



African Center
for Economic
Transformation



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ECONOMIC
TRANSFORMATION

AFRICAN TRANSFORMATION FORUM 2016

PROMOTING MANUFACTURING IN AFRICA

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March 2016

Acknowledgements

This paper is part of a series of papers prepared jointly by ACET and ODI's Supporting Economic Transformation programme for the 2016 African Transformation Forum in Kigali 14-15 March 2016.

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ODI's Supporting Economic Transformation (SET) programme is supported by DFID. The views presented in this publication are those of the author(s) and do not necessarily represent the views of **DFID** or **ODI**.



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ABBREVIATIONS

ACET	African Center for Economic Transformation
AEO	African Economic Outlook
EPZ	Export Processing Zone
EU	European Union
FDI	Foreign Direct Investment
FIAS	Foreign Investment Advisory Service
GDP	Gross Domestic Product
ICT	Information and Communication Technology
IMF	International Monetary Fund
IT	Information Technology
ITRI	Industrial Technology Research Institute
MFA	Multi-Fibre Arrangement
OECD	Organisation for Economic Co-operation and Development
PCCI	Premium Contact Center International
SEZ	Special Economic Zone
SMEs	Small and Medium Enterprises
SOE	State-Owned Enterprise
UN	United Nations
UNIDO	UN Industrial Development Organization
US	United States
VAT	Value-Added Tax

EXECUTIVE SUMMARY

Industrialisation, particularly the expansion and increased sophistication of manufacturing production and exports, and also the expansion of manufacturing employment, remains an essential part of Africa's economic transformation. Unfortunately, manufacturing as a share of gross domestic product has declined over the past few decades in most African countries, even though in absolute terms it is growing.

Although African countries face difficult challenges in breaking into world manufacturing markets, new developments work in their favour. These include rising wages in China and a rebalancing in Asia away from export-led towards domestic and regional consumption-led growth; Africa's growing regional markets; falling transport costs; greater access to abundant natural resources; improved firm productivity and access to global value chains; and better general economic policy environments. But governments should not stand aloof; to seize these new opportunities they will have to formulate and implement coherent industrial development strategies. The key elements of such strategies must include:

- continued improvements in the basics, including sound macroeconomic management, stronger general investment climate and support for the private sector and development of public infrastructure and relevant skills
- an export push, including regional trade and integration
- agglomeration through building and running efficient special economic zones (SEZs) and industrial parks
- active foreign direct investment (FDI) promotion and building linkages with local firms
- supporting productivity enhancement of local small and medium enterprises (SMEs) and their access to technology and long-term finance to help them venture into production of new or technologically more sophisticated products
- improved coherence and implementation coordination within government and
- strengthened consultation and collaboration between government and the private sector

Issues for discussion

Separate panels at this Forum are dedicated to several of the elements of the strategy above (e.g. panels on public infrastructure, skills development, regional trade and integration, public-private consultation mechanisms). For this panel, the key issues participants may wish to consider are as follows:

- How do countries raise their focus and commitment to manufacturing and develop a coherent strategy to promote it? In what visible forms should this be expressed?
- What key measures can countries take to improve their FDI promotion efforts and link the FDI firms to domestic suppliers?
- How can the performance of SEZs and industrial parks be improved? Should the private sector's role in developing and managing SEZs and industrial parks be increased? How can public-private collaboration be increased in this area?
- How best can the state support access of local SMEs to technology?
- How do we increase access of SMEs to long-term finance? In particular, how can development banks (and similar institutions) be made more market- and performance-oriented? What are the changes needed in their governance? What is the scope for public-private sector collaboration in improving SME access to long-term finance for manufacturing?

1. INTRODUCTION: MANUFACTURING AND ECONOMIC TRANSFORMATION

Modern manufacturing has the potential to provide well-paid jobs for large numbers of relatively unskilled workers. China and Vietnam are the two most recent examples of how industrialisation can lead to rapid structural change, but modern manufacturing drove rapid growth and poverty reduction in today's industrialised countries also. The creation of millions of jobs in manufacturing provided new opportunities for people in rural areas, leading to widespread poverty alleviation. Moreover, modern manufacturing has the potential to create large numbers of good jobs indirectly. Manufacturing has important backward and forward linkages; it creates opportunities both for the suppliers of inputs and for the provision of business services. Backward linkages are especially important in African countries that have abundant natural resources, including in terms of agriculture. Finally, modern manufacturing also seems to achieve sustained productivity growth, enabling firms in developing countries to reach the global technology frontier (Rodrik, 2012).

Africa's experience with manufacturing has been mixed but one thing is certain: there is currently less formal manufacturing in Africa than in any other region of the world. This paper reviews Africa's experience with manufacturing with a view to honing in on what policy-makers will need to do if they want to expand employment and output in their manufacturing sectors. Although there may be many challenges to breaking into manufacturing today (Rodrik, 2015), there are clearly also opportunities. For example, Lin (2015) argues that rising wages in China provide an unprecedented opportunity for labour-intensive manufacturing in Africa. And Balchin et al. (2016) show there has been rapid growth in real output, employment and exports in manufacturing in Sub-Saharan Africa in recent years. Some countries are taking bold steps to attract and retain foreign direct investment (FDI) in manufacturing. For example, both Ethiopia and Rwanda have set up export processing zones (EPZs) that are currently performing very well. Tanzania appears to be following a different strategy: domestic firms have ramped up exports of locally processed products such as sisal, vegetables, cereals, oil seeds and plastic products to regional markets (The Citizen, 2015).

