

Industrial Strategies for Economic Recovery and Long-term Growth in Africa

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Abstract: In this paper we review the status of African manufacturing firms and long-run trends in their economic performance and discuss how industrial policies have evolved over time. We identify the constraints on manufacturing growth, and discuss what can be done in terms of policy to accelerate industrialization. We consider macroeconomic aspects, the investment climate, as well as firm capabilities. We discuss the scope for manufacturing growth from a comparative advantage perspective and draw some policy conclusions.

JEL-Codes: D21, F14, O14

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1. Introduction

The economies of Sub-Saharan Africa (Africa from here on) saw increasing per capita incomes for about a decade up until the recent financial crisis. Towards the end of that period incomes were growing faster than in the developed countries, although not as fast as in the successful emerging economies in Asia. The economic set-back during the crisis has also been more limited than in the industrialized countries. Is this improved growth performance indicating that Africa has achieved economic take-off and that we will now see sustained growth and strongly increased standards of living? Or is the continent facing further challenges before it can become fully integrated in the global economy and benefit from the opportunities opening up? We do believe that Africa still faces major hurdles before it can safely be said that the continent has finally turned the corner on the way to prosperity. In this paper we focus on one of the key challenges – that is what policies it should pursue to accelerate industrialization.

Most would agree that growth in Africa's private, non-farm sector is important for the continent's development. Growth in this sector will generate jobs, reduce vulnerability to shocks, accelerate technological progress, and, ultimately, reduce poverty. Since domestic markets are typically small in Africa, industrial growth requires participation of Africa's firms in international markets. There exists plenty of evidence both at the macro and micro level showing that openness and growth are positively correlated. Harrison and Rodriguez-Clare (2009, p. 40) note that "exports are more likely to lead to growth if they are in non-traditional sectors such as manufacturing or skill-intensive goods rather than primary products or raw materials". The results in these studies also suggest that breaking into the export market is costly. This suggests that export-promotion policies may help African firms to become more competitive.

Most of Africa's exports are not in the form of manufactures, although the share has increased to close to a third. Still, the share of manufacturing in terms of output and employment is remains quite small with only about 15 per cent of output originating in the sector (Table 1). The Asian emerging economies have much larger shares with for example China having about a third of GDP from manufacturing. We may also note that the share of manufacturing in total value added has actually declined since 1990, partly due to the fact that the process of liberalization which meant that many previously protected (and inefficient) firms went out of business. .

Table 1: Sectoral Value Added as % of GDP, Export as Share of GDP, and African Share of World Export 1965-2008

	1965	1970	1975	1980	1985	1990	1995	2000	2005	2008
Sectoral share										
Agriculture	21.85	19.65	20.02	18.50	18.01	18.83	17.95	16.53	16.95	12.34
Industry	31.02	30.86	32.68	36.84	34.49	32.14	29.15	29.38	31.21	32.95
- manufacturing	17.50	17.86	17.63	16.58	16.47	17.60	15.77	14.52	13.12	14.81
Services	47.14	49.48	47.31	44.64	47.49	49.24	52.91	54.10	51.83	54.71
Export shares										
Export/GDP	-	-	13.24	-	-	-	-	30.67	-	32.46
Share of world Export	4.10	3.35	3.02	3.55	2.40	1.81	1.43	1.44	1.79	1.90

Source: WDI 2010, current prices.

Nevertheless, the manufacturing sector has received a lot of attention from policy makers and academics (Söderbom and Teal, 2003). One reason is that one has observed an historical association between industrial growth and increasing incomes. The sector also can create skilled jobs, and speed up the overall rate of technological progress in the economy. Furthermore, the sector is not constrained by land in the same way as agriculture. In countries with high population growth and strong pressure on land, diversification beyond agriculture is necessary to generate economic development. For all these reasons we do believe that it is important to seek to understand manufacturing growth and to draw policy conclusions on the basis of such an understanding.

The remainder of this paper is organized as follows. Section 2 discusses how the policies relevant for manufacturing performance have developed since African countries gained independence in the 1960s, and provides some basic information about the performance of the sector. Section 3 discusses the determinants of the growth and performance of the manufacturing sector including macroeconomic dimensions, investment climate, and relevant firm capabilities. We also discuss whether Africa has latent comparative advantages in manufacturing. Section 4 reviews the policy options and concludes.

2. Industrial Policies in Africa

Over the years, there has been a variety of policies purporting to stimulate the development of the manufacturing sector in Africa. In the 1960s, after independence, the dominating policy to

support manufacturing in Africa was import-substitution. The idea was that economic development requires industrialization and the policy option chosen to achieve this was trade protection of manufacturing. This policy led to an expansion of manufacturing production for the domestic market, but very few producers became competitive enough to break into the export market. Instead, manufacturing firms became increasingly uncompetitive. The tariff protection of the manufacturing sector implied a bias against agriculture and traditional export sectors, and eventually this resulted in current account deficits. Initially countries were unwilling to devalue their currencies, but instead chose to tighten protection even further and to institute various control measures such as licensing of imports and investment. They also managed to postpone adjustments because countries in the 1970s could borrow cheap petro-dollars. Still, the second oil-crisis in the late 1970s resulted in large hikes in prices at the same time as countries in the north tightened their monetary policy to control inflation. This led to dramatic increases in interest costs on the accumulated debts at the same time as markets for African exports weakened. Thus, around 1980, many countries in Africa experienced severe macroeconomic imbalances and faced unsustainable external deficits. Banks as well as donors were now unwilling or unable to finance these deficits further, which meant that adjustment no longer could be postponed.

