Transforming Agriculture Conference
8-9 November 2012

GHANA
Strategy Support Program

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE
IFPRI
A member of the CGIAR Consortium

Economic Transformation in Africa

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DISCUSSION NOTE # 001

INTRODUCTION

One of the earliest and most central insights from 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 transformation takes place is one of the key factors that differentiate successful countries from unsuccessful ones.

Developing economies are characterized by large productivity gaps between different parts of the economy. Dual-economy models such as that of W Arthur Lewis have typically emphasized productivity differentials between broad sectors of the economy, such as agriculture and industry. More recently, 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 growth.

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.

These productivity gaps are particularly pronounced in much of Africa. Comparing value added per employee across different sectors, researchers have shown that productivity in the rest of the economy exceeds productivity in agriculture by a factor of four—and in Africa the factor often exceeds eight. Researchers have also found that smaller but substantial gaps remain even after adjusting the data to take into account sectoral differences in hours worked, human capital per worker, urban-rural cost-of-living differences, and alternative measures of sector income from household survey data.

Using more detailed sectoral data, we show that besides agriculture, other sectors with lower-than-average productivity include services(community, personal, and government)and wholesale and retail trade. These sectors are characterized by substantial informality. Structural change that gets labor to move from one of these sectors to manufacturing or any of the other high-productivity sectors can provide a significant boost to real incomes.

Contrary to expectations, our recent work indicates that since 1990, structural change has been *growth-reducing* in both Africa and Latin America, with the most striking changes taking place in Latin America. The bulk of the difference between these countries' productivity performance and that of Asia is accounted for by differences in the pattern of structural change, with labor moving from low- to high-productivity sectors in Asia, but in the opposite direction in Latin America and Africa.

One way to emphasize the contribution of structural change to economic growth is to document how much of the income gap between rich and poor countries is accounted for by differences in economic structure as opposed to differences in productivity levels *within* sectors. Since even poor economies have some industries operating at high levels of productivity, it is evident that these economies would get a huge boost if such industries could employ a much larger share of the economy's labor force. The same logic applies to broad patterns of structural change as well, captured by our nine-sector classification.

Suppose that sectoral productivity levels in the poor countries were to remain unchanged, but that the inter-sectoral dis tribution of employment matched what we observe in the advanced economies.[1]

This means that developing countries would employ far fewer workers in agriculture and far more in their modern, pro

[1] The inter-sectoral distribution of employment for high-income countries is calculated as the simple average of each sector's employment share across the high-income sample.

ductive sectors. We assume that these changes in employment patterns could be achieved without any change (either up ordown) in productivity levels within individual sectors.Figures 1 and 2 show the consequences for economy-wide labor productivity.This means that developing countries would employ far fewer workers in agriculture and far more in their modern, productive sectors. We assume that these changes in employment patterns could be achieved without any change (either up or down) in productivity levels within individual sectors.Figures 1 and 2 show the consequences for economy-wide labor productivity.patterns could be achieved without any change (either up or down) in productivity levels within individual sectors.Figures 1 and 2 show the consequences for economy-wide labor productivity.This means that developing countries would employ far fewer workers in agriculture and far more in their modern, productive sectors. We assume that these changes in employment patterns could be achieved without any change (either up or down) in productivity levels within individual sectors.Figures 1 and 2 show the consequences for economy-wide labor productivity.

FIGURE 1—CONSQUENCES FOR ECONOMY-WIDE LABOR PRODUCTIVITY OUTSIDE OF AFRICA, 2005 (%)

