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Global Markets and Inequality in African Countries

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Globalization has had a big impact on many African countries in the last 20 years. It has provided a considerably expanded market for their exports; allowed them to specialize more in products for which they have a comparative advantage; and given their consumers access to an array of goods that they would not otherwise enjoy. In addition, it has led to impressive GDP growth in much of Africa, and has been an important force for improving average prosperity.

But there has been a downside, too. In particular, the gap between the incomes of the rich and poor that is, income inequality has significantly increased in many African countries, and global markets bear much responsibility for this. The growing inequality is unfortunate in at least three respects.

First, it violates the widely held moral tenet that people should be treated equally. Of course, some inequality is inevitable in a modern, well-functioning economy. To some extent, perhaps, it can even be useful by giving the most productive members of society the incentive to keep their productivity high. But an income gap that is too big is offensive to most people's egalitarian instincts.

Second, the recent trend towards inequality has left most poor people behind, and they continue to live in poverty. Thus, even if one doesn't care about rising inequality per se, one might well object to a trajectory in which GDP growth is high but relatively few people are lifted out of abject circumstances.

Third, we know from historical experience that countries with high inequality tend to be less politically and socially stable growing inequality tears at the social fabric. And so for the

purely pragmatic purpose of holding the country together, a country's leaders will want to counteract widening inequality.

Should we be surprised that globalization has led to rising inequality in African countries? The short answer is yes, because this trend contradicts the theory of comparative advantage, a line of thinking going back nearly 200 years to David Ricardo (Ricardo 1821). The theory has been impressively successful in explaining international trade patterns historically, and it predicts quite unambiguously that globalization should reduce inequality in developing economies. Because comparative advantage has been such an important idea in economics, let us review why it makes this prediction.

The theory asserts that, from the standpoint of trade, the important difference between countries lies in their relative endowments of the "factors of production", the inputs to the production process. Since our concern here is with income and income inequality, labour is the most relevant input for us. Let us suppose that it comes in two forms: high-skill and low-skill labour. To understand the theory's implications for a developing country, we need to compare it to a rich country. Presumably, the rich country is rich because it has a higher proportion of high-skill workers than the developing country does. This implies that that the rich country has a comparative advantage in producing goods requiring a high proportion of high-skill workers, e.g., computer software. The developing country, by contrast, has a comparative advantage in providing goods where skill doesn't matter so much for production, e.g., rice.

To see the effect of globalization, let's look at production patterns before globalization (i.e., before the two countries can

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trade with each other) and afterwards (when trade is possible). The difference between the two can be ascribed to trade.

Before globalization, companies in the rich country must produce both software and rice; both goods are demanded by consumers in the rich country, but importing them is impossible. Similarly, companies in the developing economy must also produce both goods.

But there is a sense in which the developing economy's software production is "inefficient": the labour force is better suited to producing rice. Indeed, low-skill workers in the developing economy are actually hurt by the software production. After all, they are not much needed for software but greatly needed for rice. Thus, to the extent that production is diverted from rice to software, demand for their labour is reduced, and so low-skill wages in developing countries will be lower. High-skill workers, by contrast, benefit from the software production: their wages are correspondingly higher.

Now, let's suppose that the door to trade between the two countries opens. The rich country will shift production from rice to software, and import rice from the developing country. The developing country will shift production from software to rice and import software from the rich country. Thus the developing country now produces more rice and less software than before. This raises the demand for low-skill workers (since rice uses low-skill labour more intensively than does software) and correspondingly reduces the demand for high-skill workers. The upshot is that low-skill wages rise and high-skill wages fall: inequality is reduced.

The foregoing is the standard explanation for why globalization should reduce the wage gap in developing countries. And indeed, this prediction was accurate for all previous globalizations (it should be remembered that the current globalization is by no means the first). For example, there was a great expansion of trade between Europe and the United States in the late 19th century (brought about by a substantial decline in the cost of shipping goods across the Atlantic). At that time, Europe had a relative abundance of low-skill labour (i.e., it was the "developing economy"), and, with globalization, inequality fell there, just as comparative advantage theory said it would.