Adjustment policies started to be implemented under the auspices of the international financial institutions, which provided funding through so called Structural Adjustment Programmes. These programmes were the focal point for policy making in the 1980s and 1990s. They consisted of macroeconomic stabilization measures and structural reforms. The former suffered many setbacks, but eventually most countries achieved a measure of economic stabilization in terms of budget balance, monetary policy control, and a liberalization of the foreign exchange market. Trade protection was rationalized and the level of protection reduced, and most countries thus moved away from a situation with seriously overvalued currencies. The structural reforms included privatization of state firms, and the liberalization of markets. As far as manufacturing was concerned this implied increased foreign competition at the same time as various forms of interventionist policies supporting manufacturing were phased out. Because of these reforms many non-viable manufacturing firms went out of business. So over four decades the policy towards manufacturing has moved full circle. It started out in a situation with (relatively) liberal

economic policies, moved on to a policy set-up which was protectionist and which also include various forms of direct support to manufacturing, and then shifted back to a policy which again was more market oriented and where industrial policy played a limited role.

It is clear that the import substitution policies did not work well in Africa. It is also clear that the structural adjustment phase was difficult, with falling per capita incomes. There was a reversal around 1995, however, when incomes started to increase slowly. Around 2003 the commodity boom set in and African terms of trade improved very significantly, and this stimulated the whole economy. So Africa saw average per capita income increase at a rate above 3 per cent per year until the world was hit by the global financial crisis. This improvement was of course helped by the boom in commodities, but the fact that severe policy distortions had been reduced also helped pave the way for the recovery.

But has Africa really seen a sustainable economic take-off? Despite the introduction of more liberal trade policies, Africa has not been successful in the export market and remains a very small player in the international economy generally and even more so in manufacturing. There has been very limited diversification, and since 1995 export concentration has even increased, largely because of the resource boom. What are the prospects of improved performance in the future?

3. Manufacturing as the Engine of Growth?

In this part we discuss whether manufacturing can be a factor driving improved standards of living. In Section 3.1 we discuss macroeconomic aspects of growth in general and growth of manufacturing in particular. Section 2 deals with the investment climate, while Section 3.3 is devoted to a discussion of relevant capabilities within firms. Section 3.4 discusses whether it can make sense to defy short-term comparative advantages.

3.1. Macroeconomics

Economic growth depends on the growth of factors of production such as labour, physical capital, human capital, and natural resources, technical progress, and the efficiency with which these factors are allocated. All this is in turn affected by policies and institutions.

In a closed economy investment equals savings, but in an open economy one can also draw on foreign savings. In a completely integrated global economy investment would not depend on domestic savings and returns to investments would be equalized across countries. However, the world economy is not yet as integrated as that, so countries that are high savers are normally also high investors. Therefore policy for domestic savings is relevant for African growth. Returns to investments in Africa are often found to be high, but still little investment resources flow there. This suggests that there are other factors restricting investments – such as risk Moss et al. (2007) find that investors are cautious with regard to investments in African shares, because of the smallness financial markets and poor liquidity. So investments in Africa are held back by a shortage of savings, but probably even more so by the riskiness of the economic environment.

Increased investment is clearly necessary for rapid growth – but not sufficient. The link between investments and growth is not straightforward, and Devarajan et al. (2003) fail to find a clear link between the two for Africa. They hypothesize that both low investments and low growth are due to other underlying problems. Many studies have extended the classical growth framework by explicitly incorporating human capital into the model, but it has often been difficult to find clear-cut relationships to growth in the cross-country literature. Pritchett (2001) believes that this may be explained by the bad quality of the economic environment where the skills are applied, imbalance between the supply of skilled labour and demand, and by the poor quality of human capital produced by the educational system. One may also note that returns to human capital vary a lot between sectors in Africa. Rankin, Sandefur, and Teal (2010) show that returns are very high in large formal firms, while they are very low in the public sector. Returns in the informal sector vary but is generally low. Easterly (2009) argues that the poor growth outcome for Africa is consistent with the fact that few jobs are created in the formal private sector. This sector would under normal circumstances absorb a lot of the skilled labour into well-paid jobs, but now many of the newcomers end up in the informal sector with low incomes. So although the level of education in Africa has increased a lot, the effects in terms of employment and growth have been a disappointment. The problem is that there has not been enough expansion of the demand for skilled labour due to the failure to create high growth or a growth process demanding labour.

Apart from the growth of factors, technical progress is assumed to be a central determinant of growth. Since R&D is a very costly activity and requires a solid basis of skills, it is hard for low-income African countries to promote technological progress through innovation. So for African economies the bulk of new techniques still come from abroad. In a growth decomposition for a subset of countries in Sub-Saharan Africa for the period 1960-2000 Ndulu and O'Connell (2008, p. 18) failed to find any growth contribution at all from total factor productivity growth. This suggests that growth in Africa during this period was due to factor accumulation, while productivity stagnated.