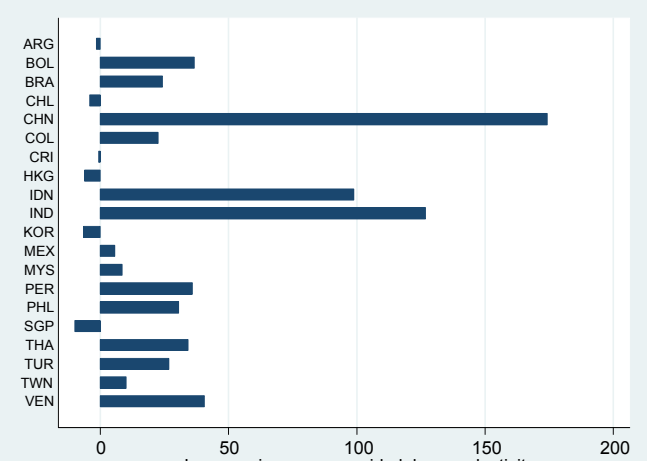
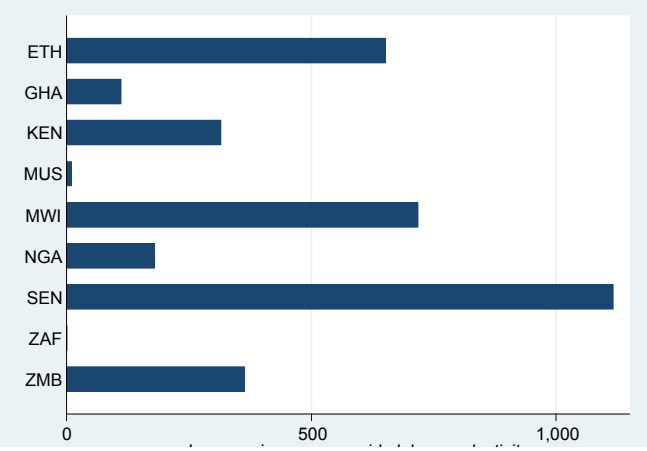


FIGURE 2—CONSQUENCES FOR ECONOMY-WIDE LABOR PRODUCTIVITY IN AFRICA, 2005 (%)

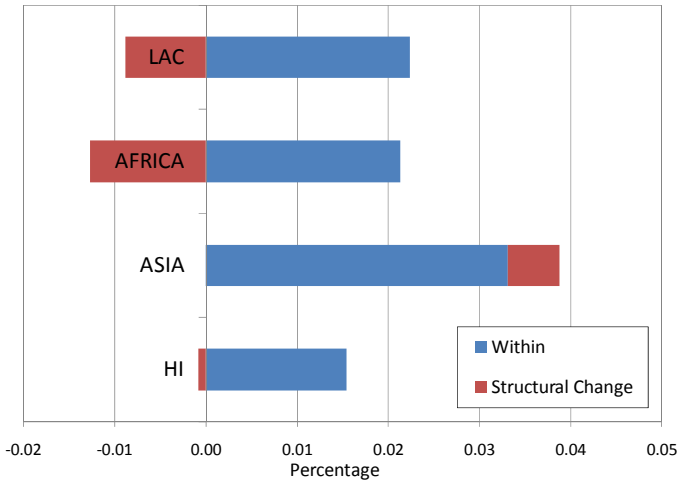


The hypothetical gains in overall productivity from sectoral reallocation, along the lines just described, are quite large, especially for the poorer countries in the sample. India's average productivity would more than double, while China's would almost triple (Figure 1). The potential gains are particularly large for several African countries, which is why those countries are shown on a separate graph using a different scale. Ethiopia's productivity would increase sixfold, Malawi's sevenfold, and Senegal's elevenfold. Of course, these numbers are not to be taken literally but are only indicative of the extent of dualism that marks poor economies. A large part of this project will involve more in-depth analysis of the data to better understand the extent to which these numbers reflect true differences in labor productivity.

PATTERNS OF STRUCTURAL CHANGE BY REGION

We present our central findings on patterns of structural change in Figure 3. Simple averages are presented for the 1990–2005 period for four groups of countries: Latin America, Sub-Saharan Africa, Asia, and high-income countries.[2]

FIGURE 3—PATTERNS OF STRUCTURAL CHANGE OF VARIOUS REGIONS



There are two sources of productivity growth. First, productivity can grow within economic sectors through capital accumulation, technological change, or reduction of misallocation across plants. We call this type of productivity growth "within". Second, labor can move across sectors, from low-productivity sectors to high-productivity sectors, increasing overall labor productivity in the economy. We call this type of productivity growth "structural change".

