20. Actors of Change in Africa: Human Capital and Markets

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20.1 Introduction

In this paper I will be presenting two ideas that I think are critical to economic development. The two ideas are markets and human capital. I will argue that these two factors are often unappreciated in economic development circles—or, I should say, their importance relative to other factors is unappreciated. I will also discuss how, when given the opportunity, Africans have seized market opportunities, acquired human capital, and achieved major successes that are also often unappreciated.

As regards human capital, I'm going to think of it as including technology, particularly information communication technology. When talking about markets, I'm scared people are going to think of me as some right-wing African radical. Due to recent very generous funding, I've been able to spend a lot of time in villages in Africa. I was born and bred in Ghana, in villages with no lights, no electricity, no nothing, and, after a couple of decades in the United States, I'm surprised, going back, at the resilience and the progress of these villages.

This paper is based on my experiences living in and doing research on Africa over the past several years—experiences that have been, on the whole, positive. I'm biased, being very positive about Africa, and I have confidence in its future.

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To begin with, in the economic development narrative and academic research I think we have to give a whole lot more respect to Africans, particularly the poor and the illiterate. I think that in academia and in the policy world, we simply don't have an understanding of what goes on there. Even my comrades in Accra (the capital of Ghana), people I grew up with, have no idea what is going on in the villages. But there is something beautiful going on in Africa, particularly in the rural areas: people are surviving, despite all of their hardships. Market opportunities are seized whenever they are available. So that is point number one. In particular, I will go into history to describe this behavior in some detail in the context of one particular economic experience. This is the subject of a forthcoming monograph I'm working on with a Harvard historian, Emanuel Akyeampong, on the history of Ghana's cocoa industry. In short, the monograph shows that the Ghanaian cocoa industry is a major success, and this gives me confidence in the future of many African countries. It is but one example of how markets can be transformative for an economy, even when the market actors are rural illiterate and poor farmers.

My passion is with the poorer people of Africa. That is where all of my research is. In almost everything you see, especially from policy institutions, there is always some lip service paid to markets, but then the attitude becomes: "we have to plan this, we have to do that, we've got to control this, we've got to write this." I'm glad the African Development Bank is now moving heavily into the private sector, but I don't think enough credit is being given to markets. We have been interviewing farmers quite a bit over the past three or four years, and when you ask them: "What is the number one constraint you are facing?" they will not tell you it is capital, they will not tell you it is fertilizer, they will tell you it is markets. If they can find markets for their products, they will figure out the rest.

Human capital will be the second part of my discussion. Many of you are going to be surprised, but I will be talking about brain drain as another success, another way in which we should always empathize with struggling people. Many of you, when looking at pictures of people in boats crossing the Mediterranean, usually associate those images with despair. But I am thinking, "These people are determined, they have the human spirit, they want to make things work." If those are the people that we have on the continent of Africa, then we as academics and as policymakers just have to set things right, because the people themselves will do what it takes.

Human capital in Africa has been a big success, and I'm going to make the pitch for markets, particularly markets that are enabled by information and communication technology. I've been spending a lot of time with computer scientists. Some of our team members have a patent or are in the process of acquiring one in the area of mobile phones and solar energy, as I will describe later, and all of our team's work centers on using technology to create markets.

20.2 Markets

In my forthcoming monograph with Emanuel Akyeampong, we begin with the arrival of cocoa into Ghana in 1879. In 1879, Ghana was a fragile state. The middle part of Ghana was fighting a rebellion against the British, during which Kumasi, the second largest city, was burned down. By all measures Ghana was a fragile state, but despite that there were a lot of successes.

Cocoa is not indigenous to Africa. It comes from Central America, from the Aztecs and the Olmecs before them. When cocoa first came from Central America, it went to Europe, and then the Europeans brought it to Africa. They did not bring it to Ghana. They brought it to Mozambique and Angola, and there was a lot of slavery and plantation farming associated with it. It came to Ghana through Tetteh Quarshie, a famous man in Ghana. The rumor is that the British government at that time had selected coffee to be Ghana's product. Tetteh went to neighboring Fernando Po, as it was called at that time, and brought in some cocoa pods and, almost surreptitiously, under the eyes of the British, developed an industry. That is private enterprise at work.

Many people tried to claim credit for the introduction of cocoa into Ghana. We have done a lot of field research in Ghana to ascertain that it was this man who brought it in. Some say he swallowed the seeds because he didn't want to be caught. A lot of cocaine is smuggled through swallowing, so that is technically feasible.

Africans had no sweet tooth. Ghanaians, at least at that time, did not drink cocoa. Rumor has it that the Ghanaian farmers actually thought it was something you put in gasoline, since it's the same color and came at around the same time.