Arbache et al. (2008) analyze growth accelerations in Africa and find that investment and savings increased during growth episodes and fell during periods of decline. They also find that foreign investments are six times higher during the growth accelerations than during decelerations. They further note that the structure of the economy matters. Countries that are highly dependent on agriculture face a larger risk of decline due to the risks associated with agriculture, both natural and from the world market. When they include deeper growth determinants in Solow's model, such as policy variables, geographic variables, and institutional factors, growth is better explained.

Johnson et al. (2007) note that it is hard to identify the factors that generate sustained growth and instead try to see what creates crises and derails growth. They argue that there are at least three plausible types of explanations, namely weak economic and political institutions, greater propensity to experience conflict and social strife, and bad macroeconomic policies. They do a benchmarking exercise, where they identify a set of factors that have been found to be important for sustained growth, and then try to locate the thresholds at which these indicators become a growth problem. To construct the benchmark they investigate the recent experiences of countries which started with poor institutions and at income levels like those of Africa today, but which nevertheless were able to sustain high growth rates. They identify 12 countries that managed to do so in the post-1945 period. It is noteworthy that they all had rapid growth of exports, in almost all cases in the form of manufactures.

They find that African macro balances and institutions have improved over recent decades, and that Africa on most of these indicators in general does not score worse than the countries that were economic successes in the second half of the 20th century did at their take-off. Still, they identify some gaps relative to what the old countries experienced. There are still substantial regulatory costs of exporting in Africa, and many countries in Africa have experienced significant real exchange rate overvaluation.

An interesting observation is that “escapes from poverty in the face of weak institutions have generally involved exports and – in almost all cases – manufacturing exports” (Johnson et al, 2007, p 37). One possible explanation of this is that manufacturing exports help create a middle class that demands good institutions. Acemoglu et al. (2005) note that interaction between economic and political power produces (or changes) institutions. Maybe trade may change the balance of power so that progressive groups get more influence. Natural resource based growth does not seem to have the same positive effect on either institutions or growth. There is thus evidence supporting the notion that manufacturing growth may be particularly important for overall development, especially if it forces change in institutions that are important for economic growth.

Much of the debate about determinants of African growth has concerned the relation between international integration and growth. Patillo et al. (2005) show that trade in Africa has been closely associated with growth accelerations. There are also micro studies showing that African firms learn from exporting (Bigsten et al., 2004; Van Biesebroeck, 2005, Bigsten and Gebreeyesus, 2009). The link between tariff levels and growth is weaker, which may be reasonable given that tariffs are introduced also for other reasons than development. There is a discussion about cause and effect in the literature (Rodriguez and Rodrik, 2001), but nobody questions that there is a strong positive correlation. When it comes to financial integration the picture is less clear, since this to a higher degree than trade integration opens up a country to external shocks that may have negative effects on growth.

Export expansion was obviously central for the Asian economic growth success, but the global economic environment has changed since the Asian economies broke into the world market.

Trade is now to a much higher degree made up of trade in components rather than complete final products. It is on this arena that countries must seek to establish a presence, but Africa has so far more or less failed to enter this market. To be able to integrate with this market countries must become attractive arenas for outsourcing of production of components. This means that they must be able to guarantee both quality and timely deliveries. A stable and effective economic environment is of fundamental importance for countries to be able to benefit from the opportunities opened up by globalization. For Africa this pattern of production requires reliable logistics and a well functioning infrastructure.

The effects of trade depend on the character of the economic environment. Chang et al. (2005) show that the effects depends on the quality of the infrastructure, the flexibility of the labour markets and the extent of barriers keeping new firms from entering the market. DeJong and Rippol (2006) find that these effects are particularly large in less developed countries.

Since much of modern trade involves trading in tasks, with firms being part of global production networks, one expects a stronger link between trade and technological progress than previously. In particular, the intensified globalization and integration of production processes have diminished the need for vertical integration. There is no need any longer for a single firm to perform all tasks that go into the final product; instead, the firm sources inputs and services from a global network of firms. It follows that, in a globalized world, a comparative advantage may reside in a small and narrowly defined task. In addition, the technological progress that has spurred the global integration of the production process itself puts greater demands on intense communications and interaction between firms in the production network (Saxenian, 2006). Basically, without modern management and a thorough understanding of global business, it will be hard to participate in modern production exploiting the global network.

In order to facilitate for firms to participate in the international network of production, it is important to get the trade policy right. Firms that are part of a global value chain tend to import processed inputs. Many African governments have traditionally had tariffs increase with the stage of processing, in order to protect final stage producers. Such a policy is potentially problematic in a world characterized by global production chains, however, since inputs tend to be more

processed in such a system. It is therefore important to keep tariffs low across the board, and avoid the temptation of keeping tariffs high on processed products.

