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PRODUCTIVITY, JOBS, AND GROWTH IN AFRICA: Six Pieces of the Puzzle

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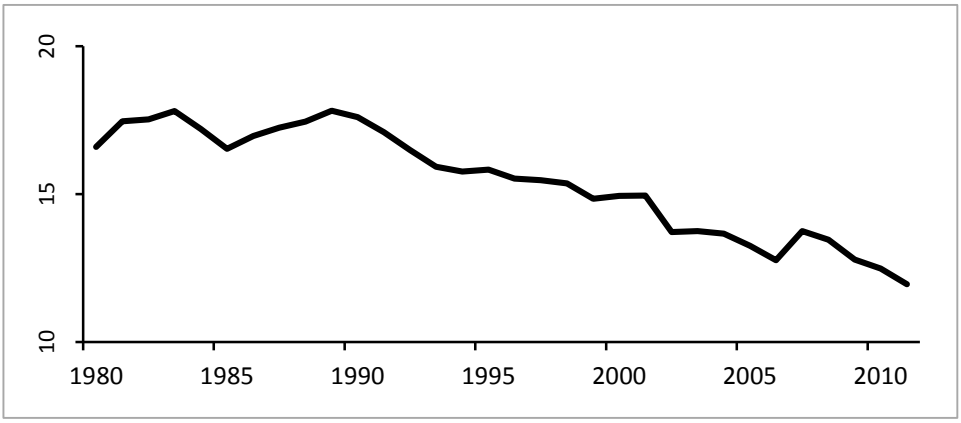
INTRODUCTION[1]

African countries have undergone significant macroeconomic reforms since the late 1980s. Why have these reforms not resulted in more jobs in the formal sector? Why have we not seen more growth in the private sector? In this essay, I present six charts that describe the situation with regard to employment and growth in the formal sector, and conclude with some possible explanations for what we observe in Africa. The text accompanying each chart is excerpted from three recent working papers—two of these, on labor costs and productivity, are coauthored with Alan Gelb and Christian Meyer (2013, 2014) and the third, on job creation, is coauthored with Leonardo Iacovone and Martin Schmidt (2013).

AFRICAN MANUFACTURING IS DECLINING

The share of manufacturing as a percentage of GDP has been declining across Africa, from around 16 percent in 1980 to a little over 10 percent in 2010 (Figure 1).

Figure 1: Sub-Saharan African Manufacturing Sector (Avg % GDP)



Source: WDI

On paper, about 20 percent of Africa's exports are industrial products. However, except for South African auto components and garments, both of which have benefited from special incentives, Africa exports almost no manufactured goods that are not based on the processing of raw materials.

INTER-SECTORAL PRODUCTIVITY DIFFERENCES ARE VERY LARGE

Figure 2 is based on national accounts data from McMillan and Rodrik (2011), weighted by inter-sectoral employment shares. It illustrates the strong negative correlation between economy-wide productivity and inequality of inter-sectoral productivity. For African countries excluding Mauritius, the Gini coefficient averaged about 0.5 in 2005, compared to about 0.35 for countries in other regions.

[1] This essay is based on a presentation made at a conference on African Development, organized by the Center for the Study of Globalization at Yale in April 2014. The author is grateful to Ernesto Zedillo and seminar participants for helpful comments and suggestions.

Figure 2 (first panel): Gini coefficient of weighted productivity distribution vs. average productivity based on macro data