Nevertheless, they developed the cocoa industry using non-European technology. One neat thing about the African method of producing cocoa is that cocoa is inter-cropped with food crops. Inter-cropping is something the European system did not have. Early on, cocoa was transported from the middle of the country all the way to the coast by people (usually women) putting it on their heads and walking for hundreds of miles. My grandmother did that. My aunt told me about how my grandmother used to hold her hand and just walk hundreds of miles. Despite that the difficulties, Ghana was producing a third of the world's cocoa 20 or 30 years after cocoa was first introduced.

People created their own roads. They would put the cocoa in barrels and literally roll it from the center of Kumasi, about 200 miles away from the coast, all the way to the coast. When they had to construct physical structures, the chiefs would get together, get some funding or loans from the individuals involved, and create their own roads. The point is that if there are markets there, if people see an incentive, if there is money in it, they will find ways around the problems.

As an economic theorist, I find the fact that different kinds of contracts were used in cocoa production very suggestive. The word "wages" didn't exist in the Ashanti language. Everything was by contract, including for sharecropping. I think Joe Stiglitz made a lot of these things famous, and as we carry out our field research we see a lot of that still going on.

That's the summary of cocoa in Ghana. It is a big success story. Even to this day cocoa is one of the largest foreign exchange earners. In the late 1800s and early 1900s, when cocoa was starting, Ghana was a fragile state with internal conflicts with the British government, and no modern infrastructure, and yet the people seized the opportunities of the market. Let us give them a bit more respect. When you next eat chocolate, think of the Ghanaian farmers.

20.3 Human capital and the power of information and communication technology

Human capital is another big success. I remember maybe a decade ago I got a call from Jagdish Bhagwati, who was doing some work on human capital and migration, and asked me, “Why don’t you do something on the terrible problem of brain drain in Africa?” I said to myself, “Is this man trying to tell me something? I’m Exhibit A of brain drain. I grew up in Ghana and I’m not currently working full time in Ghana. Is this an insult?” Then I thought about it for a second, and I said, “Actually this is something which is very good about Africa.” When things were bad, many of us hustled on our own to leave the country. Many of the people going through the university system right now say to themselves, “I would like to get an education so that I can go abroad, get a large salary, and come back later on and help.” I have been thinking through that problem, and have come to realize that human capital is very, very important. We know that from growth studies. It is important to get a large stock of highly educated people. That is point number one. Point number two, brain drain is important in creating the incentives for people to go into the educational system.

In a National Bureau of Economic Research (NBER) working paper with my New York University colleague William Easterly, “Returns to the Brain Drain and Brain Circulation in Sub-Saharan Africa: Some Computations Using Data from Ghana,” there is a discussion of this issue in greater and more rigorous depth. People enter the educational system thinking that there is a possibility that they will emigrate, but through our computations we have figured out that many people who leave actually come back. And so when you are talking about brain drain you should not be calling it brain drain, but brain circulation. When you say brain drain you are just taking a snapshot at one particular time. Those people whose picture you are taking now will be back in the country later on. Any time you hear conversations about Africa, the topic is always, “Africa can make it because its greatest wealth is its minerals.” I actually think that Africa’s greatest wealth is its people. We should just train the people a bit more and help them to be more productive.

In the year 2000, of all Ghanaians on planet Earth who had tertiary education, 46.86 percent were out of the country. The remainder, 53.14 percent, were in the country. Such statistics give brain drain a bad name.

To begin with, the numbers are small. 150,000 people was the sum total of all tertiary educated Ghanaians in the year 2000. When I was a student at the University of Ghana we had maybe 3,000 students there. There are now 38,000 students in the university, indicating a huge increase in tertiary education. I am so confident about Africa because if you go into the remote areas, there are large numbers of educated people, which wasn't the case ten or twenty years ago.

I recently visited the UN Economic Commission for Africa, where they asked me to speak freely about what I thought about post-Millennium Development Goals. I told them that information communication technology is going to be important. That is where I have invested a lot of my time recently. Markets are going to be important. Agriculture is going to be important. The Ethiopian Commodities Exchange is something that we have been doing quite a bit of work on. They have just set up an organized market, in which, instead of bilateral trades, trade is centralized. This has caused many innovations, including increased clarity and transparency but most importantly, better markets. Now coffee farmers in Ethiopia know that if they go up the value chain and produce better quality coffee, they will get more money for it. We're beginning to see that farmers are responding to those incentives. Create the markets and you'll get things done.

There is a much deeper point here about commodities exchanges. These have become extremely topical in many nations, with several national leaders proclaiming their importance and many countries establishing them or beginning to establish them. Yes, the exchanges will have a positive impact and yes, farmers will respond to the incentives they create in increasing the quality of the products, since the return to increased quality is now made transparent on the market. All these things will happen. The real benefit of the exchange, however, will be in the introduction of new crops or commodities that one may not be thinking about today. For example, much has been made of the successful introduction of flowers exports in Ethiopia, these exports going primarily to European markets. There are a number of untapped markets whose value may become apparent only after the introduction of a centralized market that provides much more assurance of price and sales to farmers. That is what I think the true value of commodities markets will eventually turn out to be.