3.2. The Investment Climate

Returning to the discussion in Johnson et al. (2007) of the prospects for Africa, these authors note that African macro balances and institutions have improved over recent decades, and that Africa on these indicators in general does not score worse than the twelve comparison countries in the early post-1945 period. However, in terms of some specific economic institutions particularly important for private sector development, Johnson et al. argue that there remains a wide gap relative to what the old countries experienced. A recent literature has stressed the importance a good “investment climate” - reliable logistics, sensible regulations, etc. – for private sector development. The key results from this line of research have recently been summarized in the report of the Commission on Growth and Development (2010): Africa is a high cost, high risk environment in which to invest. Part of Asia’s and Latin America’s competitive advantage comes from its better investment climate.

Globalization and the new international organization of production offer new opportunities for African firms but also present new challenges. It will not be easy for African firms to participate in a global production network if the infrastructure is poor, as this would jeopardize just-in-time deliveries, for example. Just how poor is Africa’s investment climate, and is there anything that can be done about it? To shed light on these issues, we now consider data generated by the *Doing Business* project.¹ This project assesses the effects of regulations on the ease of doing business for domestic small and medium-size companies across 183 economies in the world. The following topics are considered: starting a business; dealing with construction permits; employing workers; registering property; getting credit; protecting investors; paying taxes; trading across borders; enforcing contracts; and closing a business. Each economy gets rated on each of these topics. Based on these ratings, economies are ranked from the best to the worst in terms of ease of doing business. This provides a crude but still useful indicator of the state of Africa’s investment climate.

¹ See www.doingbusiness.org for details.

As expected, most African countries get a rather low ranking for ease of doing business. Figure 1 illustrates the association between the doing business ranking and per capita income for a cross-section of countries.² Clearly there is a strong negative relationship in the data: richer countries tend to score much better on the ease of doing business indicators. Countries in Africa are represented in the graph by triangles. There is a clear pattern by which African countries tend to cluster in the top left corner of the graph, combining low income with a poor investment climate. However, there are also several non-African countries featuring a poor investment climate and a low per capita income. What if we take into account the fact that most African countries are poor – is it still true that the quality of Africa’s investment climate is atypically poor? To find out the answer, we run a simple OLS regression in which the ease of doing business ranking is the ‘dependent’ variable, and per capita income and a dummy for Sub-Saharan Africa the ‘explanatory’ variables. Of course, results from such a regression cannot be given a causal interpretation. But they do provide impressionistic evidence on whether Africa’s investment climate is worse than that of other countries with similar levels of income. The regression results are as follows:

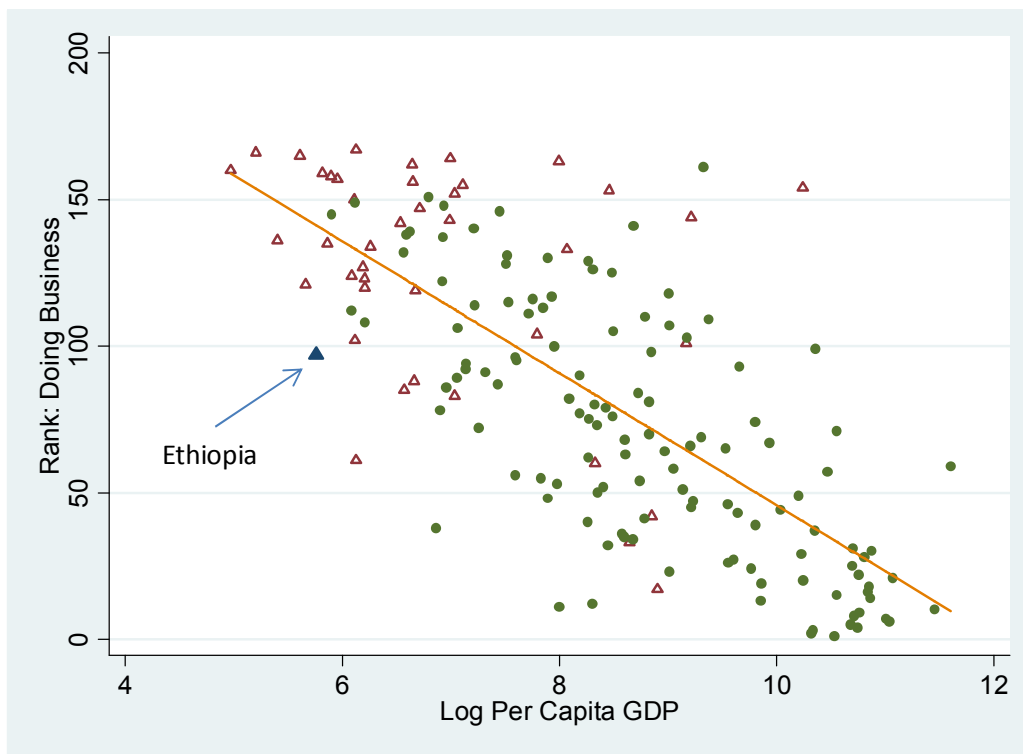
$$\text{ranking} = 238.9 \quad - 19.3 * \log[\text{per capita income}] \quad + 20.6 * \text{SSA}$$

$$(0.00) \quad (0.00) \quad (0.05)$$

where the numbers in parentheses are p-values based on robust standard errors. The coefficient on log per capita income is -19.3 and highly statistically significant. This merely confirms the strong negative association between income and ease of doing business ranking visible in Figure 1. More interestingly, the estimated coefficient on the dummy for Sub-Saharan Africa is equal to 20.6 and significant at the 5% level. This indicates that African countries tend to be ranked 20 places below non-African countries *among countries with similar levels of income*.