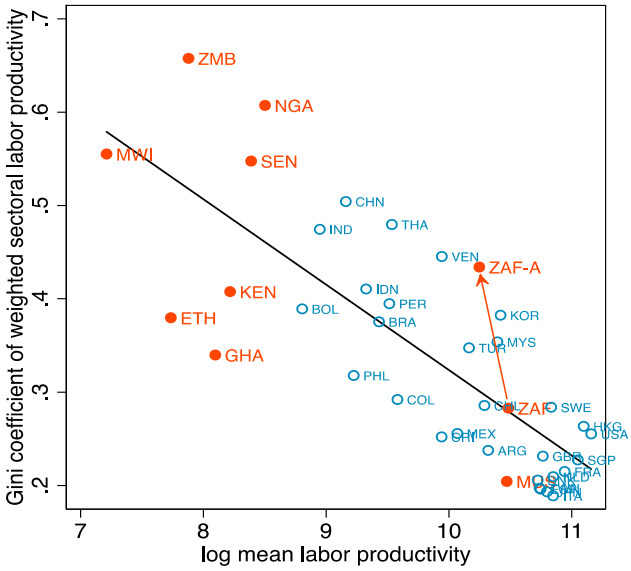
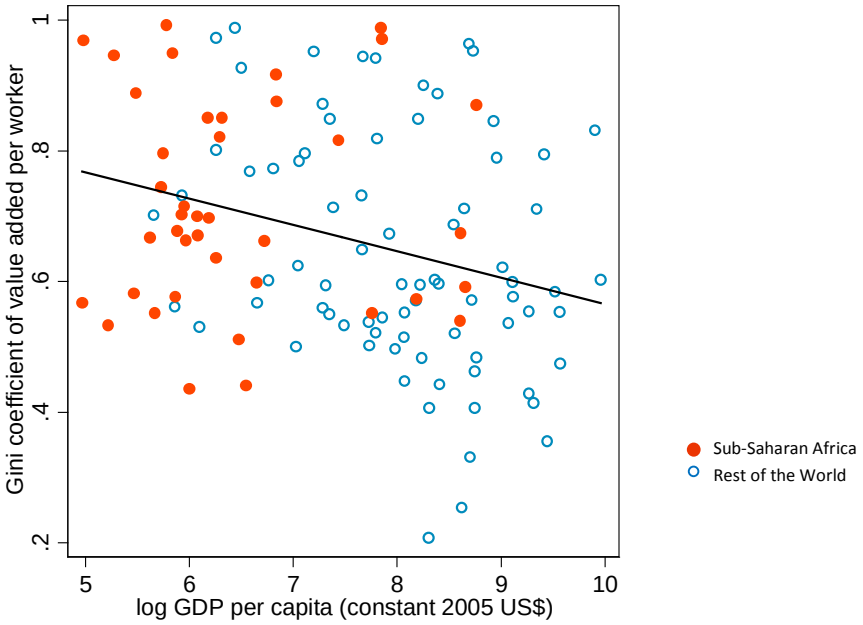


Figure 2 (second panel): Gini coefficient of value added per worker and GDP per capita based on firm survey data.



Source: Gelb, Meyer and Ramachandran (2014), Statistics South Africa, and World Bank Enterprise Surveys.
Note: Point ZAF-A calculated by adjusting South Africa's productivity distribution for unemployment, assuming zero labor productivity for the unemployed.

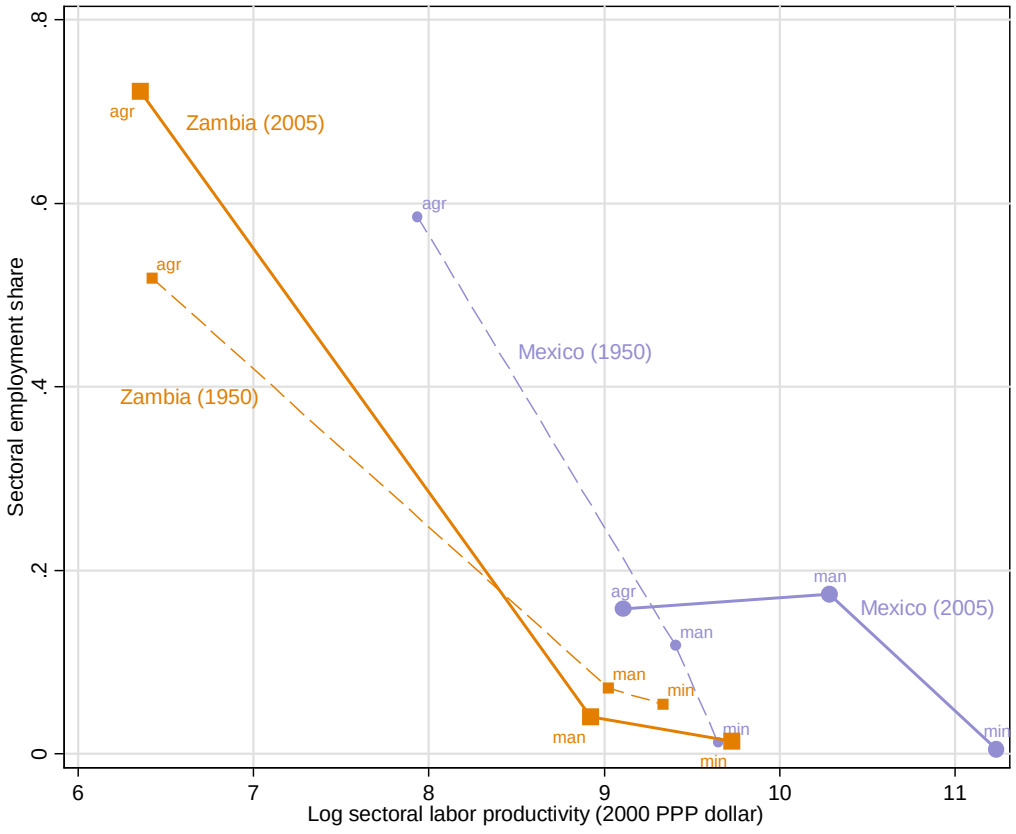
Africa does not lack productive sectors and firms, even in its low-income economies. However, in many countries, firms with apparently high productivity (sometimes more apparent than real because measured productivity may partly reflect monopoly profits) coexist with sectors and subsistence enterprises whose productivity is very low. African countries appear to experience a "convergence failure" and have significantly more variance and levels of inequality in inter-sectoral productivity than other countries.