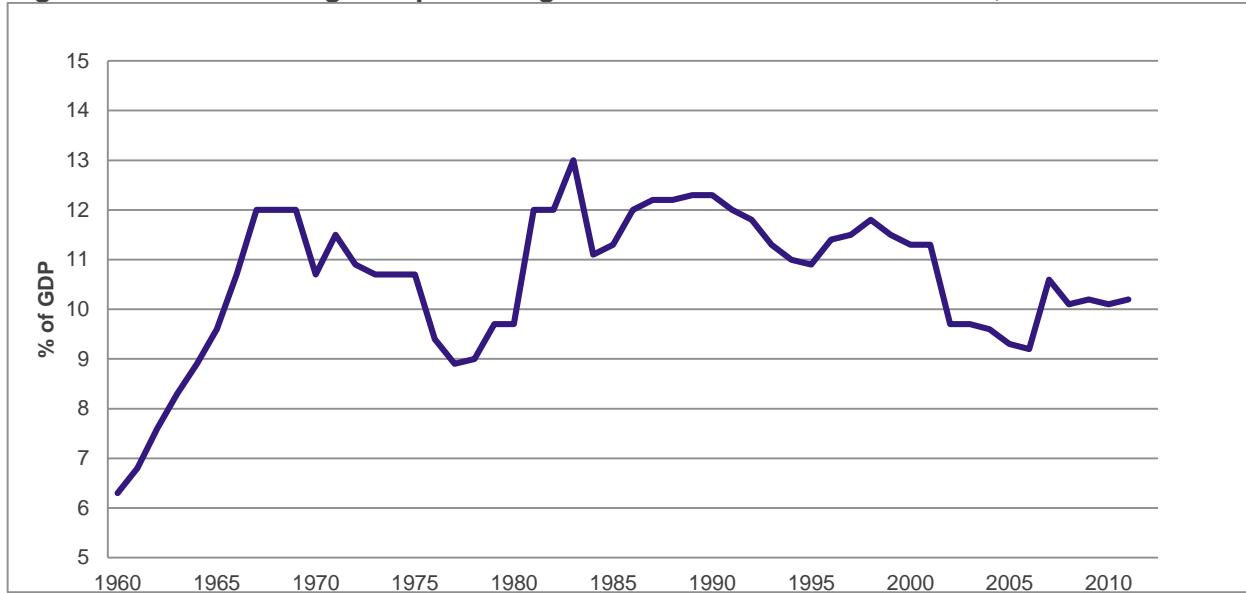
In what follows, we briefly review Africa's post-independence experience with manufacturing, highlighting both its past stagnation and some more recent success stories. We next outline the global advantages and disadvantages African countries face in developing large-scale modern manufacturing sectors. We then discuss the importance of the private sector in taking the lead but also the need for the public sector to facilitate investment in manufacturing – in other words private–public cooperation. We conclude with a proposed industrialisation strategy focused on the following elements: (1) improving on the 'basics' to maintain a 'business-friendly' environment for investment and productivity growth; (2) implementing a developmental FDI policy; (3) building and running efficient industrial parks or EPZs; (4) mounting an export push; and (5) increasing the diversity and raising the technical sophistication of manufactures, including by assisting local small and medium enterprises (SMEs) to access technology and long-term finance. We end with a list of specific issues pertaining to implementing the strategy, for discussion.

2. AFRICA'S EXPERIENCE WITH MANUFACTURING

Beginning in the late 1950s, newly independent governments virtually everywhere in Africa sought to promote the growth of manufacturing. Because most African countries did not have private entrepreneurs with the capital or experience to run modern industrial firms, the growth of manufacturing was largely state-led, either via the nationalisation of pre-existing firms owned by foreigners or via greenfield investment in large, capital-intensive state-owned enterprises (SOEs). As in other developing regions, import substitution was popular during this period. Protected from international competition and pushed by public investment, industry took off in the 1960s. Manufacturing grew substantially faster than overall output between 1960 and 1970 and the share of manufacturing in total output increased rapidly

(Figure 1). By the 1980s, however, the state-led industrialisation effort had reached its limits in most countries, and Africa entered its first period of industrial decline.

Figure 1: Manufacturing as a percentage of GDP in Sub-Saharan Africa, 1965-2010



Note: Series excludes South Africa. In constant 2005 US dollars.

Sources: UNIDO Industrial Development Database (2015); World Bank Africa Development Indicators (201).

Macroeconomic instability and faltering growth ushered in the next phase of industrial development policies, structural adjustment and the Washington Consensus. Across the continent, governments were asked to liberalise trade, engage in some deregulation of domestic markets, restructure state enterprises and finally privatise. The macroeconomic reforms under structural adjustment, in combination with increased inflows of foreign aid, provided a stimulus to industrial production, as firms increased utilisation of capacity that had been heavily constrained by lack of imported intermediates. Between 1980 and 1990, the region's manufacturing share of gross domestic product (GDP) rose to its peak of about 12-13%.

The recovery of manufacturing was short-lived, however. Increased competition from imports and rising production costs in domestic currencies owing to reforms in the foreign exchange and financial markets put considerable pressure on manufacturing enterprises. The share of manufacturing in GDP declined between 1990 and 2006, when it stabilised at about 10%, the same as in 1965. Except for in Ethiopia, Kenya, Nigeria and Tanzania, manufacturing growth has remained at or below the growth rate of GDP.

2.1 A TURNING POINT?

Some of the factors that may have held back Africa's manufacturing sector seem to be getting better. Macroeconomic reforms, reductions in violent conflicts and improved governance across much of the continent have reduced uncertainty. Moreover, relatively high growth rates over the past 15 years have attracted more private investment. Yet, when Africa emerged from its long economic hibernation around the turn of the 21st century, African industry was no longer competing with the high-wage industrial 'North', as it had in the 1960s and 1970s. It was now competing with China. From the point of view of industrial development, the timing of the region's economic recovery was unlucky to say the least.

Moreover, 20 years of stabilisation, fiscal austerity and slow growth had also left Africa with very large gaps in physical and human infrastructure. Africa started out in the 1960s with stocks of roads that were generally not very different from those in East Asia. The same was true in the 1970s for telephones and in the 1980s for power. By around 2000, it trailed in every infrastructure category (Foster and Briceño-Garmendia, 2010). Today, Sub-Saharan Africa lags at least 20 percentage points behind the average for low-income countries on almost all major infrastructure measures (World Bank, 2009). In addition, the quality of service is low, supplies are unreliable and disruptions are frequent and unpredictable. Gaps in

terms of human capital and institutions are equally large. Only 60% of Africa's 15-24 year olds have completed primary school, and only 19% have gone beyond lower-secondary school (Filmer and Fox, 2014).

The good news in all of this is there is substantial room for growth based on both public and private investment. And there is evidence that this is happening. For example, Ethiopia's economy has grown at an annual average rate of more than 10% since 2004. This has largely been fuelled by public investment (World Bank, 2015), but private investment, including in manufacturing, has also been rising. And while manufacturing's share of employment and value-added in Africa is still quite low, there is evidence of rapid growth in employment and value-added in a number of countries. For example, Balchin et al. (2016) report that African manufacturing has grown at 3.5% in real terms over the past decade, a rate faster than global growth in manufacturing. The total number of employees in manufacturing in Sub-Saharan Africa nearly doubled, from 11 million to 17.7 million, and average annual manufacturing export growth was 7.4%, second only to in Asia, where it was 8.3%. Will this growth continue? There are lots of reasons to believe manufacturing growth will continue in Africa, including rising wages in China and the fact that Africa is starting from such a low base. Just how much it can grow is up for debate but it is clear this will depend critically on individual country circumstances and industrial policy. For some guidance on policy, we turn to a few of the more successful countries while at the same time noting that we have a lot more to learn about what is driving the recent growth in manufacturing across the continent.