² The data on per capita income were obtained from the World Development Indicators. The doing business rankings were downloaded from www.doingbusiness.org.

Figure 1. Ease of doing business ranking and per capita GDP



Note: Triangles indicate countries in Sub-Saharan Africa.

Hence the quality of African's investment climate is low, and this cannot be attributed solely to Africa being a low-income region. Looking within Africa, there are exceptions of course. Ethiopia, highlighted in Figure 1, stands out as an interesting case. Ethiopia has recorded very strong growth in the noughties, primarily a result of impressive growth in crops. The average annual growth rate of GDP per capita between 2000 and 2008 is 5.4% in Ethiopia, which is more than twice as high as the average for Sub-Saharan Africa over the same period.³ However, with a per capita income in 2008 equal to 190 US dollars (in constant values with 2000 as the base year), Ethiopia remain one of the world's poorest countries. Keeping this in mind, Ethiopia's investment climate is actually rather good, compared to other low-income countries. This is reflected in Figure 1 by the fact that Ethiopia finds itself below the plotted regression line: the actual ease of doing business ranking (which is 97, amongst 167 countries) is rather better than one would predict based on Ethiopia's low per capita income. Another way of interpreting the

³ Source: Authors' calculations based on the *World Development Indicators* 2010.

data is that Ethiopia’s economy should be quite a bit stronger, given the quality of the business environment.

Table 2 shows how Ethiopia ranks in terms of ease of doing business and per capita income amongst all countries in the world (column 1) and amongst Sub-Saharan African countries (column 2). The country is doing well in particular with regard to easing of starting a business. For example, the required procedure and time to start a business in Ethiopia is less than the average for Sub-Saharan Africa and almost equal to the average of OECD countries. With regards to ease of doing business only eight Sub-Saharan African countries are higher ranked than Ethiopia. Recent survey data on managers’ perceptions indicate that the investment climate in Ethiopia improved a lot between 2001 and 2007: “Perception of the severity of almost all business obstacles in Ethiopia have improved over the past four to five years. So much so that the rate of complaint among the respondents of 2006 Investment Climate Survey is significantly lower than the low-income cross country average with respect to almost all institutional factors. This reverses the comparison that the 2002 Ethiopia rates bore in the cross country sample ...” (World Bank, 2009: p. 19).

Table 2. Ease of Doing Business in Ethiopia

	All countries (N=167)	Sub-Saharan Africa (N=42)
Rank: Overall Ease of Doing Business	97	9
<i>Rank: Doing Business Topics</i>		
Starting a Business	85	9
Dealing with Construction Permits	56	7
Employing Workers	87	15
Registering Property	99	13
Getting Credit	118	17
Protecting Investors	115	18
Paying Taxes	37	8
Trading Across Borders	146	30
Enforcing Contracts	56	7
Closing a Business	68	9

Source: Data obtained from www.doingbusiness.org.

We have seen that Africa is at a disadvantage with respect to its investment climate, certainly compared to the rest of the world but also compared to non-African countries with similar levels

of per capita income. Within Africa, there is a lot of variation in the quality of the investment climate, and we have specifically highlighted Ethiopia as an interesting case where the investment climate has improved over the last decade and is now rather good considering that the country is poor. The improvements in Ethiopia did not happen by chance; on the contrary, they reflect a decade of government policies aimed at improving the investment climate. Hence, policy can have an impact. Having a poor business environment is not Africa's destiny.

3.3. Firm-Level Capabilities

Investment climate studies focus explicitly on the environment external to the firm. As already noted, this is an area within which public policy can play an important role. But even if governments or donors can do things to improve the investment climate, this does not automatically guarantee success in the domestic private sector. It is well known that firm performance varies greatly across firms that share the same investment climate. Bigsten and Söderbom (2006), for example, argue that "...while most African firms have not fared well during the last decade, some have performed extremely well." (p.2). Hence the investment climate cannot be the full story. Factors internal to the firm are important too. What are the relevant capabilities – technological, managerial, and organizational – that distinguish leading firms from average performers? Where do these capabilities come from?

Sutton and Söderbom (2010) argue that globalization has had a major impact on the capabilities relevant for enterprise success. Twenty years ago, it was widely held in the literature that technological capabilities constituted the main constraint on private sector development in low income countries. These days, however, technology poses less of a constraint on industrial growth, because access is no longer a first-order problem. This suggests that technology is not the main determinant of enterprise success. Sutton and Söderbom (2010) argue that the crucial capability for success is 'market intelligence': ability of managers to communicate and interact efficiently with suppliers and buyers abroad; knowledge of where to position the firm in relation to existing distribution networks and how to develop new distribution channels; ability to create a well organized and efficient working group; etc.