In terms of financial products, there are a variety of promising tools, including M-Pesa, rural banks, and micro-insurance. All of these things can work, and furthermore they can all be mobile phone based. The big problem with the provision of insurance to farmers has been both the costly verification of claims and also the relatively high costs of managing the schemes, given the small amounts of money involved when farmers are poor and in rural areas. We now have the capacity to create insurance schemes for farmers entirely on the mobile phone. This has the potential to revolutionize the provision of micro-insurance. There have been some very exciting early examples in Kenya and in Ghana. It is too early to tell whether these will eventually take off as they are so new. However, the M-Pesa revolution gives us a lot of reason to be hopeful.

Another important sector for development will be energy. When viewed from outer space at night, Africa is dark, with no electricity. The Center for Technology and Economic Development at NYU has been working on a patent for a technology that involves putting SIM cards in solar panels so that you can communicate with the solar panel and help with diagnostics through your mobile phone. This solves one of the big problems with solar energy delivery for poor communities: the high cost of diagnosing and solving problems. With such mobile phone based technologies, the potential for remote diagnostics is possible through communication between each solar panel and the technician in the city via text messaging. After the diagnosis, the technician can call the rural owner of the panel on his or her mobile phone and provide instructions for repair, often requiring nothing much more than a quick cleaning of the solar panels.

All these new technologies offer great potential for economic development. They are, however, pieces of a much bigger issue: why we don't have more markets in energy. There is a steady demand for electricity, so that if you supply energy into the grid, you should get some cash out of it. Once the market is set up, then those of us who are working in the IT area and medium-scale energy area could use that market to support the new technologies. There is a surprising reality in many African countries however. Many countries desperately need power, and have continual blackouts (in Ghana the power is on one day, off the next—what Ghanaians call Dumso or “Off-On” in the local language, while the Nigerian Energy and Power Authority (NEPA) is jokingly called “Never Expect Power Always). Despite this great need, markets for energy remain very constrained. Unless there is a partnership with the government—what is now fashionably called a private public partnership or PPP—it is extremely difficult for a smaller-scale entrepreneur to create energy to sell into the grid. This is a mistake. Given the scale of the energy problem and the obvious ability of Africans to meet smaller-scale market opportunities as witnessed in the cocoa revolution, it is absurd that governments do not tap into the entrepreneurial energy of citizens for the provision of electrical energy.

One may think that these ideas are somewhat obvious. In the United States, whose citizens enjoy great power consumption, there are well developed markets where customers in, say, Vermont, who install large solar panels in their back yards have electricity meters that run backwards when they are generating electricity into the grid and in the usual forward direction when they are using electricity from the grid. Their final electricity bill could therefore either be positive (they owe money) or negative (the electricity company owes them money). This very simple example shows the power of markets. In the electricity sector, it is possible that these small-scale interventions could make a difference to a large number of people who are currently off the grid in rural areas, or are on the grid with very sporadic on-off electricity. In particular, the markets for energy are currently being expanded in the United States. Such markets could potentially have even bigger prospects in Africa where the energy need shortfalls are greater.

20.4 Conclusion

Unfortunately most of the rhetoric and discussion around economic development is about aid, and about how the rest of the world can help African countries. Not nearly enough attention is placed on understanding past successes of Africans, exemplified in the cash crop revolutions in many nations. An understanding of those successes would lead to the conclusion that there is a huge potential for solving many of the development problems on the continent, particularly energy, by allowing more private sector involvement—including small private sector players and not necessarily big PPPs. Unfortunately, for many of the development banks and large development organizations, this is an exceptionally unpopular idea. Some (including the World Bank) have charters that discourage interaction with the private sector; others favor big government activities, albeit in partnership with private sector actors, who are usually big foreign players. We believe that there should be room for the smaller indigenous players who will rise to the incentives created by markets in the energy sector.

To conclude, I am extremely confident in the future trajectory of Africa. I am confident because I have confidence in the people themselves. There are two main things needed. On the one hand there needs to be encouragement to acquire human capital. This human capital should be at all levels, including at the tertiary level—and indeed should be encouraged in spite of, and perhaps also because of, brain drain, which when viewed in the correct perspective has advantages leading it to be a net positive in many circumstances.

In addition to human capital, much more emphasis is needed on local small-scale entrepreneurial activities, which will sprout up where markets are enabled.

Over time, I am confident that these two conditions, increased human capital and freer markets for smaller-scale players, will develop. This has happened in the past and will occur again in the future.