure 4: Rates of Change in Inequality in Africa

These averages, however, hide much of the variation observed across different countries. Figure 3 plots the Gini coefficient for a few African countries where there are sufficient data points, and it is clear that 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) according to the available data.

1.1 Growth-Poverty-Inequality Linkages

Despite the remarkable macroeconomic performance in Africa over the last decade, the continent has fallen behind in its goal of poverty reduction. Hence, whilst extreme poverty has fallen since 1990, almost 50 percent of Africa's population (413 million people) continues to live below the extreme poverty line. Figure 5 shows that poverty is now falling in Africa, but not as rapidly as in South and East Asia. This has resulted in Africa's share of global poverty increasing from 22% in 1990 to 33% in 2010.

Figure 5: Poverty Headcount Ratio in Different Regions of the World
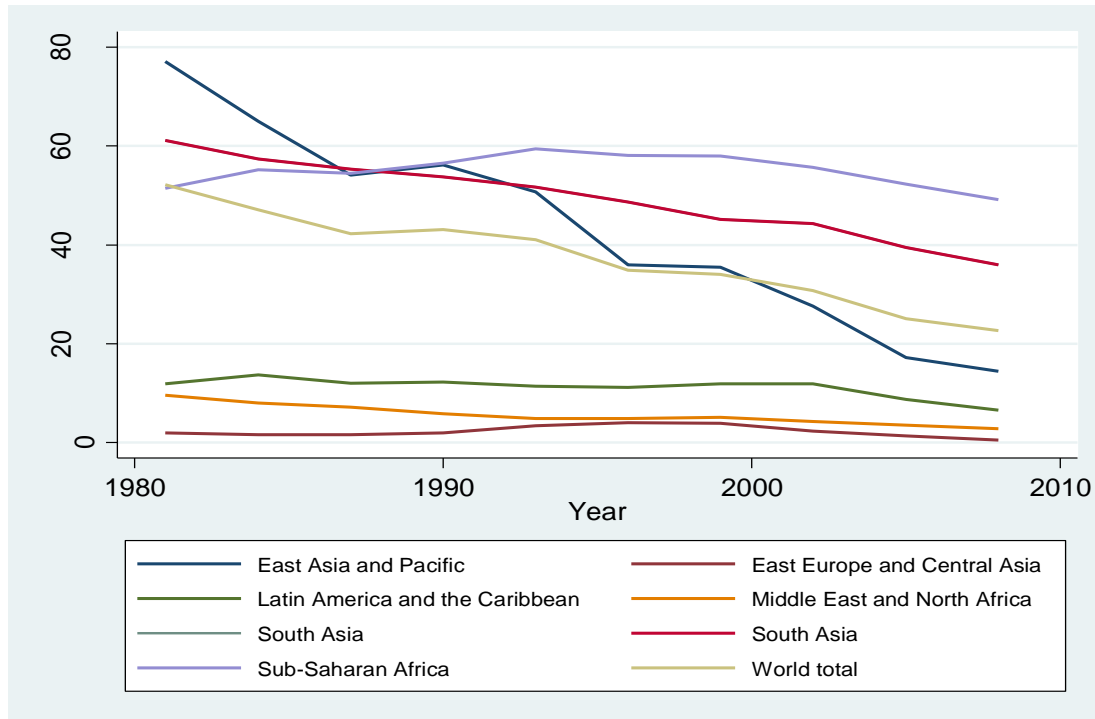
*Source: World Bank, 2014, PovcalNet ; Own graph*

In examining how inequality interacts with the growth-poverty dynamic in Sub-Saharan Africa (SSA), Fosu (2009) finds that initial inequality differences can lead to substantial differences in the growth-poverty elasticity not only between SSA and other regions, but between countries within SSA. More recently, Fosu (2014) decomposes poverty changes during the early-1990s and the late-2000s for 23 African countries and shows that economic growth explains the majority of the changes in poverty for the group of countries experiencing poverty reduction. However, where poverty increased, inequality was more important in explaining the change. Importantly, even among those countries that experience declining poverty, for a few of them, declining inequality was the dominant factor. This heterogeneity points to the importance of country-specific studies to fully understand growth-poverty-inequality dynamics within the African context.

Building on this work, Thorbecke and Ouyang (2017) undertake a careful econometric approach to estimate the growth and inequality elasticity of poverty reduction for SSA and the rest of the developing world (Figure 6). The growth elasticity of poverty reduction tells us how sensitive poverty is to changes in GDP growth, given initial levels of income. The inequality elasticity of poverty reduction tells us, given the initial level of inequality, how sensitive changes in poverty are to changes in inequality, with a positive expected sign.[2] For the 1986-2012 period, the rest of the developing world (excluding SSA) has an estimated growth elasticity of poverty of -2.34 compared to -1.20 for SSA. This shows that poverty reduction is less responsive to economic

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[2] Rising inequality increases poverty.

growth in SSA, echoing the earlier results reported by Christiaensen, Chuhan-Pole and Sanoh (2013). Importantly, the Thorbecke and Ouyang (2017) results show that growth-poverty elasticities have been in decline over time (relative to the 1982-2007 period) for both regions, although notably the decline has been smaller for SSA.

Figure 6: Growth and Inequality Elasticities of Poverty Reduction, Africa and Rest of Developing World
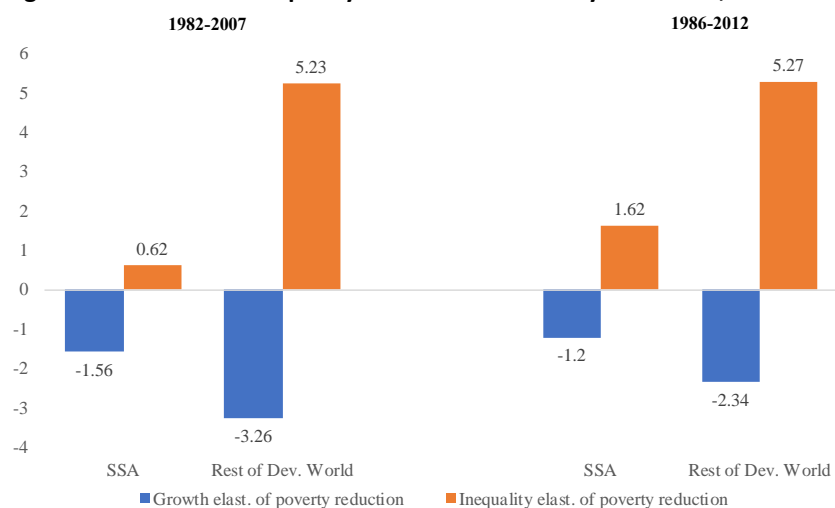
Source: Thorbecke and Ouyang (2017)

The inequality elasticity of poverty for the latter period stands at 5.27 for the rest of the developing world and 1.62 for SSA. Whilst this latter comparison suggests that poverty reduction is less sensitive to improved inequality in SSA than it is in other developing regions, this elasticity has increased from 0.62 for the 1982-2007 period. Taken together, this suggests that whilst Africa remains a highly unequal region with high poverty rates, the structure of growth associated with Africa's recent growth boom appears to be more inclusive than earlier growth periods. In addition, there is a relative movement toward more inclusive growth in SSA compared to other developing regions. As we discuss below, there is substantial country-level heterogeneity in the growth processes of African countries and, therefore, some countries may be at a higher risk of continuing along a more unequal growth path than others.