Figure 2 also shows that Africa's Gini coefficient is even higher if allowance is made for the exceptionally high level of unemployment in South Africa. Including the unemployed as a zero-productivity sector boosts South Africa's productivity Gini from below 0.3 to above 0.4, a relatively high coefficient for a middle-income country (see Figure 2, point ZAF-A).

STRUCTURAL CHANGE HAS RUN COUNTER TO EXPECTED PATTERNS

Despite the reforms that African countries have undergone since the structural adjustment phase of the late 1980s, McMillan and Rodrik (2011) find that between 1990 and 2005 Africa's structural change ran counter to the expected pattern of structural convergence. The share of employment in agriculture as opposed to manufacturing has not followed the traditional pattern we observe in Asia or Latin America. Figure 3 illustrates the diverging longer-term trajectories of sectoral productivity and employment shares in Zambia and Mexico.

Figure 3: Labor productivity and employment share for selected sectors, Zambia and Mexico



Source: Gelb, Meyer and Ramachandran (2014).
Notes: agr = Agriculture; man = Manufacturing; min = Minerals.

In contrast to the pattern in rapidly growing Asian countries, labor in African countries moved from high- to low-productivity activities.

McMillan and Rodrik (2011) also show that economies with a revealed comparative advantage in extractives are at a disadvantage. The larger the share of natural resources in exports, the smaller is the scope of productivity-enhancing structural change. Even though "enclave" extractive sectors may have high labor

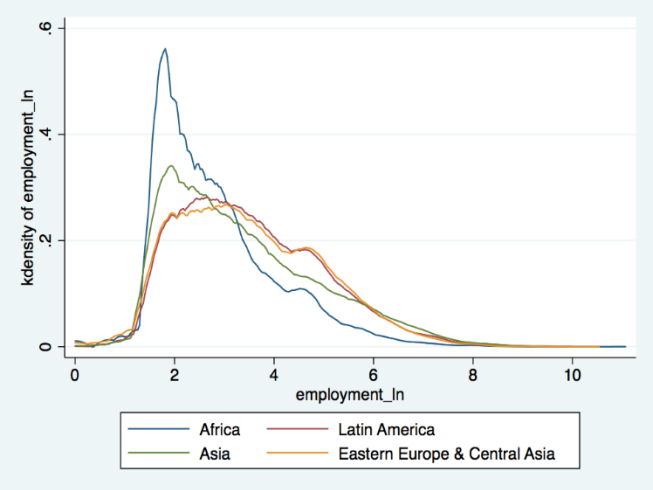
productivity, they cannot absorb the surplus workers from agriculture, many of whom have thus moved into low-productivity services.

More recent data (McMillan, 2013) suggest that there may have been a turnaround, with a positive growth contribution from structural change, over 2005–10. Even so, over the long term, globalization appears not to have fostered a desirable pattern of structural change in Africa.

AFRICAN FIRMS ARE SMALLER, YOUNGER, AND LESS LIKELY TO EXPORT

Businesses are smaller in African countries than elsewhere. Figure 4, based on data from World Bank Enterprise surveys, describes the kernel density estimation of the size distribution of firms for all firms in the sample, grouped by region. The size distribution of firms in Africa peaks at about seven employees per firm. We see that in Africa there is a larger share of firms at low levels of employment than in other regions, and that the density of larger firms is lower in Africa than elsewhere. African firms are also younger and are less likely to export their products.