But comparative advantage has not fared as well for understanding international trade today, since inequality in many developing countries has been increasing. This failure led my colleague Michael Kremer and me to study why this globalization is different. We have concluded its hallmark is the way in which it has internationalized the production process itself. Think of computers, for example. A particular computer line might have its hardware designed in the United States, its software written in Europe, and its assembly carried out in China. A similar pattern is followed by literally thousands of other goods. International production, we would argue, is the most important distinguishing feature of the current globalization.

Kremer and I have built a model to explore the implications of globalized production. In the simplest version of our approach,

a production process consists of two tasks: a managerial task that is relatively sensitive to the skill level of the person undertaking it, and a "subordinate" task that is less sensitive to skill. It is the job of a firm to "match" (i.e., to hire) a pair of workers one to be the manager, the other to be the subordinate. The firm's output will depend on these workers' skill levels.

To take a concrete setting, let us suppose that

$$\text{Output} = M^2S$$

where M is the manager's skill level and S is the subordinate's skill level. I claim that the sort of matching that firms will undertake depends on the set of workers available (i.e., on the labour force). If, for example, there are two workers of skill level 3 (i.e., two 3-workers) and two 4-workers, then two ways of matching are possible: cross-matching (in which each 3-worker is matched with a 4-worker and total output is $4^2 \cdot 3 + 4^2 \cdot 3 = 96$) and homogeneous-matching (in which each 3-worker is matched with another 3-worker and each 4-worker with another 4-worker, for total output $27 + 64 = 91$). In this case, we will expect competitive forces to lead to cross-matching, since output is higher that way. But if, instead, the labour force consists of two 2-workers and two 4-workers then we would predict homogeneous matching (because $8 + 64 > 32 + 32$)

The difference between the two examples illustrates that there are forces pushing in opposite directions. On the one hand, because the managerial and subordinate tasks are differentially sensitive to skill, cross-matching can be a good route to high output: putting a lower-skill worker in the subordinate position and a higher-skill worker in the managerial position (as in the first example). On the other hand, if skill levels are too different, then the high skill of a manager goes to waste with cross-matching, and homogeneous matching emerges instead (as in the second example). Thus, as I claimed, the kind of matching we get will turn on the available labour force.

This logic can be applied to understand how globalization affects inequality. As before, let us focus on two countries, one rich and one developing. Let us suppose that there are four skill levels A, B, C and D , where $A > B > C > D$ and that the A - and B -workers live (primarily) in the rich country, whereas the C - and D -workers reside in the developing country.

We want to do the same kind of thought experiment as for comparative advantage, namely, to compare the pre- and post-globalization patterns. In the Kremer–Maskin setting, "preglobalization" means that international production is not possible, i.e., workers from different countries cannot be matched together. Hence, before globalization, we would expect (for a broad range of parameter values) that A - and B -workers will be cross-matched together in the rich countries and that C - and D -workers will be cross-matched together in the developing country. After globalization, by contrast, international matchings become possible (the available labour

force becomes global), and it is quite likely that, in particular we will see cross-matchings between B-workers from the rich country and C-workers from the developing country.

What effect does globalization have on C and D wages? Well, as I have suggested, C-workers have a new matching opportunity (with B-workers) thanks to international production. So, they should see an increase in their wages. D-workers however, will either be matched with C-workers (the ones who aren't realigned with B-workers) or matched with other D-workers (homogeneous-matching). But, in either case, the D wage at best stays the same, and perhaps even falls.

Hence globalization causes the disparity between C and D wages to grow, implying that income inequality increases in the developing country exactly what we have seen in so many African countries. Indeed, I believe that this alternative theory goes a long way towards explaining what has happened in

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Africa: relatively skilled workers (the C-workers) got new opportunities from globalization, but the least skilled people (the D-workers) have been left behind. Perhaps my and Michael Kremer's theory will prove useful in discussions of why global markets have failed to reduce inequality in African countries. I hope so.

References

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