Another recent study on inequality and poverty in Africa by Shimeles and Nabassaga (2018) makes use of the Demographic and Health Surveys for 38 countries over the 1989 to 2013 period to investigate within-country asset inequality and its correlates. They find that asset inequality is found to be lower in countries with a lower return to education, lower child mortality and higher levels of inward remittances. Furthermore, the study also highlights the role of inequality of opportunity as an important factor in overall asset inequality within countries. These studies help to uncover the complexities that surround the growth-poverty-inequality nexus. For example, given that the returns to education varies with the stock of educated individuals, these returns may initially be driving higher levels of income inequality within countries if access to education is not widely accessible, but as more people gain access to education it may become an equalizing force. Improving broad-based access to opportunities

for better education and health care would be important factors in mitigating any tendency of growth to be inequality-inducing in these contexts.

Clearly, there are obstacles to Africa's poverty reducing power of growth and an important factor mediating this growth-poverty relationship is, of course, inequality. Higher initial inequality in Africa has been shown to hamper the poverty-reducing effects of growth. In addition, it is not only growth that matters, but also where the sources of growth are located. Evidence has shown that growth in labour intensive sectors such as agriculture or manufacturing are typically more poverty-reducing than growth in capital intensive sectors such as mining (Ravallion and Datt, 1996; Khan, 1999). The next section discusses some of the factors driving the high and sometimes increasing level of inequality across Africa.

2 Structural Drivers of Inequality

2.1 Demographic Changes and the Employment Challenge

The importance of promoting employment-generating growth in Sub-Saharan Africa is currently motivated by the extent of informality and high rates of youth unemployment that have been widely acknowledged and discussed by development scholars (Fox *et al.*, 2016). Looking ahead, however, this challenge becomes more acute when considering the demographic changes that are projected for SSA, a region which is home to a young and fast-growing population. According to the UN World Population Projections shown in Table 2, SSA's share in the world's population will rise from the current 14 percent to 35 percent by 2100. Importantly, its share in the world's working age population will reach almost 40 percent – highlighting the need for a relatively faster pace of job creation to keep up with the millions of young people that will be entering the workforce each year.

**Table 2: World and Sub-Saharan African Population Projections, 2015 - 2100**

	Total Population (Billion)			Working Age Population (Billion)		
	2015	**2100**	**Change**	**2015**	**2100**	**Change**
Sub-Saharan Africa	1.0	3.9	2.9	0.5	2.5	2
World	7.3	11.2	3.9	4.8	6.7	1.9
SSA Proportion (%)	13.7 %	34.8 %	-	10.4 %	37.3 %	-

Source: Bhorat *et al.* (2017a) using the UN World Population Database.

Whilst this employment challenge holds true for most countries on the continent, some countries are relatively further along their demographic transitions. Figure 7 below shows the current (2015 – base of the arrow) and projected share (2100 – arrow head) of the working age population in each country. The figure shows that the small island nations of Mauritius, Seychelles and Reunion will see declines in their working age populations over the next few decades, whilst countries like South Africa, Botswana and Namibia are also relatively further along their demographic transitions and will see smaller increases in the share of working age population. In contrast, countries like Uganda, Angola, DRC and Nigeria – large countries by population size, with a relatively younger population – are expected to see considerable

increases in the size of the working age population relative to the total population of between 11 and 18 percentage points.

**Figure 7: Projected Increase in the Share of the Working Age Population by Country (2015-2100)**
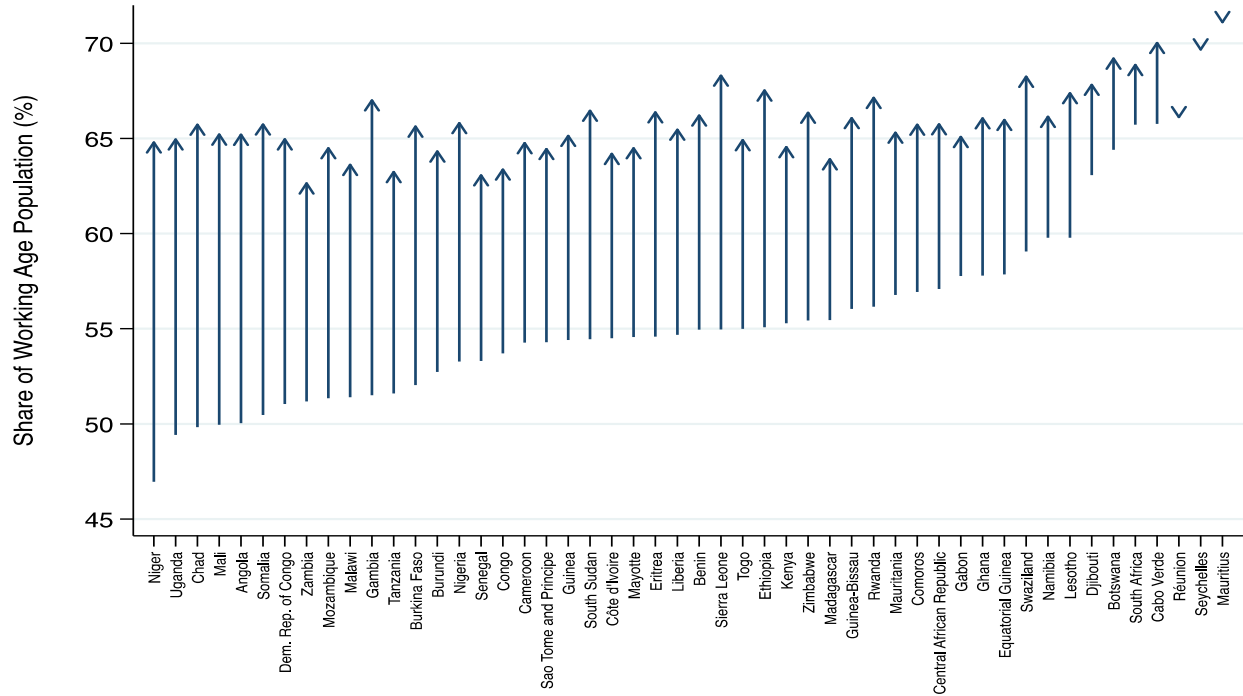
Source: Bhorat *et al.* (2017a) using the UN World Population database.