2.2 SOME BEACONS OF LIGHT?

MAURITIUS

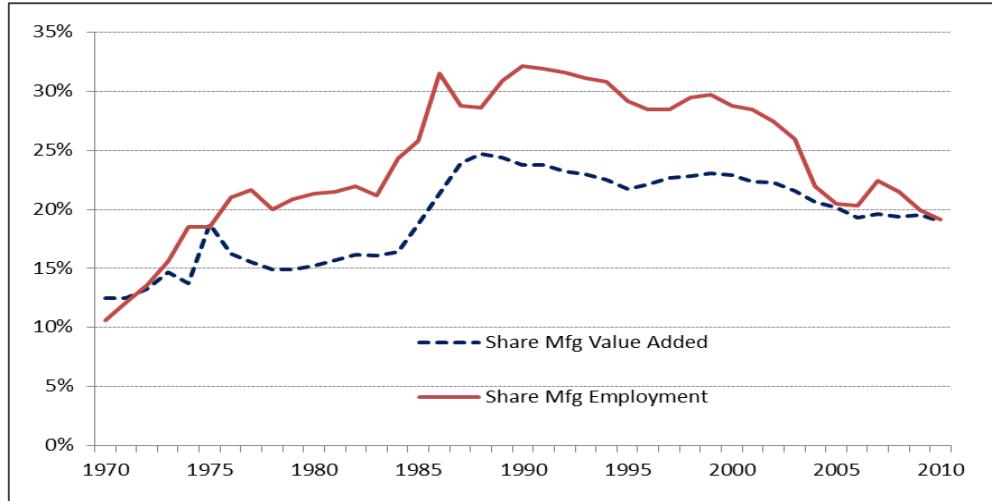
We begin with the story of Mauritius because it is the only African country that has achieved unqualified success in manufacturing. It developed a manufacturing sector soon after independence and has managed to respond well to new external shocks.

To an important extent, Mauritius' success was based on the creation of an EPZ combined with preferential access to European Union (EU) markets and foreign investors seeking additional access to these markets. But what most observers do not realise is that, at the time the EPZ was created, domestic investors were also heavily engaged in import substitution. How was the government able to pursue import substitution and export promotion simultaneously? Much like China, the government of Mauritius used an unorthodox two-track strategy to get export-oriented manufacturing off the ground (Rodrik, 1998). This example is important because it is an example of small policy changes at the margin that can both be politically acceptable and make a big difference.

Some other important policy lessons can be distilled to the rest of Africa from the case of Mauritius.¹ First, macro policies were generally growth-enhancing and included the following: (1) creating a well-managed EPZ; (2) investment in education; and (3) prudent management of the exchange rate. Second, the people of Mauritius built a system of effective and inclusive governance. One of the most interesting examples of this is the way the largely Indian government of the newly independent country did not nationalise the estates of the Franco-Mauritian sugar barons. Instead, it let them hold on to their estates using the tax revenues to build up the rest of the economy. Third, Mauritius has managed external shocks extremely well. For example, when the Multi-Fibre Arrangement (MFA) expired in 2004, Mauritius, like other African textile and apparel exporters, suffered. Output declined by 30% and employment by 25% in 2004. In the face of these shocks and fierce competition from China, many of the Mauritian textile and garment firms have become largely automated and the government has formulated a new development plan that emphasises services, including international banking and tourism.

¹ This description of Mauritius draws on Rodrik (1998), Frankel (2010) and Annex 2 of ACET (2014).

Figure 2: Manufacturing employment and value-added shares in Mauritius, 1970-2010 (%)



Source: Author's calculations based on GGDC Africa Sector Database.

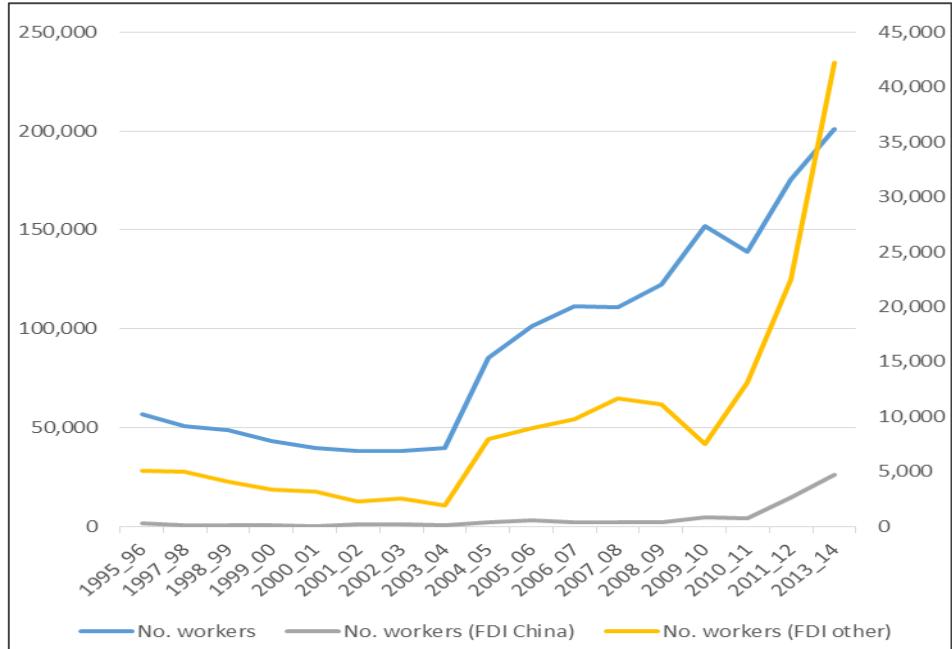
ETHIOPIA

Since 2002, Ethiopia has pursued what might be described as an Asian style industrial policy. The main driver behind Ethiopia's industrial policy is the Prime Minister's Office, consisting of the prime minister and a number of senior policy advisers with the rank of minister, who take the lead roles in the design and implementation of the country's development plans. In a nutshell, the development of Ethiopia's manufacturing sector has been designed to complement and follow the growth of the country's dominant agriculture sub-sectors. Thus, support is targeted at sectors that are labour-intensive and relatively low-tech and characterised by strong backward linkages to agriculture – primarily textiles, leather and leather products and agro-processing. In addition, Ethiopia's industrial development policy has explicitly targeted foreign investors, expecting them to help the country enter global markets and earn foreign exchange. Investors in these areas are afforded a number of incentives, including favourable land lease rates, access to commercial credit, free imports of inputs and generous tax breaks (Brautigam, 2016).