We note first that structural change has made very little contribution (positive or negative) to the overall growth in labor

[2] Even though Turkey is in our dataset, this country has not been included in this and the next figure because it is the only Middle Eastern country in our sample.

productivity in the high-income countries in our sample. This is as expected, since we have already noted the disappearance of inter-sectoral productivity gaps during the course of development. Even though many of these advanced economies have experienced significant structural change during this period, with labor moving predominantly from manufacturing to service industries, this (on its own) has made little difference to productivity overall. What determines economy-wide performance in these economies is, by and large, how productivity fares in each individual sector.

The developing countries exhibit a very different picture. Structural change has played an important role in all three regions. But most striking of all is the differences among the regions. In both Latin America and Africa, structural change has made a sizable *negative* contribution to overall growth, while Asia is the only region where the contribution of structural change is positive. We note that these computations do not take into account unemployment. Latin America (certainly) and Africa (possibly) would look considerably worse if we accounted for the rise of unemployment in these regions.

Hence, the curious pattern of growth-reducing structural change that we observed above for Latin America is repeated in the case of Africa. This only deepens the puzzle as Africa is substantially poorer than Latin America. If there is one region where we would have expected the flow of labor from traditional to modern parts of the economy to be an important driver of growth, as in the dual-economy models, surely it would be Africa. The disappointment is all the greater in light of all of the reforms that African countries have undergone since the late 1980s. Yet labor seems to have moved from high- to low-productivity activities on average, reducing Africa's growth by 1.3 percentage points per annum on average. Since Asia has experienced growth-enhancing structural change during the same period, it is difficult to ascribe Africa's and Latin America's performances solely to globalization or other external determinants. Clearly, country-specific forces have been at work as well.

Differential patterns of structural change in fact account for the bulk of the difference in regional growth rates. This can be seen by checking the respective contributions of the "within" and "structural change" components to the differences in productivity growth in the three regions. Asia's labor productivity growth in the 1990–2005 period exceeded Africa's by 3 percentage points per annum and Latin America's by 2.5 percentage points. Of this difference, the structural change term accounts for 1.84 points (61 percent) in Africa and 1.45 points (58 percent) in Latin America. We saw above that the decline in the contribution of structural change was a key factor behind the deterioration of Latin American productivity growth since the 1960s. We now see that the same factor accounts for the lion's share of Latin America's (as well as Africa's) under-performance relative to Asia.

EXPLAINING PATTERNS OF ECONOMIC TRANSFORMATION

All developing countries in our sample have become more globalized during the period under consideration. They have phased out remaining quantitative restrictions on imports, slashed tariffs, encouraged direct foreign investment and exports, and, in many cases, opened up to cross-border financial flows. Thus, it is natural to think that globalization has played an Important, behind-the-scenes role in driving the patterns of structural change documented earlier.

However, it is also clear that this role cannot have been a direct, straightforward one. For one thing, what stands out in the findings described previously is the wide range of outcomes. Some countries (mostly in Asia) have continued to experience rapid, productivity-enhancing structural change, while others (mainly in Africa and Latin America) have begun to experience productivity-reducing structural change. A common external environment cannot explain such large differences. Second, as important as agriculture, mining, and manufacturing are, a large part—perhaps a majority—of jobs are still provided by nontradable service industries. Therefore, whatever contribution globalization has made, it must depend heavily on local circumstances, choices made by domestic policymakers, and domestic growth strategies.

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.

1. 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 has been productivity-enhancing structural change. The important point 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 high productivity, they cannot absorb the surplus labor from agriculture. However, it is important to remember that much of the now industrialized world built their manufacturing sectors on the back of natural resources. Thus, natural resource revenues—if channeled properly—could enhance economic transformation.
2. Countries that maintain competitive or undervalued currencies tend to experience more growth-enhancing structural change. This finding 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.

3. Finally, we also find evidence that countries with more flexible labor markets experience greater growth-enhancing structural change. This makes sense, 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.

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This publication has been prepared as an output of the Ghana Strategy Support Program, which is funded by USAID and facilitated by The International Water Management Institute (IWMI) headquarters. It has not been peer reviewed. Any opinions stated herein are those of the author(s) and do not necessarily reflect the policies of the International Food Policy Research Institute (www.ifpri.org), its partners, or its collaborators.