It is in some of these already large countries, where fertility rates have not fallen as much as in countries like South Africa and Botswana, that we expect to see some of the fastest population growth rates. Between now and 2100, Nigeria is expected to see 570 million people added to its population and the DRC will experience a population increase of about 311 million people (Bhorat *et al.*, 2017a). Figure 8 illustrates that it is a handful of countries, most notably Nigeria, the DRC and Tanzania, that will account for the lion's share of population growth in SSA.

Whilst there is some degree of country-level heterogeneity in population structures, a significant rise of the share of the working age population will be experienced by most countries across the continent. This represents both an important opportunity and a great challenge. There is much potential to increase the productive base of these economies through utilizing a young and skilled workforce and this growing workforce can translate into a growing consumer market for domestic production. A failure to generate this type of labor-absorbing economic growth, however, will only fuel rising unemployment rates and lead to worsened living standards and developmental outcomes.

Figure 8: Share of Sub-Saharan African Population Growth by Country, 2015-2100

■	Angola
■	DRC
■	Ethiopia
■	Kenya
■	Mozambique
■	Niger
■	Nigeria
■	Other
■	Tanzania
■	Uganda
■	Zambia
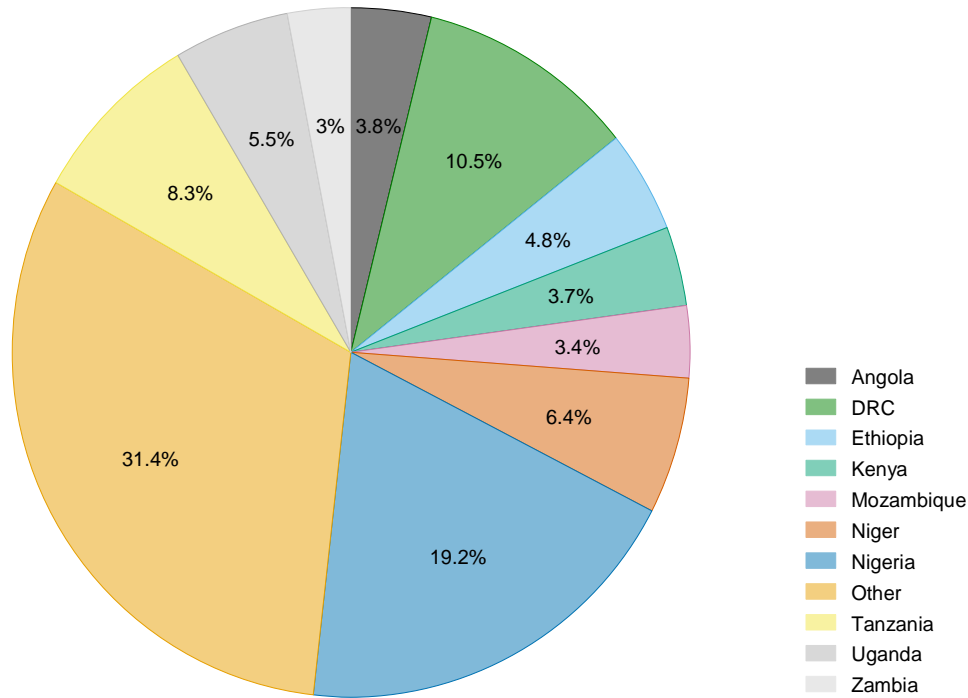
Source: Bhorat *et al.* (2017a) using the UN World Population database.

2.2   Structural Change, Growth and Employment Creation

The sustainability and inclusivity of Africa's growth will be strongly linked to its ability to structurally transform and diversify its productive base. Economic theory and cross-country experience has indicated that a more diverse economic base increases the probability of a sustained economic performance at the country-level. This is also true because it is more likely that the gains from growth driven by a more diverse range of economic sectors will be more equitably distributed. In Rodrik's (2014) typology of growth processes, we see that rapid industrialization or structural change into high-productivity sectors can quickly shift countries into middle- or upper-income status. This is based on his evidence that modern manufacturing industries exhibit unconditional convergence to the global productivity frontier (Rodrik, 2014). This is the classic pattern of growth in low-income countries where surplus labour moves from agricultural activities into industrial jobs, spurred by an export-led economic diversification strategy. In the later stages of this development process, however, growth begins to disproportionately rely on fundamental capabilities such as the availability and quality of institutions and human capital. For countries further along in the development process (i.e. middle-income countries), growth tends to be more capital and skills intensive and more reliant on the services sector. In these countries, domestic demand is a key element of sustaining economic growth and therefore the impact that growth has on the distribution of income, in so much as it affects the size of the middle class, is an important growth challenge (Kharas and Kohli, 2011).

Table 3 presents the sectoral structure of national output by region and highlights two key trends. First, over the last decade and a half, SSA[3] has experienced structural change in output away from primary sectors towards the tertiary sector, with declines in manufacturing. Second, this pattern is reflected across the developing world. However, it is occurring in Africa at an already lower share of manufacturing in output.

Table 3: Sectoral Composition of Value Added (% of GDP), 2000-2015

Region	Sector	2000	2015	Δ (2000 - 2015)
SSA	Agriculture	19.51	17.45	-2.06
	Industry[4] (excl. manufacturing)	25.17	14.02	-11.15
	Manufacturing	11.28	10.70	-0.58
	Services	44.06	57.83	13.78
Middle East & North Africa (MENA)	Agriculture	7.46	5.85	-1.61
	Industry (excl. manufacturing)	32.53	26.68	-5.85
	Manufacturing	12.62	11.39	-1.23
	Services	47.39	56.08	8.69
South Asia	Agriculture	24.08	17.98	-6.10
	Industry (excl. manufacturing)	12.27	12.21	-0.06
	Manufacturing	17.38	16.24	-1.15
	Services	46.26	53.57	7.31
Latin America & Caribbean	Agriculture	5.57	5.15	-0.42
	Industry (excl. manufacturing)	13.76	12.78	-0.97
	Manufacturing	17.51	14.79	-2.72
	Services	62.98	67.17	4.19

Source: Authors' calculations using Word Development Indicators, 2018

This should be analyzed together with the aggregate reallocation of labor across sectors, provided in Table 4 for Africa and Asia. It is clear that there has been relatively no increase in the manufacturing share of employment on average across the African continent. McMillan, Rodrik and Verduzco-Gallo (2014) estimate that structural change in Africa between 1990 and 2005 made a sizeable negative contribution to overall economic growth by as much as 1.3 percent per annum on average.[5] In this sense, labour has moved in the wrong direction, toward less productive sectors. Importantly, there is substantial heterogeneity in these African results. Nigeria and Zambia both exhibit negative structural change effects over the same 15 year period, where in both countries, the employment share of agriculture increased significantly. In Ghana, Ethiopia and Malawi, however, structural change over the 1990-2005 period was

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[3] Similarly for North Africa that is represented within the MENA region.
[4] Industry corresponds to ISIC divisions 10-45 but we have separated out manufacturing (ISIC divisions 15-37). Industry comprises value added in mining, construction, electricity, water, and gas.
[5] A similar result was found for Latin America, with Asia being the only of the three regions where the contribution of structural change to economic growth over this period was positive.

positive where the employment share of agriculture declined and that of manufacturing increased. (McMillan *et al.*, 2014).