Apart from targeting specific industries, the Ethiopian government has engaged in a massive campaign of investment in infrastructure and human capital. It has the first 'light rail' system in Africa and more than 20 new university campuses have been built across the country since 2000. Institutions of higher education have been obliged to privilege science and engineering subjects over the humanities under a 70:30 formula. Vocational and technical education has also been expanded (ACET, 2014; Brautigam, 2016). Like the East Asian countries, Ethiopia has also placed high value on the technical expertise of its civil service, at least at the federal level.

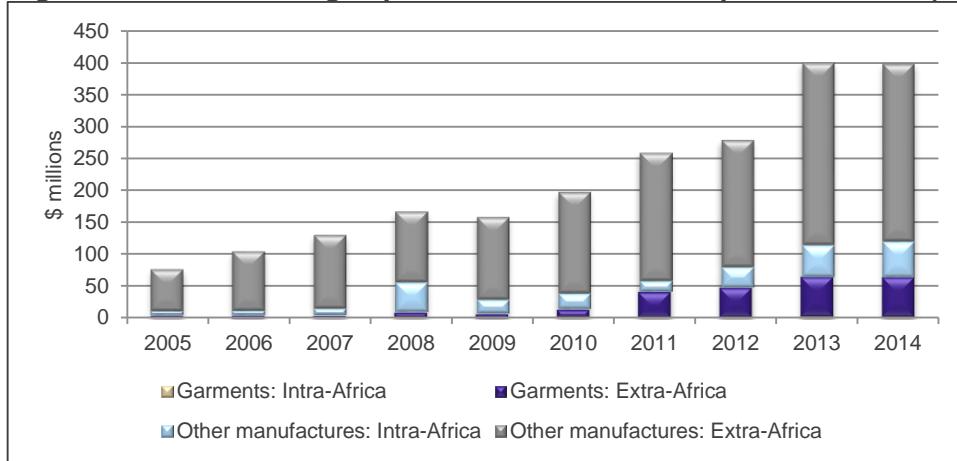
By some measures, Ethiopia's industrial policy has been a success. Figure 3 shows that, between 2002 and 2014, total manufacturing employment increased by more 400% – from less than 40,000 workers to a little over 200,000. Employment in foreign-owned manufacturing firms increased by more than 1,600% – from a little under 3,000 employees to roughly 50,000. Since Ethiopia started from such a low base, the percentage increases are enormous – but the levels are still disappointing and do not meet the targets initially set by the government. However, there is quite a bit more 'planned' FDI in manufacturing, which, if realised, could make a much more substantial contribution. In addition, there is evidence that FDI has been associated with the training of local workers and technology upgrading by local firms (Abebe et al., 2016; ACET, 2014; Brautigam, 2016). One of the bottlenecks to the expansion of manufacturing in Ethiopia appears to be an inadequate supply of local inputs (Sutton et al., 2010; Dinh et al., 2012). The government has zeroed in on this problem and, according to Brautigam (2016), it is too soon to tell whether this will make a difference. However, Brautigam also notes something more disturbing: the boycotting of Ethiopian manufactured leather products by Italy over concerns that jobs would move from Italy to Ethiopia. This last point emphasises the need for trade agreements that benefit Africa much the way Vietnam benefited from preferential access to US markets.

Figure 3: Employment in formal manufacturing, Ethiopia, 1995-2014



Source: Abebe et al. (2016).

Figure 4: Manufacturing exports to the world, Ethiopia, 2005-2014 (\$ millions)



Source: SET data from <http://set.odl.org/data-portal/>

TANZANIA²

Tanzania provides an interesting contrast to Ethiopia. Like Ethiopia, the manufacturing sector in Tanzania is growing. Between 2000 and 2010, real manufacturing value-added more than doubled, from \$894 million to \$1,992 million; since 2010, the growth of manufacturing has continued to outpace overall GDP growth. Agro-processing is the leading manufacturing sub-sector, accounting for 55% of total output.³ Manufacture of furniture, non-metallic mineral products, tobacco and textiles round out the list of other major formal manufacturing activities. Between 2002 and 2012, a little over 100,000 new jobs were created in the formal manufacturing sector, making the total number of employees in Tanzania's formal manufacturing sector roughly equal to that in Ethiopia's.

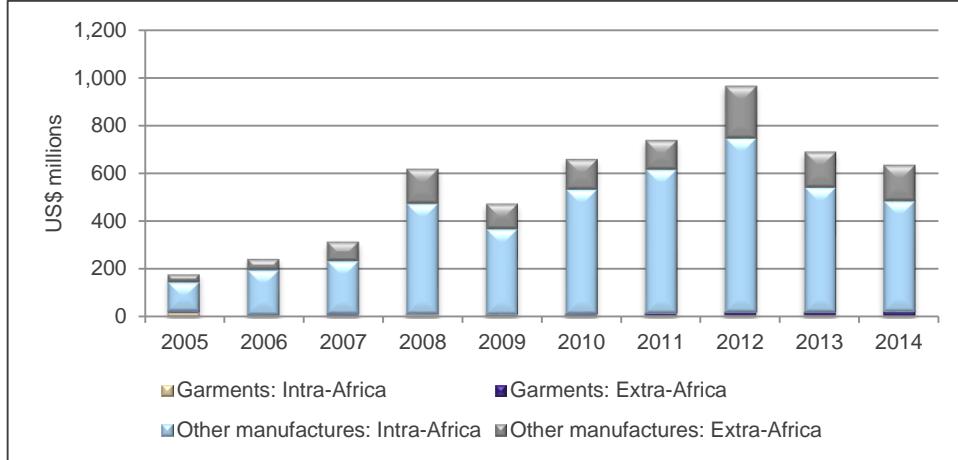
Unlike in Ethiopia, almost all of the manufacturing in Tanzania is targeted at domestic and/or regional markets. This is evident in the supermarkets, where products such as matches, shampoo, soap, cooking

² This section draws heavily on McMillan et al. (2016).