What are the origins of such capabilities? In the last two decades there have been massive investments in schooling across the world. As a result, the level of education has risen steadily in most countries. There is no doubt this has been socially beneficial. However, it is not obvious that more schooling promotes the type of skills required to run a successful private company. In fact, researchers are only beginning to understand the determinants of entrepreneurial success in low income countries. A few years ago we were involved in an international research project studying the effect of exporting on firm-level productivity amongst small manufacturing enterprises in Africa (Bigsten et al. 2004). Our key finding was that entrepreneurs running small African firms stand to learn a great deal from interacting with foreign customers and being exposed to international competition. In that particular case, hence, participating in the global economy was a source of improved performance. Of course, there are other determinants of enterprise success too. One of us (Söderbom) has recently been involved in work carried out by the International Growth Centre (IGC) at the request of the Ethiopian government, on strategies for industrialization. One of the tasks of the research team was to document the historical background of successful managers in the country. A striking finding was that very few of the current leading industrialists in Ethiopia had a long industrial history. In fact, most had a background as traders. Why is this? Based on in-depth interviews, a fairly clear pattern emerged: these people had been successful precisely because they were very well informed about how the relevant markets in which they had to operate worked; and very good at organizing moderately large workplaces. Many of them had entered the manufacturing sector without a great deal of knowledge about manufacturing technology, but this did not stop them from becoming successful.

The main lesson from this, we think, is that improving the investment climate is difficult and cannot be done overnight, and that the returns to such reforms may still be modest if firm-level capabilities are inadequate. Providing incentives for individuals with the right skills to invest in Africa would appear essential to sustain Africa's economic recovery and long-term growth. To some extent, capabilities will be embedded in foreign direct investment. Africans living abroad constitute another potential source of skills. In a recent book that has received a lot of attention in the US, AnnaLee Saxenian (2006) identifies highly qualified foreign-born entrepreneurs that return from the US to their home countries as potentially powerful drivers of entrepreneurial

success in the home country. Saxenian's analysis, which focuses on Israel, Taiwan, China and India, shows that entrepreneurs returning home to these countries have often taken on a leading role in developing technological and entrepreneurial capabilities. According to Saxenian, globalization is an important reason for why return entrepreneurs have come to play this role. The global integration of the production process puts greater demands on intense communications and interaction between firms in the production network. Modern management and a good understanding of global business are therefore important. Returning entrepreneurs, who have received education as well as entrepreneurial experience in the US, possess such capabilities. They also have access to a network of long distance potential collaborators, thanks to their shared language and their professional experiences. This puts them in a much better position with respect to the ability to engage in long-distance collaborations than entrepreneurs that have exclusively focused on the domestic market. What are the obstacles to this form of development? Saxenian (2006) notes that Iranian and Vietnamese immigrants in the US have not returned to their home countries on a large scale, and points to economic instability and lack of skills as the most important obstacles. On both points, it would seem, many African countries are at a disadvantage. Neither problem lends itself to a quick fix. Long term decisions are required to improve the status – e.g. provide incentives for young, bright Africans to spend time studying or running enterprises in the US or in Europe.

3.4. Defying Africa's Comparative Advantage?

Economic development is related to structural change, which normally means that the share of industry in output increases. We argue that manufacturing growth is required for Africa to achieve sustained and labour demanding growth acceleration or that there are potentially dynamic comparative advantages in manufacturing. The question addressed here is whether African countries should pursue industrial policy to speed up the transformation. This is a controversial question, and we know it is very hard to target individual firms or to "pick winners". This type of policy is not back on the agenda. But there is a broader conception of industrial policy covering a broad spectrum of measures that may be worth considering.

There has been a revival of the debate as to whether the state should be neutral with regard to trade, foreign investment and allocation of resources between sectors (see review in Harrison and

Rodriguez-Clare, 2009). Policy neutrality does not necessarily imply free trade, neutral taxation of multinational firms or tax on all sectors. There may be good reasons based on the theory of optimal taxation or practical considerations for choosing to tax different industries differently. The question here is whether countries should go further than that in terms of tariffs, subsidies and tax deduction.

There are sound theoretical reasons for some types of policy interventions. The existence of learning externalities in relation to trade may motivate export subsidies. Knowledge spillovers from foreign investments can motivate tax subsidies for foreign investors. Production externalities in advanced industrial sectors can make support of those reasonable. Externalities between firms increase with the size of the industry through the spread of technical knowledge, input-output linkages combined with transport costs which makes it advantageous to agglomerate, and the creation of a labour pool which makes it possible to find appropriate labour. These factors create agglomeration advantages.

Harrison and Rodriguez-Clare show in a simple model that you may have multiple equilibria, where one is more advantageous than the other. But even if you have latent comparative advantages in a sector there may be coordination failures, which make it impossible to move to the good equilibrium. In such a situation industrial policy may be a way to support a move that is increasing welfare in the long run. This is the theoretical basis for infant industry protection.

If a developing country specializes in sectors that are not optimal in a dynamic perspective, one could make it possible for the dynamic, new industry to develop initially behind tariff walls. These should then be removed when the sector has grown stronger and become internationally competitive. The idea is that a temporary tariff will make it possible to shift production to a sector where you have a latent comparative advantage, but where this cannot be realized without intervention, since initial profitability is higher in the other sector. Still, tariffs are only a second-best policy. It is always theoretically preferable to correct the externality with the help of subsidies, but they can be harder to handle in practice. The protected sector must eventually become competitive for the intervention to pay off.