Table 4: Share of Employment by Sector for Asian and SSA Aggregates, 1975-2010

Sector	Africa			Asia		
	1975	2010	Change	1975	2010	Change
Agriculture	67.8	58.9	-8.9	68.4	40.1	-28.3
Mining	1.1	0.7	-0.4	0.9	0.9	0.0
Manufacturing	6.2	6.6	0.4	11.0	15.8	4.8
Services	22.7	30.9	8.2	17.2	35.5	18.3
Other	2.2	2.9	0.7	2.5	7.7	5.2

Source: Bhorat *et al.* (2017a) using Groningen Growth and Development Centre 10-sector database (see Timmer *et al.*, 2014).

Whilst Rodrik (2016) has drawn much attention to premature deindustrialization across the developing world (using data between 1960 and 2000), the challenge seems to be starkest in the case of Africa. SSA, excluding Mauritius, has experienced declines in manufacturing employment shares and real manufacturing output, in contrast to Asia that has experienced growth in employment shares and real manufacturing output (Rodrik, 2016). Given the already low average income levels in Africa, efforts to reindustrialize would seem central to the pursuit of inclusive economic growth. The following sub-section discusses some of the current challenges to manufacturing growth in Africa.

2.2.1 Building Manufacturing Complexity

The process of growth-enhancing structural change requires that the shifts in employment shares favor higher productivity sectors. The historical trend in Africa is depicted in Figure 9 and shows that the low productivity[6] agricultural sector now accounts for a considerably lower proportion of employment. Across this sample of African countries, manufacturing and wholesale and retail trade services (WRT) are relatively more productive than agriculture. However, it was only the WRT sector that saw substantial gains in the proportion of employment. The very high productivity sectors such as mining and utilities did not absorb an increasing share of the workforce over this period, pointing to the capital-intensive nature of these sectors. This is suggestive of an African growth path heavily biased towards resource-intensive and energy-based sectors, which are not labor-intensive. Whilst having the potential for greater labor-absorption, manufacturing sectors have been unable to grow in output or employment. This has left the urban-based retail service sector as the growing space for employment opportunities in both the formal and informal segments of the sector.

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[6] Relative productivity is calculated using 2010 productivity levels.

Figure 9: Sectoral Productivity and Employment Changes in SSA, 1975-2010
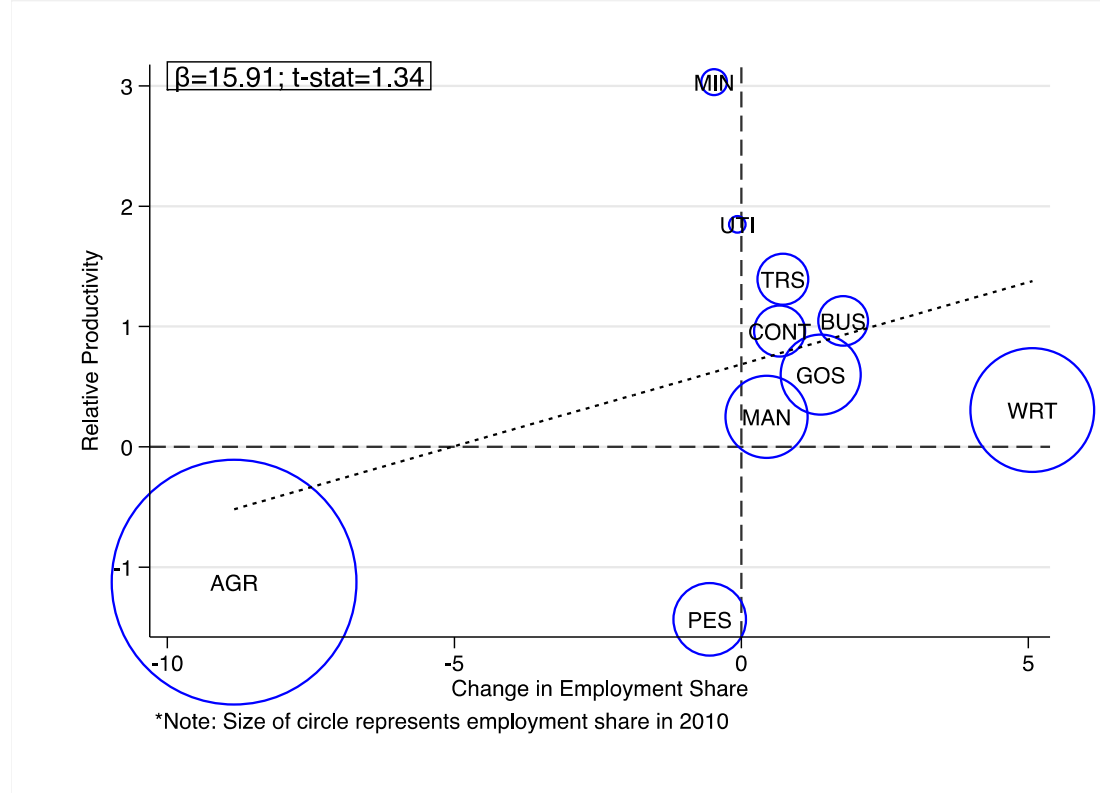
*Note: Size of circle represents employment share in 2010

Source: Bhorat *et al.* (2017a) using Groningen Growth and Development Centre 10-sector database (see Timmer *et al.*, 2014).
Notes: 1. African countries included: Botswana, Ethiopia, Ghana, Kenya, Malawi, Mauritius, Nigeria, Senegal, South Africa, Tanzania and Zambia. 2. AGR = Agriculture; MIN = Mining; MAN = Manufacturing; UTI = Utilities; CONT = Construction; WRT = Trade Services; TRS = Transport Services; BUS = Business Services; GOS = Government Services; PES = Personal Services.

