



Globalization, Structural Change, and Productivity Growth, with an Update on Africa

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Summary. — Large gaps in labor productivity between the traditional and modern parts of the economy are a fundamental reality of developing societies. In this paper, we document these gaps, and emphasize that labor flows from low-productivity activities to high-productivity activities are a key driver of development. Our results show that since 1990 structural change has been growth reducing – with labor moving from low – to high- productivity sectors - in both Africa and Latin America, with the most striking changes taking place in Latin America. Our results also show that things seem to be turning around in Africa: after 2000, structural change contributed positively to Africa’s overall productivity growth. For Africa, these results are encouraging. Moreover, the very low levels of productivity and industrialization across most of the continent indicate an enormous potential for growth through structural change.

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1. INTRODUCTION

One of the earliest and most central insights of the literature on economic development is that development entails structural change. The countries that manage to pull out of poverty and get richer are those that are able to diversify away from agriculture and other traditional products. As labor and other resources move from agriculture into modern economic activities, overall productivity rises and incomes expand. The speed with which this structural transformation takes place is the key factor that differentiates successful countries from unsuccessful ones.

Developing economies are characterized by large productivity gaps between different parts of the economy. Dual economy models à la W. Arthur Lewis have typically emphasized productivity differentials between broad sectors of the economy, such as the traditional (rural) and modern (urban) sectors. More recent research has identified significant differentials within modern, manufacturing activities as well. Large productivity gaps can exist even among firms and plants within the same industry. Whether between plants or across sectors, these gaps tend to be much larger in developing countries than in advanced economies. They are indicative of the allocative inefficiencies that reduce overall labor productivity.

The upside of these allocative inefficiencies is that they can potentially be an important engine of growth. When labor and other resources move from less productive to more productive activities, the economy grows even if there is no productivity growth *within* sectors. This kind of growth-enhancing structural change can be an important contributor to overall economic growth. High-growth countries are

typically those that have experienced substantial growth-enhancing structural change. As we shall see, the bulk of the difference between Asia’s recent growth, on the one hand, and Latin America’s and Africa’s, on the other, can be explained by the variation in the contribution of structural change to overall labor productivity. Indeed, one of the most striking findings of this paper is that in many Latin American and Sub-Saharan African countries, broad patterns of structural change have served to *reduce* rather than increase economic growth since 1990.

Developing countries, almost without exception, have become more integrated with the world economy since the early 1990s. Industrial tariffs are lower than they ever have been and foreign direct investment flows have reached new heights. Clearly, globalization has facilitated technology transfer and contributed to efficiencies in production. Yet the very diverse outcomes we observe among developing countries suggest that the consequences of globalization depend on the *manner* in which countries integrate into the global economy. In several cases—most notably China, India, and some other Asian

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countries—globalization’s promise has been fulfilled. High-productivity employment opportunities have expanded and structural change has contributed to overall growth. But in many other cases—in Latin America and Sub-Saharan Africa—globalization appears not to have fostered the desirable kind of structural change. Labor has moved in the *wrong* direction, from more productive to less productive activities, including, most notably, informality.

This conclusion would seem to be at variance with a large body of empirical work on the productivity-enhancing effects of trade liberalization. For example, study after study shows that intensified import competition has forced manufacturing industries in Latin America and elsewhere to become more efficient by rationalizing their operations.¹ Typically, the least productive firms have exited the industry, while remaining firms have shed “excess labor.” It is evident that the top tier of firms has closed the gap with the technology frontier—in Latin America and Africa, no less than in East Asia. However, the question left unanswered by these studies is what happens to the workers who are thereby displaced. In economies that do not exhibit large inter-sectoral productivity gaps or high and persistent unemployment, labor displacement would not have important implications for economy-wide productivity. In developing economies, on the other hand, the prospect that the displaced workers would end up in even lower-productivity activities (services, informality) cannot be ruled out. That is indeed what seems to have typically happened in Latin America and Africa. An important advantage of the broad, general-equilibrium approach we take in this paper is that it is able to capture changes in inter-sectoral allocative efficiency as well as improvements in within-industry productivity.