³ The Annual Survey of Industrial Production collects detailed information on all registered industrial establishments with at least 10 employees in mining, manufacturing, electricity and water. It contains 729 firms of which 59.2% are small (10-100 employees), 14.5% are medium (101-499 employees) and 26.3% are large-scale enterprises (500 or more employees).

oils, jams and an endless array of items are now produced locally. It is also evident in the export statistics. Figure 5 stands in sharp contrast with Figure 4 for Ethiopia, which shows exports going primarily outside of Africa.

Figure 5: Manufacturing exports to the world, Tanzania, 2005-2014 (\$ millions)



Source: SET data from <http://set.odl.org/data-portal/>

3. CAN AFRICA BREAK IN?

By the time Africa had moved beyond the economic and political turmoil of the 1980s and 1990s, the centre of gravity of global manufacturing had moved from the rich industrial countries of the Organisation for Economic Co-operation and Development (OECD) to East Asia. Low-income countries trying to compete today are competing with China, which has a large pool of labour. Given its late start, can Africa reasonably aspire to break into the global market for industrial goods? The answer is yes, for at least four reasons. First, economic changes are taking place in Asia that create a window of opportunity for late-industrialisers elsewhere to gain a toehold in world markets. Second, a growing share of global trade in industry is made up of tasks in global value chains, rather than finished products, which could mean lower capital and other requirements for entry. Third, rapidly growing trade in services and agro-industry broadens the range of products in which Africa can compete. And fourth, Africa's natural resource abundance offers another path towards industrial development.

3.1 CHANGES IN ASIA

Today, new entrants in global markets must compete with incumbent East Asian producers who enjoy both low wages, at least relative to the high-income countries, and high productivity. Transportation cost differences add to the competitive advantage. Generally, international transport costs are higher in Africa than in Asia, and high Asian trade volumes reduce costs further (Hummels, 2007). While the challenges are formidable, there are four major changes in Asia that will increase Africa's ability to compete:

- 1. Rising costs in China.** China is growing so rapidly that it is encountering rising costs in manufacturing production. One source is increasing real wages. Since 2005, real wage growth in China has accelerated significantly. Manufacturing wages rose from just over \$150 a month in 2005 to around \$350 in 2010 (Lin, 2011). Stiffer enforcement of labour and environmental regulations, gradual expansion of safety net provisions and the prospect of further increases in the value of the renminbi are likely to erode the low wage advantage further (Dinh et al., 2012).
- 2. Domestic demand in Asia.** Since the global financial crisis of 2008, Asia's established industrial economies – China included – have introduced domestic policies intended to reduce their dependence on exports. In China, targeted stimulus measures, including higher infrastructure investment, have helped strengthen domestic demand. In the region more broadly, domestic demand has benefited from strong credit growth (IMF, 2014).

3. **Moving up the technological ladder.** A number of successful Asian industrialisers, including China, Malaysia and Thailand, are making conscious efforts to move up in terms of the sophistication and technological complexity of their manufacturing. China increased its medium-and high-technology share of exports from 45% in 2000 to 59% in 2010 (UNIDO, 2009, 2013). As countries move up technologically, less sophisticated competitors should be able to enter the sectors and product groups they leave.
4. **International economic policy in China.** There is some evidence that economic policy-makers in China have made a decision to 'offshore' a portion of low-end manufacturing to Africa. By the end of 2009, China's outward FDI in Africa had reached a stock of \$9.33 billion. A large share (22%) – second only to mining – went to manufacturing (Lin, 2011). More recently, Chinese investment in African manufacturing has accelerated (Brautigam and Tang, 2012).

In contrast with the immediate post-structural adjustment period, there may be increasing space for Africa to break into the market in low-end, labour-intensive manufacturing.

3.2 TRADE IN TASKS AND VALUE CHAINS

The spectacular reduction in transport and communications costs in the global economy over the past 20 years has made it efficient for different stages of production along a value chain to be located in different countries. For late industrializers trade in tasks offers great potential. It is easier to master a single stage of the production process than to develop a vertically integrated industry. But success in attracting and retaining trade in tasks is by no means guaranteed. Because end-stage task-based production depends on imported intermediate inputs, the institutions directly related to international trade (for example customs) and transport infrastructure are crucial to success.

3.3 INDUSTRIES WITHOUT SMOKESTACKS

Falling transport and communications costs have also created economic activities in agriculture and services – horticulture and IT-enabled services for example – that have high output per worker and are globally traded. These 'industries without smokestacks' share a broad range of characteristics with manufacturing, and they are an increasingly important part of global industry. The major agro-industrial value chain in which Africa has shown the ability to compete is horticulture. As transport costs have fallen, an increasing variety of horticultural products can be exported profitably. Such items as prepared fruit salads, trays of prepared mixed vegetables and flower bouquets in retail packs can be produced more cheaply in low-income countries owing to lower labour costs (Tyler, 2005).

As early global service providers transition from low- to higher-end tradable services, there is growing room for African countries to step into the more standardised segments of the services market. Offshore business services – such as data transcription and call centres – also present such an opportunity. Unlike East Asia, most African countries use global languages such as English, French, Arabic and Portuguese. These are great assets for communications-based services.

BOX 1: SPEAKING THE SAME LANGUAGE

French investors established the call centre Premium Contact Center International (PCCI) in Dakar, Senegal, in 2002. The company makes prospecting and selling telephone calls to European households for French corporations. Videoconferences and the flow of calls travel through a transoceanic cable. PCCI recruited about 1,000 call centre agents, most of them former students at the University of Dakar. The main recruitment criterion was fluency in French.

KenCall is a Kenyan firm that specialises in providing outbound and inbound voice and data services for large OECD companies. The firm began with outbound voice services, such as developing sales leads and doing post-sales calls with customers. Now it has added business in more lucrative data and inbound voice services. The services the firm offers include sales, billing, customer information, administrative and data management and Level 1 tech support. For its tech support business, KenCall's employees are certified by Cisco and Microsoft, among other information and communication technology (ICT) providers.

BOX 2: NATURAL RESOURCE ABUNDANCE

Africa is richly endowed with metal and non-metal minerals, as well as energy resources, and many of its economies are highly resource-dependent. New discoveries of natural resources in previously non resource-abundant economies such as Ghana, Kenya, Mozambique, Tanzania and Uganda raise the prospect that an increasing number of African economies will enter the ranks of natural resource exporters. This brings opportunities for industrialisation: (1) the financial inflows to finance the infrastructural and skills development requirements of industrialisation; (2) materials that could form the base for processing industries; and (3) the opportunity to integrate domestic firms into the natural resource value chain as suppliers. But natural resource abundance also poses a major challenge to industrialisation. It makes it more difficult to compete internationally in industries unrelated to the natural resource, unless the exchange rate and overall macroeconomic policy is managed carefully to keep the real exchange rate competitive. And, of course, measures that support productivity increases in the non-natural resource manufacturing sector, as discussed below, will also help.