Figure 10: Sectoral Productivity and Employment Changes in Asia, 1975-2010

$\beta=4.85$; t-stat=1.68

*Note: Size of circle represents employment share in 2010
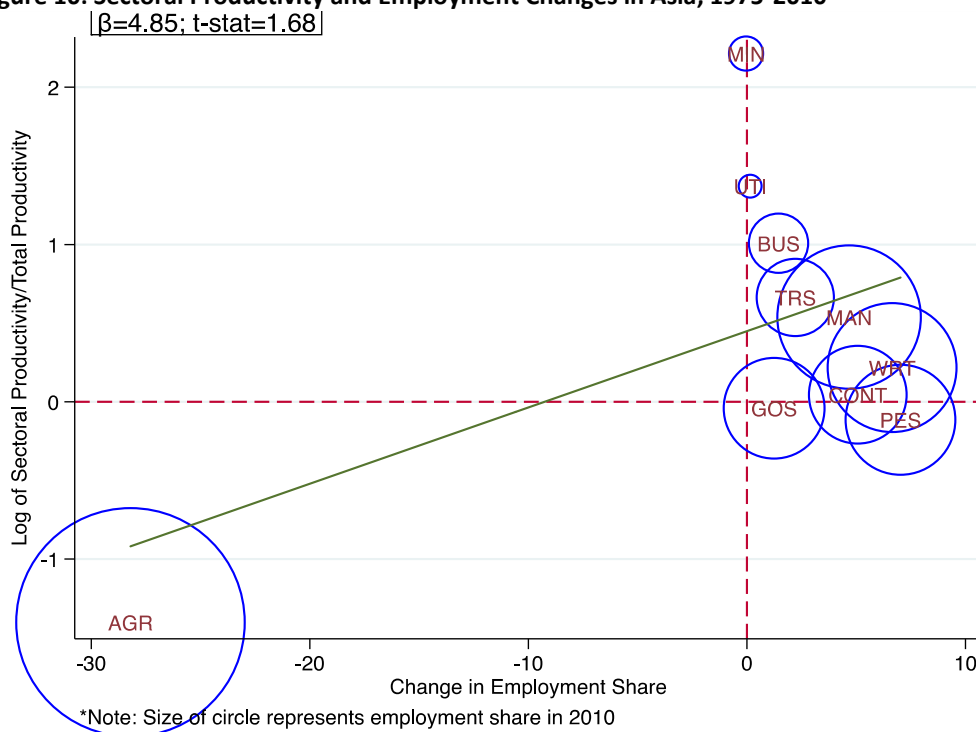
Source: Own calculations using Groningen Growth and Development Centre 10-sector database (see Timmer *et al.*, 2014).
Notes: 1. Asian countries are comprised of East and South Asian countries, including: China, Hong Kong, India, Indonesia, Japan, South Korea, Malaysia, Philippines, Singapore, Taiwan and Thailand. 2. AGR = Agriculture; MIN = Mining; MAN = Manufacturing; UTI = Utilities; CONT = Construction; WRT = Trade Services; TRS = Transport Services; BUS = Business Services; GOS = Government Services; PES = Personal Services. 2. The estimated regression line, measuring the relationship between productivity and changes in employment share by sector, is not statistically significant.

This pattern of growth can be contrasted against that of East and South Asia (aggregated in Figure 10). There is a remarkably more dramatic decline in the share of low-productivity agricultural work than in SSA and at the same time, a much larger rise in the share of manufacturing in total employment. There is also a greater productivity gradient between agriculture and manufacturing in Asia, which led to overall higher rates of economic growth than in SSA – suggesting that this region pursued a more traditional growth path with manufacturing acting as the engine of growth. The services sector in Asia has also absorbed a large portion of the surplus agricultural labor on aggregate and this could also be reflective of country heterogeneity in growth patterns, for example, many studies have pointed to the role of services as a growth enhancing sector in India.

As Rodrik (2016) has emphasised, it is increasingly difficult for late industrialisers to industrialise, primarily due to the forces of international trade. When developed countries and Asia industrialized, they did so under protectionist regimes, which allowed them to build a significant manufacturing base. In contrast, SSA was forced to liberalize and has had to compete in the world market with established manufacturing exporters. In addition, Asian exporters have successfully penetrated the domestic markets of SSA countries, making it even more

challenging for these countries to build a productive manufacturing sector. Regardless of these hurdles, however, manufacturing remains the best hope for SSA to generate a large number of good jobs and reduce the prospects of political and social instability. One of the ways to do this is for African countries to think strategically about product complexity and positioning themselves within high value global value chains.

Hausmann *et al.* (2014) argue that the process of economic development involves the accumulation and mobilization of productive knowledge, or capabilities. The amount of productive capabilities that a country is able to mobilize is reflected in the diversity of firms that it has, the diversity of occupations that these firms require, and the level of interactions between these networks of firms. These productive capabilities are described as non-tradable networks of collective know-how, such as logistics, finance, supply and knowledge networks (Hidalgo *et al.*, 2009). The accumulation and mobilization of these productive capabilities is embodied in the measure of *economic complexity*, developed by Hidalgo *et al.* (2009).

Hidalgo *et al.* (2009) show that *economic complexity* is correlated with a country's current level of income and that deviations from this relationship predict future economic growth. Within this framework, Bhorat *et al.* (2017a) show that most countries within SSA are positioned within the low economic complexity-low economic development group of countries.

In addition, there is a positive relationship between a country's productive capabilities, measured as economic complexity, and the number of manufacturing products that it produces, as is depicted in Figure 11. The data shows clearly that the sub-Saharan African countries (excluding South Africa) are clustered at low levels of economic complexity and produce a relatively low number of manufactured products. In contrast, the sample of Asian economies is spread across levels of economic complexity with varying numbers of manufacturing products. For example, Lao (LAO) and Papua New Guinea (PNG) have low levels of economic complexity and produce relatively few manufactured products. Conversely, India (IND), Thailand (THA), China (CHN), Malaysia (MYS), and South Korea (KOR) are increasingly complex and produce a greater diversity of manufactured products.

Figure 11: Economic Complexity and Number of Manufactured Products Exported (HS6), 2013
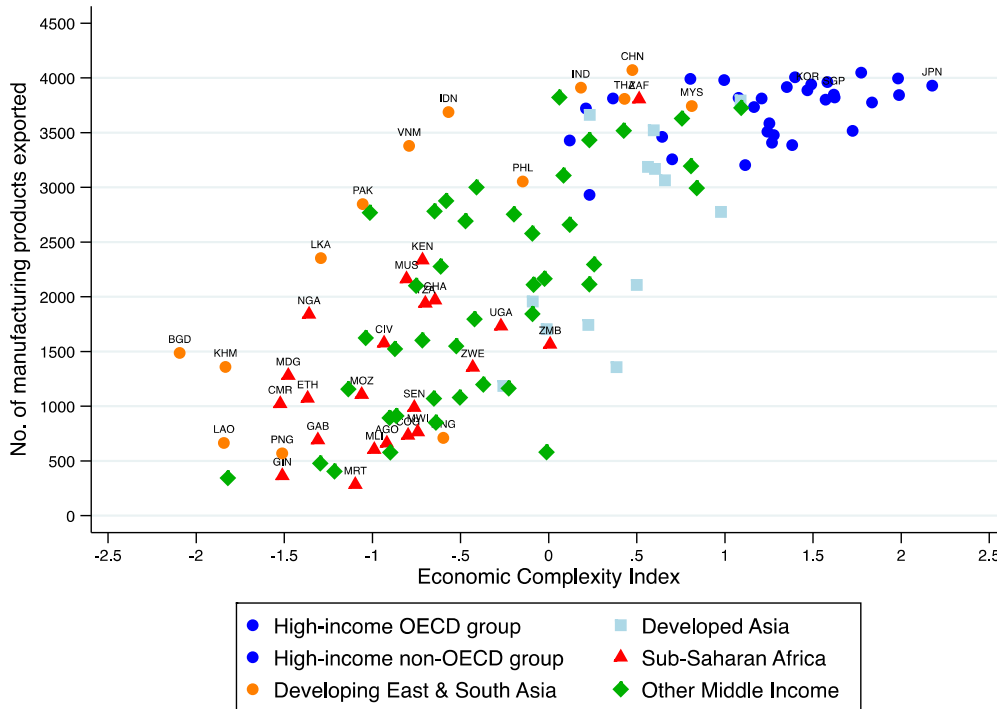
Source: Bhorat *et al.* (2017a) using trade data from BACI data (HS 6-digit, revision 1992).
Notes: 1. The sample of countries is reduced to those for which we estimate complexity measures. 2. Determination of whether a manufactured product is exported by a country is not based on Revealed Comparative Advantage.