Figure 4: Employment Distribution of Firms in Sample

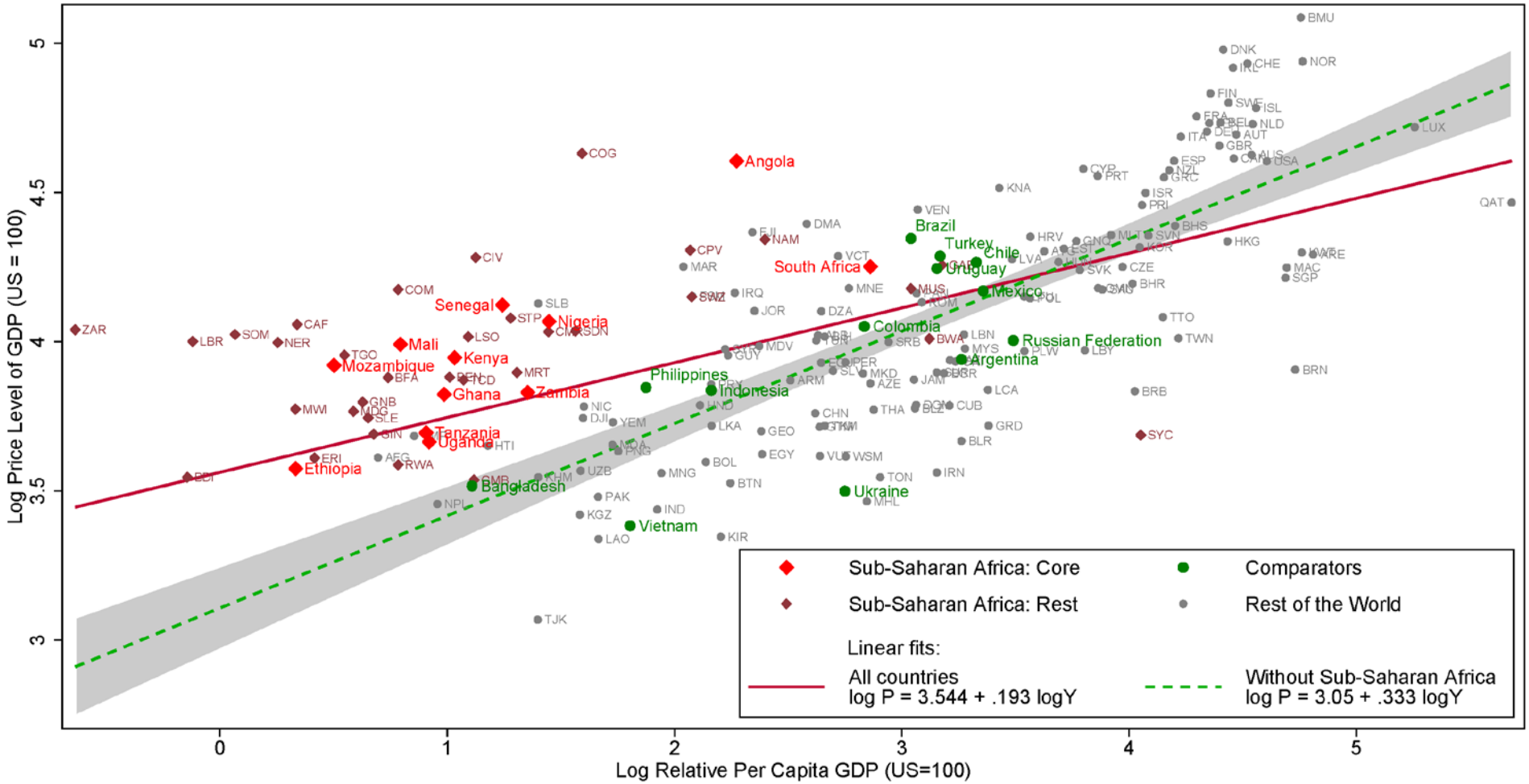


Source: Iacovone, Ramachandran and Schmidt (2014)

THE "BALASSA GAP": AFRICAN COUNTRIES ARE COSTLY

Living costs are high in African countries. Data for 188 countries from the Penn World Tables 7.0 (2011) show that the slope of the relationship between purchasing power parity (PPP) prices and income for African countries differs significantly from that for other countries. Relative to other middle-income countries, those in Africa are only slightly more costly; on average, PPP price indices are around the global average for a country at South Africa's level of income. But the normal relationship breaks down for low-income Africa: relative to low-income comparators such as Bangladesh, India, and Vietnam, African countries are considerably more costly. Figure 5 plots the price level in a country vs. the country's income per head. It shows that the average "Balassa Gap"—the extent to which PPP price levels deviate from the global Balassa-Samuelson relationship— is 35 percent for the twelve African countries in our sample, but zero for the comparators.