4. PROMOTING MANUFACTURING IN AFRICA

For Africa to capture a larger share of global industry, it must succeed in doing three things. First, while some firms in some countries are already sufficiently productive to be competitive internationally, a larger share of existing firms must become more productive. Second, because the manufacturing sector in most African countries is quite small, governments must create the conditions to attract new firms able to compete in regional and global markets. Finally, governments may encourage firms to move into promising new areas of potential comparative advantage. In this section, we discuss each of these three objectives and briefly describe the role of public policy in meeting them.

4.1 MAKING FIRMS MORE PRODUCTIVE

There are very large productivity differences among enterprises in narrowly defined industries in Africa. One study using World Bank data found that the ratio of labour productivity between a plant in the 90th percentile in terms of productivity in textiles and garments and one in the 10th percentile ranged from 10 to 1 in Senegal to 79 to 1 in Ethiopia to an astonishing 698 to 1 in Mozambique (Newman et al., 2016). These differences surely reflect major differences in products produced and capital intensity, but they also point to very substantial differences in efficiency in production across firms. Reducing these differences and raising the average are key elements of promoting manufacturing.

Firm-level productivity increases in two ways. The first is through changes that increase the level of productivity within the firm. This could owe to a firm-specific initiative – a change in management, for example – or could come from a change in the environment in which firms operate. Any mechanism that increases the potential productivity of all firms is sometimes called the ‘bathtub effect’. Not all firms will seize on productivity-changing opportunities when they are available. This is where competition becomes important. It affects productivity through the exit of less efficient firms and the entry or expansion of their more efficient counterparts. This second, between-firm, effect is often referred to as ‘churning’ (see Syverson, 2011).

Public policy has a role to play in both filling the bathtub and churning the waters. Investments in infrastructure and education, for example, help raise the potential productivity of all firms in an economy. A number of econometric studies highlight the productivity penalty African enterprises pay as a result of poor infrastructure and skills (Escribano et al., 2010; Foster and Briceño-Garmendia, 2010). Efforts to improve the business environment can have a similar effect. Policy reforms to remove barriers to competition help promote churning.⁴ Tanzanian data, for example, show firms facing less competition are less active in introducing new technologies, products and processes (Yoshino et al., 2013).

⁴ For reviews of the literature see the various World Bank *Doing Business* reports.

4.2 ATTRACTING NEW INVESTMENT

The literature on industrialisation in developing countries suggests three factors have largely shaped the global distribution of industry (UNIDO, 2009). The first is the presence or absence of some ‘basics’: sound macroeconomic management, infrastructure, human capital and institutions. Cross-country evidence shows that a variety of country - specific factors, including basic infrastructure and human capital, financial depth and barriers to entry, are correlated with industrial development and diversification in low-income countries (IMF, 2014). More reliable electrical power, lower costs of transport and workers better able to perform their jobs make countries more attractive to both domestic and foreign investors. The second is exports. All manufacturing success stories of the past 50 years are stories of export success. Exports permit firms to realise economies of scale, and in low-income countries the act of exporting raises firm productivity through learning (Harrison and Rodriguez-Clare, 2010). The third is industrial agglomerations. Manufacturing and services industries tend to concentrate in clusters and cities for reasons related to significant productivity gains from a number of sources: a thick labour market, information and knowledge spillovers, ability to share common overheads and services and the opportunity to observe customers and competitors closely (UNIDO, 2009).

These three drivers of industrial location are interdependent and mutually reinforcing. In Vietnam, for example, the mass movement of a large number of East Asian-owned exporting firms into the economy within a relatively short period let foreign and domestic firms to benefit from agglomeration economies. Public policy played an important role in making things happen. The Vietnamese government adopted a coordinated set of policies aimed at promoting the growth of manufactured exports. In addition, it actively courted foreign investors and developed special economic zones (SEZs) in which they could locate.

In addition to the three factors above, access to a large and growing market affects the location of global manufacturing (FDI). This can work directly or indirectly. Directly, a country with a large domestic market provides an attractive location site, provided the general institutional and policy environment (i.e. the ‘basics’) are right. Brazil provides a classic example. In Sub-Saharan Africa, only a small number of countries (e.g. South Africa and Nigeria) have the combination of population size and income levels to be attractive to ‘market-seeking’ FDI. Indirectly, foreign firms may locate in a country if that country offers easier access to bigger third markets. Such was the case under the MFA quota regime on textile exports, which attracted Taiwanese textile manufacturers to relocate to Mauritius to spark its drive in textile manufacturing and exports to the EU. The MFA is no more, but the African market as a whole is expanding with the recent growth in GDP, which increases the attractiveness of the region for market-seeking FDI. Progress on regional trade and integration will therefore increase the opportunities for all countries in the region, small as well as large, to attract FDI.

4.3 MOVING IN NEW DIRECTIONS

The process of structural transformation also requires moving in new directions. Rodrik (2009) refers to this as ‘industrial policy in the large’, and it implies thinking of an industry or an activity one would want to see develop and then putting in place all the public inputs needed for it to succeed (Hausmann et al., 2007a). The economic rationale for this type of industrial policy rests on the presence of imperfect markets. Imperfections in risk and capital markets mean individuals, who should move from old to new sectors in low-income countries, cannot get access to the resources needed to make the shift – yet they have to bear the inevitable risks associated with the transition (Stiglitz, 2016). Information externalities and coordination failures further inhibit structural transformation. Because there are high costs to private firms of discovering the next new area in which an economy will be competitive, firms will tend to under-invest in new activities, even if they have high social returns (Hausmann and Rodrik, 2003).

For Africa, two priorities for moving in new directions are increasing the diversity and technological sophistication of what is produced and increasing exports and diversifying export markets. Both of these objectives offer potentially high social returns. Differences in diversification and sophistication are strongly related to differences in long-run growth in developing countries. Countries that produce and export more sophisticated products – those manufactured primarily by countries at higher income levels – tend to grow faster (Hausmann et al., 2007b; UNIDO, 2009). More diversified production and export

structures are associated with higher incomes per capita (Cadot et al., 2011; Hummels and Klenow, 2005; Imbs and Wacziarg, 2004). They also make economies more resilient.