Our results for Africa are especially puzzling. The countries in Africa are by far the poorest countries in the world and thus stand to gain the most from structural transformation. Moreover, the fact that structural change in Africa was growth reducing during 1990–2005 seems at odds with Africa’s much touted economic success in recent years. The start of the 21st century saw the dawn of a new era in which African economies grew as fast or faster than the rest of the world. To better understand the results for Africa, in this update we decompose our analysis into two periods: 1990–1999 and 2000 onward. The latter period corresponds to what many have dubbed the “African Growth Miracle” and to a surge in global commodity prices. Our results for the period 2000 onward are notably different for Africa from those reported in the original version of this paper (McMillan & Rodrik, 2011). From 2000 onward, we show that structural change contributed positively to Africa’s overall growth accounting for nearly half of it.² We also find that in over half of the countries in our Africa sample, structural change coincided with some expansion of the manufacturing sector (albeit the magnitudes are small) indicating that these economies may be becoming less vulnerable to commodity price shocks. For the other regions, the results do not differ significantly across periods.

In our empirical work, we identify three factors that help determine whether (and the extent to which) structural change goes in the right direction and contributes to overall productivity growth. First, economies with a revealed comparative advantage in primary products are at a disadvantage. The larger the share of natural resources in exports, the smaller the scope of productivity-enhancing structural change. The key here is that minerals and natural resources do not generate much employment, unlike manufacturing industries and related services. Even though these “enclave” sectors typically operate at very high productivity, they cannot absorb the surplus labor from agriculture.

Second, we find that countries that maintain competitive or undervalued currencies tend to experience more growth-enhancing structural change. This is in line with other work that documents the positive effects of undervaluation on modern, tradable industries (Rodrik, 2008). Undervaluation acts as a subsidy on those industries and facilitates their expansion.

Finally, we also find evidence that countries with more flexible labor markets experience greater growth-enhancing structural change. This also stands to reason, as rapid structural change is facilitated when labor can flow easily across firms and sectors. By contrast, we do not find that other institutional indicators, such as measures of corruption or the rule of law, play a significant role.

The remainder of the paper is organized as follows. Section 3 describes our data and presents some stylized facts on economy-wide gaps in labor productivity. The core of our analysis is contained in Section 3, where we discuss patterns of structural change in Africa, Asia, and Latin America since 1990. Section 4 focuses on explaining why structural change has been growth-enhancing in some countries and growth-reducing in others. Section 5 offers final comments. The Appendix provides further details about the construction of our data base.

2. THE DATA AND SOME STYLIZED FACTS

Our data base consists of sectoral and aggregate labor productivity statistics for 38 countries, covering the period up to 2005. Of the countries included, 29 are developing countries and nine are high-income countries. The countries and their geographical distribution are shown in Table 1, along with some summary statistics.

In constructing our data, we took as our starting point the Groningen Growth and Development Center (GGDC) data base, which provides employment and real valued added statistics for 27 countries disaggregated into 10 sectors (Timmer & de Vries, 2007, 2009).³ The GGDC dataset does not include any African countries or China. Therefore, we collected our own data from national sources for an additional 11 countries, expanding the sample to cover several African countries, China, and Turkey (another country missing from the GGDC sample). In order to maintain consistency with the GGDC Database data, we followed, as closely as possible, the procedures on data compilation followed by the GGDC authors.⁴ For purposes of comparability, we combined two of the original sectors (Government Services and Community, Social, and Personal Services) into a single one, reducing the total number of sectors to nine. We converted local currency value added at 2000 prices to dollars using 2000 PPP exchange rates. Labor productivity was computed by dividing each sector’s value added by the corresponding level of sectoral employment. We provide more details on our data construction procedures in the Appendix. The sectoral breakdown we shall use in the rest of the paper is shown in Table 2.

A big question with data of this sort is how well they account for the informal sector. Our data for value added come from national accounts, and as mentioned by Timmer and de Vries (2007), the coverage of such data varies from country to country. While all countries make an effort to track the informal sector, obviously the quality of the data can vary greatly. On employment, Timmer and de Vries’ strategy is to rely on household surveys (namely, population censuses) for total employment levels and their sectoral distribution, and use labor force surveys for the growth in employment between census years. Census data and other household surveys tend to

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