There are good reasons to assume that export subsidies are better than import protection. The first reason is that firms then are exposed to international competition, which forces them to achieve a certain level of productivity to survive. Secondly, this limits the support to those that are sufficiently good to really be able to export.

There are indications that what you export matters for growth (Hausmann, Hwang, and Rodrik, 2007). Harrison and Rodriguez-Clare (2009) note in their survey paper that export from non-traditional sectors like manufacturing and knowledge intensive sectors are more beneficial to growth than export of primary products or natural resources. Hausmann and Rodrik (2006) note that poor countries export low value added goods, while rich countries export high value added goods. This suggests that it would be beneficial to move from simple poor-country goods to more complex rich-country goods. Poor countries need to find ways to identify which products they can produce profitably (Rodrik, 2007). Diversification into new activities, however, is hampered by market imperfections and distortions.

According to Rodrik (2003) there are two classes of market failure in low income countries that block investment and entry into non-traditional activities. The first is information externalities associated with the 'discovery' of cost structure of an economy for the production new goods. Since the profitability of new activity cannot be known with certainty *ex ante*, there must be an experimental process of cost discovery. Any entrepreneur who innovates by investing in a new activity bears the full cost of his failure if the project is collapses, but reaps only a portion of the gains when it is successful. The private return would be smaller than the social return, and this type of activity will tend to be undersupplied. Another source of market failure is coordination problems that occur when markets are incomplete so that the return to one investment depends on whether some other investment is also made. Producing and exporting new products needs complementary services and inputs which are unlikely to exist in substantial scale. The inputs that are not supplied by the market are wide and industrial policy can be viewed as the provision of inputs that are specific to subsets of activities (Hausmann and Rodrik, 2003).

So there may be theoretical arguments for interventions supporting industry, but the question from a policy perspective is how well tariffs or other interventions will work in practice. There

are many studies that show that it is hard to get the policy to work well. There are also studies showing that lower tariffs are associated with productivity increases, e.g. Harrison (1994) about Ivory Coast and Bigsten, Gebreeyesus and Söderbom (2009) on Ethiopia. Moreover, studies of tariff policy often find that tariffs are not focused on sectors with large externalities and market failures, but rather sector, which have a hard time to compete or where owners have good political connections. Nunn and Treffler (2006) found that countries that protected knowledge intensive sectors grew faster than countries protecting sectors that mainly used unskilled labour. Industrial policy has also failed because it has not created enough pressure on firms to become productive and meet the standard requirements of the international market. The sector may also be too small to be able to benefit from agglomeration advantages.

Rodrik (2009a, 2009b) discusses whether having an undervalued exchange rate can help+ growth. He points to the case of China, which (according to most observers) under several years has had an undervalued exchange rate. Rodrik does a cross-country analysis of the relationship between undervaluation and growth and find a robust positive relation. This effect does not seem to be dependent on whether there are good institutions or not or whether other growth factors are in place. He also investigates whether causality can go in the opposite direction or if both factors can be explained by some omitted variable, but he does not find any support for this. He further analyses the growth accelerations in Asia and find that an undervalued exchange rate precedes those, while he finds that the Sub-Sahara African growth accelerations were preceded by a period of overvaluation. His hypothesis is that that this paradoxical result occurs because the growth accelerations in this region does not emanate in manufacturing and that it is for this that an undervaluation means most.

Rodrik argues that you can view undervaluation as a compensation for a difficult institutional contract environments and market failures in the industrial sector. He argues that it is primarily tradables that suffer from these problems. The first best solution would be to eliminate the distortions, but when this is hard you can use undervaluation as a second best tool. But it may be hard to achieve undervaluation. One option is to have a high savings rate relative to investment (like in China), but this does not seem possible for African countries at present. You could have a capital balance policy with taxes on capital inflows and liberalization of outflows, but also that

seem hard to implement in the African case. Aid inflows are problematic in this context, since they counteract the ambitions to undervalue the exchange rate. So it is hard to think of an easily implemented exchange rate policy interventions, which leads to undervaluation.

Harrison and Rodriguez-Clare (2009) argue that it may be reasonable to pursue some form of “soft” industrial policy to create a process, where authorities, industry and private organizations can collaborate to increase productivity. The idea is that you should shift from a policy which distorts prices to interventions that directly address coordination problems and other externalities. You could for example help a certain cluster of firms by increasing availability of labour with certain skills, support the introduction of new techniques, and improve regulations and infrastructure. You may further need to introduce regulations to maintain a certain product standards, invest in specific infrastructure, stipends for studies abroad, support for innovations, technical support etc. A soft industrial policy gives less room for corruption than a policy with direct support for specific firms and it is also more compatible with international rules for trade and investments.

4. Conclusions

The structure of African trade can be said to “reveal” its present comparative advantages, which depend on technology, factor abundance, business environment, and other institutional factors. And it certainly does not seem as if Africa has its main comparative advantages in manufacturing. The factors behind the lack of revealed comparative advantage in the sector normally referred to are twofold. First, poor economic institutions tend to harm particularly transaction-intensive sectors like manufacturing. Second, even if Africa has a latent comparative advantage in manufacturing, the economies have not been able to shift factor proportions in favour of more capital-intensive manufacturing due to low levels of investment. Empirical analyses of African manufacturing furthermore show that there is learning-by-exporting, but that there are large entry-costs associated with entering the export market.