In the pursuit of upgrading Africa's manufacturing capabilities, Hausmann *et al.* (2011) provide a useful analytical framework of the *product space* within a country. The underlying theory is that countries move from products that they are currently producing to 'nearby' products, which are those that require similar productive capabilities. In this way, structural transformation is path-dependent. As discussed in more detail in Bhorat *et al.* (2016), the product space is a graphical depiction of the distance between products manufactured in a country, where the difference is representative of the difference in productive capabilities required to produce them. The core of a country's product space is the relatively more dense and connected products (typically manufactured goods) and the periphery is relatively less dense and connected (typically primary goods). It is easier for a country to diversify its productive base from a concentration of core products than from peripheral products, since the latter represents productive capabilities that are distinctly more different from those that it requires to industrialize.

The two examples of Nigeria and Ethiopia are illustrated below but some general observations can be made about African countries' product spaces. The productive structure of African countries tends to be more peripheral and there has been little change between 1995 and 2013 (Bhorat *et al.*, 2016). This means that in order for African countries to industrialize, they have to shift from a peripheral (mostly resource-based) productive structure toward manufacturing,
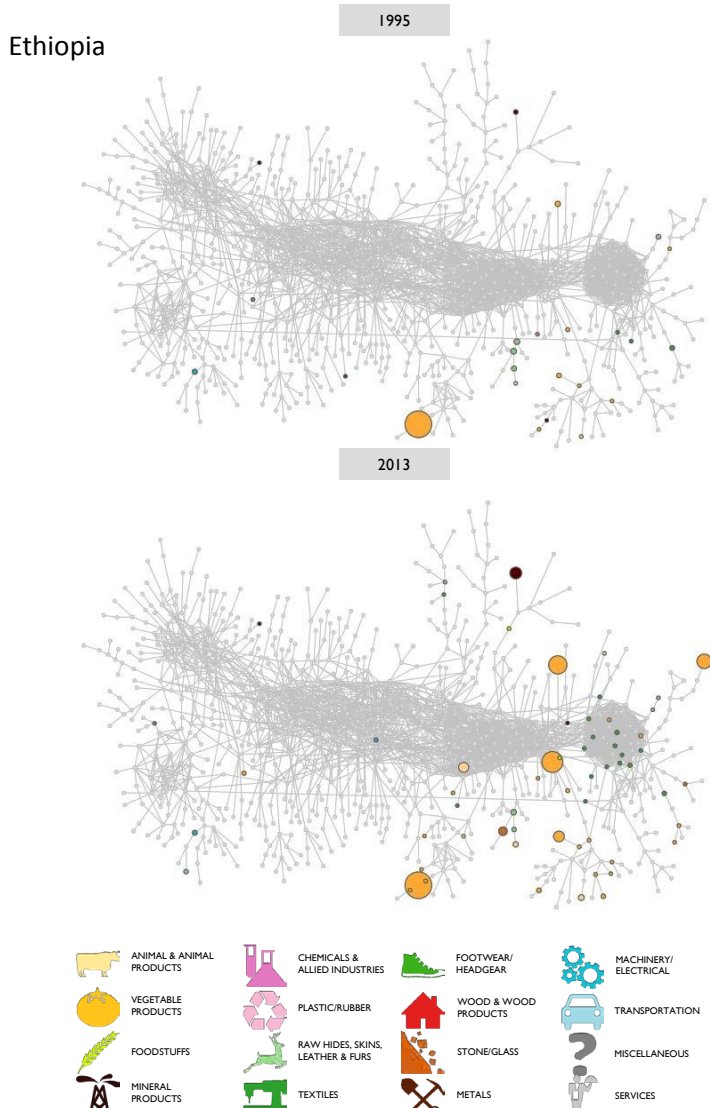
which is dependent on developing a 'far-away' set of capabilities from their existing set of capabilities.

Figure 12: Nigeria's Product Space, 1995 and 2013
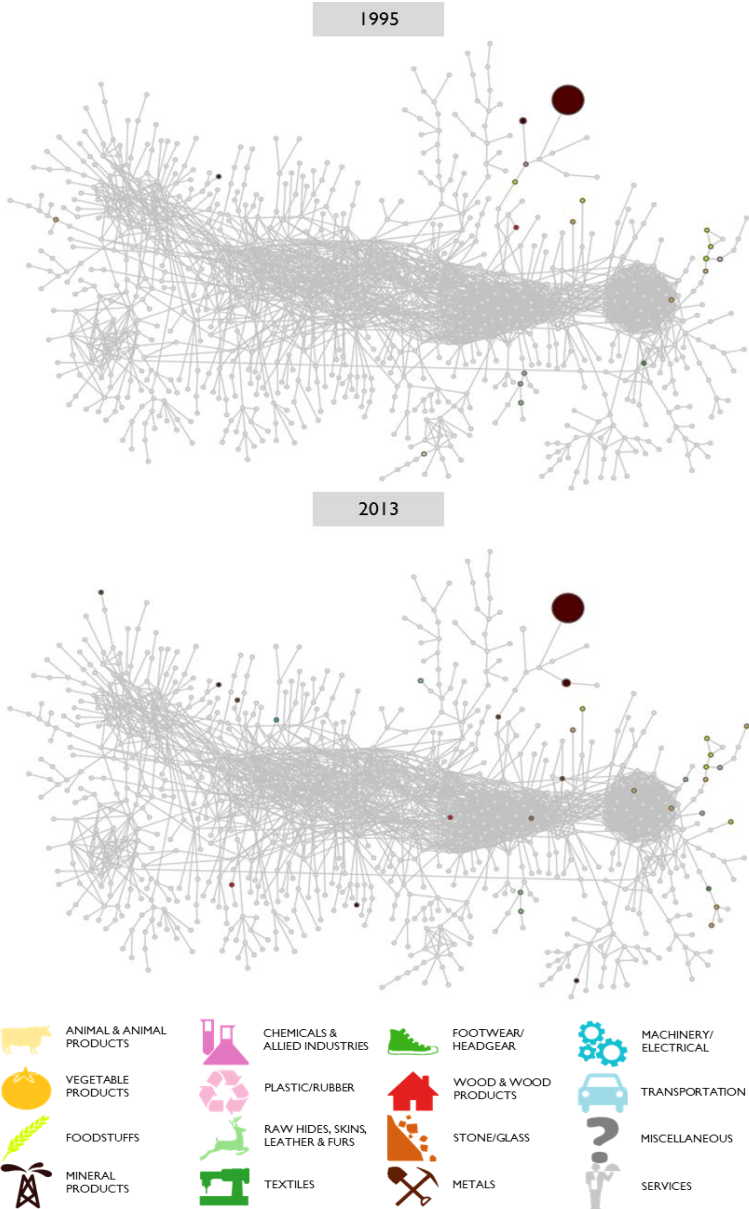
Source: The Atlas of Economic Complexity," Centre for International Development at Harvard University, http://www.atlas.cid.harvard.edu