Figure 5: Balassa-Samuelson Relationship of Price Level and GDP per Capita (5-year Average 2005 to 2009)



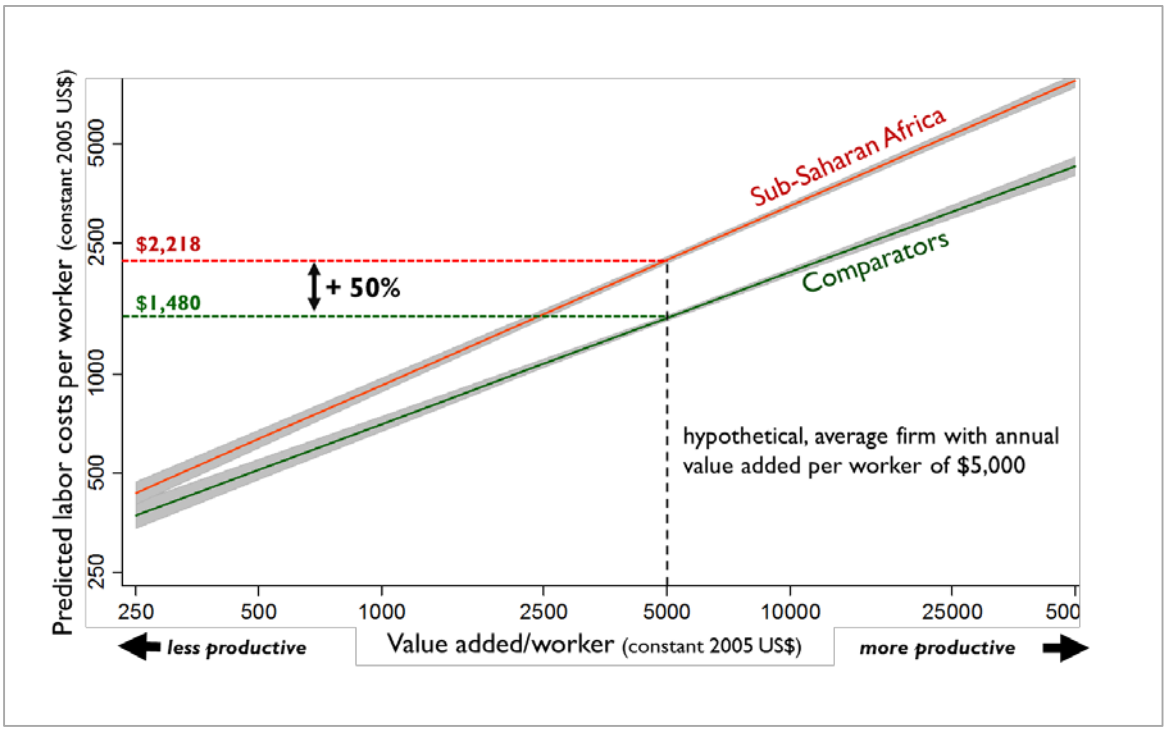
Source: Authors' calculations, based on Penn World Tables 7.0 (May 2011).
Note: Specification replicates Rogoff (1996, p. 660), 188 observations (Zimbabwe excluded). Grey area shows 95 percent confidence interval.

LABOR COSTS ARE HIGH

African labor is not cheap. Analysis of data from the World Bank's Enterprise Surveys shows that predicted labor costs in African countries differ from those in low-income countries in Asia. In Figure 6, all variables in the estimation are held at the global means, except for value added per worker which is allowed to vary around the sample midpoint of US$5,000.

Figure 6 shows that, after controlling for firm characteristics and country effects, African firms pay a markup (wage premium) of about 50 percent at the midpoint. It also shows that except at very low levels of value added per worker, there is *no* overlap between firms in Africa and firms elsewhere: even small African firms (with fewer than 20 workers) are more expensive, relative to GDP, than large firms in the comparator countries. The difference in predicted labor cost between African and other firms is greater for higher levels of value added per worker. Labor costs, broken down by capital intensity, indicate that African firms are more costly than their counterparts in other regions. In addition, there is rather little difference in Africa between high and low capital-intensity firms. But outside Africa, all else equal, firms with lower capital/labor ratios are able to pay their workers relatively less than highly capital-intensive firms pay.

Figure 6: Predicted labor cost by value added, Africa and comparators



Source: Gelb, Meyer, and Ramachandran (2013).

CONCLUSION

We do not fully understand the reasons behind these patterns. Available evidence indicates that Africa's slow rate of productivity growth and structural transformation partly reflects slow productivity convergence at both the sector and firm levels. A number of factors are responsible, and while every country has its particularities, there are common threads that characterize most experiences. These have roots in Africa's geography and its distinctive history, including the legacy of the colonial period on state formation and market structure, and the highly uneven distribution of human capital among its population. These and other

factors have contributed to a political economy that has sustained a poor and high-cost business climate, which in turn has constrained the productivity of individual firms and slowed productivity convergence.

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