But it is conceivable that there are multiple equilibria, where there exists an equilibrium different from the current one with latent comparative advantage. This may be due to externalities of the types we have already discussed, such as learning, network effects, and inter-industry spillovers.

There are examples also in Africa of industrial clustering being associated with successful development, such as Kenya's horticulture industry and garments in, for example, Mauritius. But due to coordination failures it has not been possible for most African countries exploit the latent advantage or to benefit from the externalities associated with manufacturing production.

Manufacturing may be associated with significant external effects, and so there are likely to be significant latent comparative advantages in the sector for African countries as well. Clearly, there may in such a situation be need for industrial policy to move the economy to the alternative equilibrium with a larger share for manufacturing in the product mix.

This was of course also the thinking behind the failed import-substitution policies pursued earlier. Can African economies intervene more effectively now. We may first note that a shift in the pattern of specialisation requires capital accumulation, and if the economic environment is not conducive to private investment investments will be sluggish. It seems clear that investment levels, at least in sectors outside extractive industries, has been hampered by both macroeconomic uncertainty and high costs of doing business. So improvements in these areas will make it easier to change the pattern of comparative advantage and production. We have cited evidence that Africa by now has reached sufficient levels of sophistication with regard to many of the factors that previously have previously hampered growth.

But can there be a shift in the pattern of growth in favour of manufacturing? We have also argued that substantive manufacturing growth will be hard to achieve without breaking into the international market. We do not think Africa is inherently unsuitable for manufacturing production and manufacturing exports. Instead, we think of Africa as having a latent comparative advantage in manufacturing. In the medium-term perspective, one would assume this will mainly be in segments of the manufacturing sector that are relatively low-tech or low-skill.

We have noted that the experiences from the import-substitution industrialization phase were bad, but we have argued that there are reasons making it essential to revisit the industrialization issues and to consider whether there is scope for policy interventions. Can we find new forms industrial policy leading to more rapid manufacturing growth without distorting the economy?

What is required is a policy that supports the development of manufacturing firms which are internationally competitive. This means that we want to see the emergence of competitive firms in tradables production. To achieve this one can either support tradables sectors or only support exports. In the former case one supports tradables production also if it is sold domestically. Rodrik (2009a, p. 18) finds that increases in the industry share are more significantly related to growth than increases in export shares, and therefore he argues that it is the structural change that matters and not the export orientation per se. He notes that “once industry shares in GDP are controlled for, trade surpluses exert no additional positive effect on economic growth”. Still, we may note that the results from firm level analysis in Africa suggest that export has its own positive effects.

Undervaluation of the currency is a subsidy of tradables exports, while there are other means that can be used to support tradables production, that is affecting both exports and domestic sales. Rodrik’s strategy proposal is that government should seek to enhance the relative profitability of non-traditional products that face large information externalities and coordination failures, or which suffers particularly strongly from the poor institutional environment. One can think of interventions such as tax exemptions, directed credit, payroll subsidies, investment subsidies, export processing zones aimed at specific firms or sectors. One can think about ways of shifting the relative incentives in favour of tradables by reducing cost of inputs which are used intensively by modern economic activities. A typical area for intervention would be infrastructure for transport and logistic costs. Labour is the most important non-traded input, so what happens to wages is also very important for competitiveness.

On a general level all this sounds fine. But for Africa there are at least two concerns with regard to this type of interventions. The first is that the government does not have enough information, and the other is that, even if they did, there will be rent-seeking and corruption. The second type of concern is probably the most worrying one. Rodrik’s response to the first concern is that mistakes are unavoidable but that governments generally eventually recognize their mistakes and change. And on the second one he argues that industrial policy is not the only area that is open to corruption, but that policies still are pursued in a whole range of policy areas. So the relevant question on this second point then is whether one should be particularly concerned about

industrial policies. And maybe there are reasons to be extra worried. Attempts in this direction during the import-substitution phase in Africa were largely a failure. So the question is whether the institutional environment in Africa is good enough for more ambitious forms of industrial policy. And, if so, how should it be designed. Or, alternatively, should industrial policy be designed in a special way so as to account for the fact that the policy environment is extra challenging in Africa?

We think there are good reasons to think seriously about industrial policy, whilst recognizing that import protection is not the appropriate route to take. We need to devise a policy framework supporting production of the manufacturing sector due to the externalities associated with it. This means improving the parts of the economic institutional framework that is particularly important for tradables production such as certain transport infrastructure. One could also try to reduce costs of inputs and introduce tax exemptions, directed credit, payroll subsidies, investment subsidies, and improve the functioning of export processing zones. With good governance in place, there should be considerable scope for this type of interventions. Countries that can put competent and non-corrupt governments in place, will have a good chance of achieving an economic take-off based on manufacturing when the costs of labour is increasing among its Asian competitors. In the end it boils down to a question of whether African political systems can deliver such governments.

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