Figure 13: Ethiopia's Product Space, 1995 and 2013

Ethiopia

1995

2013

ANIMAL & ANIMAL PRODUCTS	CHEMICALS & ALLIED INDUSTRIES	FOOTWEAR/HEADGEAR	MACHINERY/ELECTRICAL
VEGETABLE PRODUCTS	PLASTIC/RUBBER	WOOD & WOOD PRODUCTS	TRANSPORTATION
FOODSTUFFS	RAW HIDES, SKINS, LEATHER & FURS	STONE/GLASS	MISCELLANEOUS
MINERAL PRODUCTS	TEXTILES	METALS	SERVICES

Source: "The Atlas of Economic Complexity," Centre for International Development at Harvard University, http://www.atlas.cid.harvard.edu

There is of course country-level heterogeneity, as is illustrated in our examples. Nigeria is closer to the average African example, where the existing productive structure is primarily peripheral and there has been little change in this structure over time. Ethiopia, on the other hand, has seen an increase in productive nodes that are closer to the core set of products. Therefore, Ethiopia is a successful example of an African country that has been able to develop capabilities to move the country's productive structure toward producing manufactured products.

This section has explored the lack of structural transformation in Africa and how this translates into weaker opportunities for better employment outcomes. In addition, we have discussed some of the ways in which the structure of African economies are different to other fast-growing and transforming developing regions, highlighting where some of the constraints are for African countries in their pursuit of industrial development. The role of resource-based

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production is highlighted as being associated with a distinctly different set of capabilities than manufacturing production, which makes it more difficult for many resource-based economies to industrialize. In addition to these constraints on the productive structure, natural resource dependence also has other deleterious effects on development, particularly through its interaction with state and institution building.

2.2.2 Resource-Dependence

As noted at the outset, many of the Africa's fastest growing economies during the 2000s did soon the back of high commodity prices. Indeed, such resource-dependent growth remains a key long-run structural feature of many economies in the region.

Figure 14: GDP Growth and Level of Resource Dependence (2008-2012)
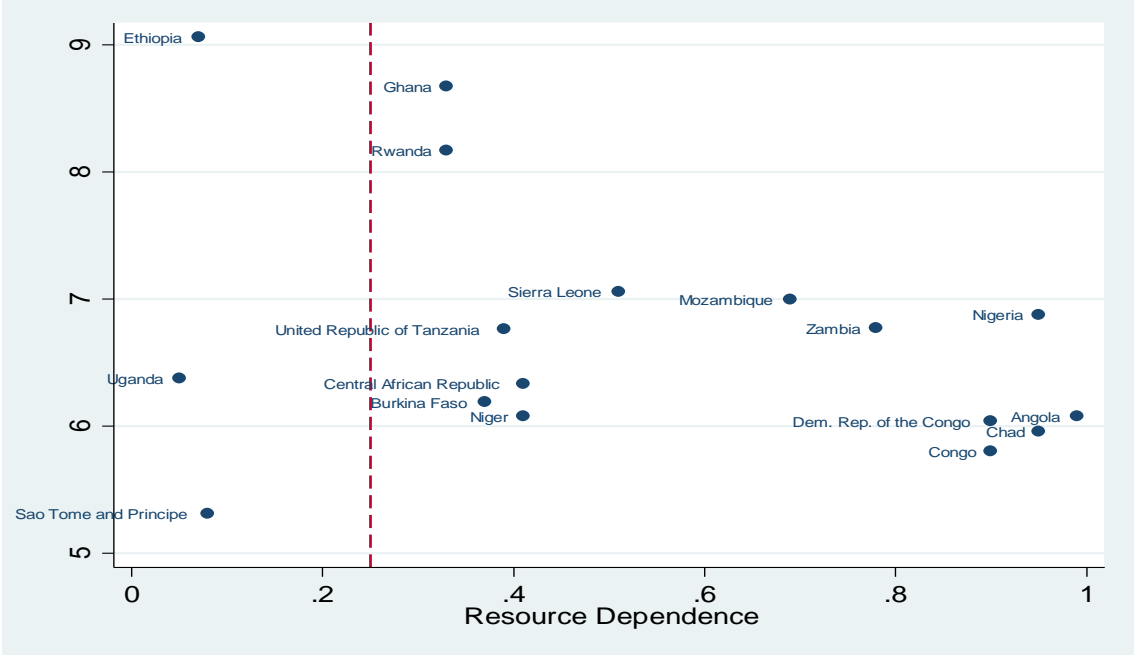
Source: Bhorat et al. (2017b) using data from WDI (2014)

Figure 14 clearly illustrates this point: 14 of the 17 fastest growing African economies between 2008 and 2012 are classified as resource-dependent – measured as the share of natural resource exports in total export revenues being greater than 25 percent for a period of five years – with some countries yielding almost 100% dependence. It is though important to note economies such as Ethiopia and Uganda which have recorded very high growth rates, without the associated link to the natural resource boom.

The association between natural resources and inequality is still being understood but as Bhorat *et al.* (2017b) point out - whilst on average resource-dependent and non-resource dependent countries in Africa may have similar levels of income inequality, resource-dependent

countries are at greater risk of extremely unequal outcomes. Therefore, whilst the aggregate relationship may not be so clear, there are some institutional mechanisms that can explain the potential for natural resource dependence to lead to higher levels of inequality.

Institutional quality – such as the state's ability to redistribute income and regulate markets – forms the central pivot on whether resource dependence is a blessing or a curse (Mehlum, Moene and Torvik, 2006). Supporting this idea, Brunnschweiler and Bulte (2008) provide evidence to suggest that it is weak institutions that cause a dependence on natural resources since countries with weak institutions are unlikely to develop non-primary goods sectors. Adding more nuance to the subject, other scholars have argued that the institutional setting of the country is endogenous and as such can change with respect to its resource endowment. In particular, Jensen and Wanchekon (2004) argue that natural resource dependence can have a negative impact on both democratic transition and demographic consolidation. Therefore, it is likely that the discovery of natural resources has the potential to lead to weakened institutions due to the political capture of rents, and that when institutions are initially weak, there is a lower possibility of inclusive growth based on resources.