5 TOWARDS A NEW INDUSTRIAL DEVELOPMENT STRATEGY

Achieving the three objectives outlined above will require a new approach to industrial development. The idea that governments can successfully develop and implement strategies for industrial development is at the heart of the decades-long controversy over industrial policy. While the dominant view among economists for 30 years has been that industrial policy is a bad idea, there has been considerable rethinking of this conventional wisdom in the past decade. There is greater agreement that markets do not by themselves lead to economic efficiency and that market imperfections in low-income countries impede structural transformation (Rodrik, 2008; Stiglitz, 2016). Many markets are incomplete and suffer from coordination failures. There appears to be a growing consensus that markets can fail both when governments interfere too much and when they engage too little.⁵

In this section, we set out some ideas for a new industrialisation strategy for Africa. We begin with the ‘basics’. Without good macroeconomic management, a competitive exchange rate and improvements in infrastructure, skills and institutions, existing firms face an uphill battle to become more productive and new investors will continue to bypass the continent. But, focusing only on the basics does not address the other drivers of firm location. For that reason, we suggest three market-oriented policy instruments aimed at making Africa more attractive to global manufacturing. These are mounting an export push, strengthening SEZs (and industrial parks) and attracting FDI. Finally, we discuss possible approaches to pursuing industrial policy in the large, particularly helping domestic firms access new areas of manufacturing production exports.

5.1 GETTING THE BASICS RIGHT

Whether it is to boost the productivity of established firms or to attract new ones, Africa must begin with the basics. Increases in infrastructure and human capital shift the distribution of firm-level productivity more or less uniformly in the direction of higher average productivity levels. Regulatory burdens and poorly functioning institutions inhibit competition, increase the cost of doing business and reduce competitiveness. Firm-level studies highlight the productivity penalty African firms pay as a result of poor infrastructure. Electrical power is Africa’s greatest single infrastructure constraint. The quality of electricity service is ranked as a major problem by more than half of the firms in more than half of the African countries in the World Bank’s Investment Climate Assessments. Transport infrastructure runs a close second. Infrastructure directly affecting the competitiveness of exports has been particularly neglected. Road infrastructure has received little attention, as have ports and railways.

The skills gap poses another major constraint to industrial development and exports. A survey of country experts from 45 countries for the African Economic Outlook 2013 found over 50% of respondents cited lack of specialised skills as a major obstacle keeping African firms from becoming competitive. What is lacking most are skills related to production from basic cognitive skills to management. Interviews with FDI executives operating in Africa yielded similar conclusions (ACET, 2014). Major increases in post-primary and vocational/technical education are needed to address the skills gap, and quality must improve at all levels. Much of this will have to be done by the public sector, but it is important to open up space for the private sector as well. Technical and vocational training have high private returns, and private sector providers are often more attuned to market place needs. There is also scope for short-term training courses for secondary and tertiary school graduates, organised jointly with industry (*ibid.*).

⁵ This is one of the major ‘lessons’ articulated in World Bank (2005) and Commission on Growth and Development (2008).

5.2 MOUNTING AN EXPORT PUSH

For the vast majority of countries in Africa, the regional and global export market represents the best option for rapid growth of manufacturing, agro-industry and tradable services. Because individual firms face high fixed costs of entering export markets, there is a risk that countries will export too little, unless public policies are put in place to offset the costs to first movers. To deal with these information externalities, African governments need to adopt ‘export push’ strategies similar to those countries in Asia have used since the 1970s (World Bank, 1993). Asian exporters employed a concerted set of public investments, policy reforms and institutional changes to increase the share of industrial exports in GDP. Macroeconomic policies were adjusted to emphasise maintaining a competitive real exchange rate.

Many of the public actions needed for an export push involve the basics, but with the twist that priority should be given to constraints to the growth of exports. Institutional and regulatory reforms should aim to reduce the transaction costs exporters face. Duty drawback, tariff exemption and VAT reimbursement schemes are often complex and poorly administered, with substantial delays. Port transit times are long, and customs delays on both imported inputs and exports are significantly longer for African economies than for Asian competitors. Trade-related infrastructure in particular is suffering from the region’s infrastructure gap, and poorly functioning institutions and logistics markets increase trade friction costs.

For Africa, targeting only OECD markets will not suffice, given current demand trends. Strategies for accessing ‘emerging’ markets and the growing African regional market, as well as OECD markets, are important. Regional exports in the East African Community, for example, have been growing substantially faster than exports to other destinations. The fact that many of Africa’s economies are landlocked makes regional approaches to infrastructure, customs administration and regulation of transport in trade corridors imperative. Tangible progress on regional integration has been slow. Governments can give new momentum to regional integration efforts by implementing the regional trade agreements they have signed and also focusing on trans-border infrastructure and institutions.

5.3 STRENGTHENING SPECIAL ECONOMIC ZONES AND INDUSTRIAL PARKS

Starting an industrial agglomeration poses a collective action problem. If a critical mass of firms can be drawn into a new industrial location, each will realise productivity gains from clustering. But there is no incentive for a single firm to move. Governments can foster industrial agglomerations by concentrating investments in high-quality institutions, social services and infrastructure in a limited physical area such as an SEZ (Farole, 2011; UNIDO, 2009) or industrial park. Appropriate public policies to attract a critical mass of investors into such areas are a prerequisite to breaking into global markets.

In East Asia, the export push was frequently accompanied by policies designed to promote the formation of industrial clusters. This approach solved two problems. It allowed governments to concentrate investments in infrastructure, human capital and institutions in a limited geographical area, and provided a focal point for firms seeking agglomeration. One of the success factors in the industrialisation experiences of both Cambodia and Vietnam was the decision by a critical mass of regional investors to relocate some low-end task-based production from East Asia to EPZs in each country.

Most African SEZs have failed to reach the levels of physical, institutional and human capital needed to attract global investors. For example, in a World Bank survey, non-African SEZs had an average downtime from electricity outages of only four hours per month. The reported average downtime in African SEZs was 44 hours per month (Farole, 2011). A similar pattern is observed in the institutions supporting the SEZs. Customs clearance times in African zones are about double that of their non-African competitors. Thus, a first order of business is to upgrade the performance of Africa’s SEZs to international standards.

SEZs work best if they are seen as an integral part of a country’s development strategy. The success of zone initiatives is largely determined by the choices made in the establishment of policy frameworks, incentive packages and various other provisions and bureaucratic procedures (FIAS, 2008). Maximising

the benefits of SEZs depends on the degree to which they are integrated with their host economies and the overall trade and investment reform agenda. In particular, when zones are designed to pilot legal and regulatory reforms within a planned policy framework, they are more likely to reach their objectives. The establishment of a successful SEZ programme does not require removing one or two obstacles; it requires removing all of them simultaneously (Aggarwal, 2005).