As Bhorat *et al.* (2017b) highlight, there are some specific characteristics of natural resource extraction that make it vulnerable to the formation of economic enclaves of growth. First, the provision of mining licenses, when not conducted in an open, transparent and competitive way, creates the space for the political capture of resource rents. Second, the high cost of entry into resource markets makes this sector prone to monopolistic market structures. This can promote an unequal growth path through the sub-optimal allocation of resources in an economy, excess economic profit from higher prices, and a concentration of power within this sector to alter economic policies to their benefit and against an industrial policy that will allow more broad-based access to the gains of economic production and growth. Third, much has been written about the Dutch Disease, which operates primarily through the channel of an overvalued exchange rate which dampens the prospects for export-oriented agriculture and manufacturing sectors to grow. Finally, the problem of illicit financial flows from countries with large natural resource sectors has been highlighted as a major loss of financial resources that could be spent on productive investments in infrastructure, education and health care. Tax incentives offered by developing countries, aggressive tax planning by multinationals, trade mis-pricing by multinational companies with overly complicated ownership structures, and plain illegal tax evasion are some of the ways in which this sector is particularly prone to illicit financial flows (Ndikumana, 2013; Zucman, 2014).

Shown more concretely in Figure 15, the composite scores from the Resource Governance Index, which takes into account licensing and contracting procedures, illustrate that 32 of the 58 countries in the sample of resource-dependent economies have weak or failing governance structures for natural resources. Half of these weak or failing states are African (shown in red). Otherwise stated, over 75 per cent of the African countries included in the index had weak or failing resource governance bodies. In addition, using the World Bank's Social Protection Score for a range of African countries suggests that the highly resource-dependent countries score

the lowest, indicating a weaker ability on average to redistribute through social protection measures than African countries that are not as highly resource-dependent (Bhorat *et al.*, 2017b).

Figure 15: Resource Governance Index (100=best), 2013
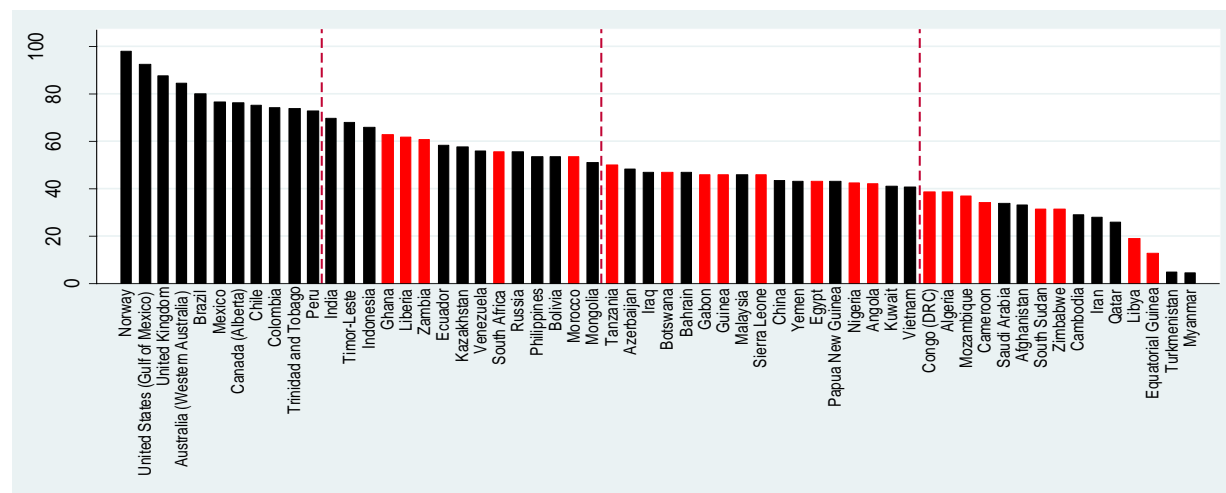
Ultimately, this section has discussed a number of potential channels through which natural resource-dependent economies may lead to rising inequality. The issues of poor governance, lack of transparency in government revenue collection and fiscal expenditure allocations, and the power imbalance between large multinational corporations in extractive industries and weak states in negotiating fair deals are all part of the link between resource dependence and unequal economic outcomes. Furthermore, deleterious outcomes on growth and development are perpetuated in an environment where civil society groups are often not free to actively engage in the governing process through the use of open media, legal protests or community awareness initiatives.

3   Conclusion

This paper has attempted to provide a very broad and brief empirical overview of the nature and pattern of growth, poverty and inequality in Africa. It is well established that many African economies have been growing rapidly. However, poverty has not always declined as rapidly as expected and inequality remains stubbornly high in many countries. Our descriptive statistics highlight that it is difficult to draw simple generalizations around the nature and pattern of inequality across Africa as there is substantial variation in both levels and changes over time. However, a few key observations do emerge. Firstly, that on average, Africa has higher than average and median inequality when compared to the rest of the developing region. Secondly, a notable feature of inequality on the continent is the presence of seven economies exhibiting extremely high levels of inequality – the 'African outliers' – which also serve to drive this inequality differential with the rest of the developing world. Thirdly, over time, based on the

available data, average levels of inequality have declined in Africa, driven mostly by the economies not classified as highly unequal.

We highlight several key structural factors that are going to impact the pathways of the growth-poverty-inequality relationship in Africa going forward. First, Africa is going to be home to a large and fast-growing youth population that will represent both a productive opportunity for growth and at the same time, a major employment creation challenge. Second, Africa has been unable to grow its manufacturing base across most of the continent and is experiencing 'premature deindustrialization.' This is in part driven by African countries being unable to increase product complexity and position themselves within high value global value chains. Notably, there is country-level heterogeneity, with Ethiopia standing out as a successful case of increasing its manufacturing capability towards producing higher value products, rather than having a product space that is more heavily weighted towards peripheral products (based on natural resources) like in many other African countries. Finally, Africa's continued dependence on natural resources as a source of growth, without the accompanying diversification, has the potential to reinforce high levels of inequality in many of these countries. As we discuss, there are several specific institutional channels through which natural resource-dependence can have deleterious effects on the development, primarily related to transparency and accountability in the relationship between the state and large multinational corporations, as well as the ability of the state to both redistribute income and regulate markets.

Clearly, growth alone is not enough to lower inequality and reduce poverty in Africa at a rapid enough pace. In addition, economic growth originating from capital-intensive resource-based sectors has a low likelihood of creating the kinds of formal jobs that are needed to narrow the income distribution. Along with enhancing the industrial base of African economies is the need to build effective higher education institutions that are able to respond to the demands of a growing economy, and thus place African economies on to a more inclusive and equalizing growth path.

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