5.4 ATTRACTING DEVELOPMENTAL FOREIGN DIRECT INVESTMENT

Policies and institutions for attracting FDI are key tools in any industrialisation strategy. As in the case of SEZs, efforts to attract FDI must derive from the national economic transformation strategy. The types of investment governments try to attract and the targets they set should not be developed independently of public actions to improve the basics, promote exports and strengthen SEZs. At the institutional level, four features of FDI promotion agencies play a crucial role in their success: active support of the head of government, operational independence to fulfil its coordinating role, high-quality personnel and focus (Page, 2012). Over the past decade, many Sub-Saharan African countries – Ethiopia, Ghana, Tanzania and Uganda, for example – have created or reformed institutions intended to attract FDI, but implementation and results have fallen short.

Generally, African FDI agencies have not received the sustained support of the president or prime minister. Without such high-level support, they lose the ability to coordinate across government. Personnel practices and compensation policies have not been sufficiently attractive to make it possible to recruit the high calibre staff needed, and the agencies are frequently burdened with multiple objectives, diluting focus. These institutional problems must be solved to attract foreign investors outside of the natural resources sector.

Transmission of knowledge from foreign-owned firms to other firms in the economy most often takes place through supply chain relationships. A striking finding of recent research is how few linkages exist in most African countries between foreign and domestic investors (Newman et al., 2016). One area for action is to remove the obstacles that current policies – mainly in EPZs – place in the way of linkages between foreign and local firms. Beyond removing obstacles, governments can pursue more active policies to help local firms connect to FDI-led value chains. Once FDI agencies have established a track record for attracting international investors, they can turn to more selective recruitment of investors based in part on their willingness to engage with domestic suppliers. Government support for capacity development of local firms can be used to make them more attractive suppliers to FDI companies. Especially in the case of extractive industries, governments can also impose requirements on FDI companies balanced with positive incentives to engage with local firms.

5.5 INDUSTRIAL POLICY IN THE LARGE: INCREASING THE DIVERSITY AND SOPHISTICATION OF INDUSTRIAL PRODUCTION AND EXPORTS; SUPPORTING DOMESTIC SMES

Given the very narrow range of manufactures produced in Africa, expanding manufacturing production and exports in Africa will entail more than just creating the conditions for existing firms to increase productivity and expand lines of production. African countries have to venture into new manufactures, based on their latent comparative advantage, and there will also be need to move up the ladder of technical and marketing sophistication in existing areas. Part of this goal could be accomplished through the FDI strategy discussed above. But there will also be need to support domestic firms, most of which are SMEs, to increase their capabilities to become either suppliers to FDI firms in new lines of activities or successful stand-alone manufacturers and exporters.

As noted above, small firms venturing into new areas face three market failures that necessitate public intervention: (1) to facilitate access to information, particularly to technology; (2) to facilitate access to capital, particularly long-term credit; and (3) to help overcome coordination failures, often to do with public infrastructure. SMEs in manufacturing need public research and extension support for the same reasons as smallholder farmers do: each is too small to afford the human and financial resources for the

search, discovery and local adaptation of technologies. In many African countries, agricultural research and extension services during colonial times facilitated the introduction and expansion of agricultural exports, as with the cocoa and palm oil research institutes in Ghana and the tea research institute in East Africa (now the Tea Research Foundation in Kenya). Similar approaches can promote the production and export of promising new manufactures. Good examples include the state-sponsored Industrial Technology Research Institute (ITRI) of the Republic of China (Taiwan) and Fundación Chile. ITRI conducted industrial research and disseminated it to Taiwanese SMEs through an effective extension programme that spearheaded the country's transition from low-technology manufactures to what it has become today: a global leader in semiconductor and electronic products (ACET, 2014). Similarly, Fundación Chile facilitated the access of Chilean entrepreneurs to technology that enabled the country to be a major global exporter of wine and salmon (from aqua-culture). It is instructive that one of the key features of ITRI's success, in addition to research and extension, was the running of well-functioning industrial parks (e.g. Hinschu Park), which helped overcome many of the coordination failures the SMEs faced. Regarding difficulties in accessing long-term credits, this is a problem facing SMEs in most countries. And many countries, including industrialised ones, have specialised programmes to help overcome this. African countries, as with many other countries before them, tried to address this problem through development banks. Unfortunately, most of these failed to perform, leading to abandonment of the approach as part of the structural adjustment programmes of the 1980s and 1990. But development banks that provide long-term credits have a key role to play in industrialisation, and it is time African countries revisited the issue, learnt from their mistakes and established market-oriented and professionally run development banks (*ibid.*).

5.6 COHERENCE AND COORDINATION

The strategy for industrial development we have outlined will not succeed if it is implemented in a piecemeal or haphazard way. Because the drivers of firm-level productivity and investment are so closely interrelated, progress in one area, say promotion of industrial exports, will not achieve its desired effect in the absence of actions in the others. This calls for a level of coherent action across government that is quite demanding. Strong links between the FDI agency, the finance and planning ministries, the line ministries responsible for domestic industrial development and the agency administering the SEZ programme are vital.

To identify the binding constraints to growth of manufacturing, governments need to engage the private sector. This can be done in at least two ways. The first is through the use of enterprise surveys, such as the World Bank-sponsored Investment Climate surveys. Second, governments can conduct a structured dialogue with the private sector to identify constraints to the growth of existing firms. With the growth of global value chains, such business–government coordination has become increasingly important in assisting domestic firms to engage with the multinational lead firms that drive them. An equally important contribution of close coordination lies in giving feedback on which interventions work and which do not.

6. CONCLUSION AND KEY ISSUES FOR DISCUSSION

Industrialisation, particularly the expansion and increased sophistication of manufacturing production and exports, and also the expansion of manufacturing employment, remains an essential part of Africa's economic transformation. Unfortunately, manufacturing as a share of GDP has declined over the past few decades in most African countries, although in absolute terms it is growing. Even though African countries face difficult challenges in breaking into world manufacturing markets, there are new developments that work in their favour. These include rising wages in China and a rebalancing in Asia away from export-led to domestic and regional consumption-led growth; Africa's growing regional markets; falling transport costs; improved access to abundant natural resources; improving firm productivity and access to global value chains; and improving general economic policy environments. But governments should not stand aloof; to seize these new opportunities they will have to formulate and implement coherent industrial development strategies. The key elements of such strategies must include:

- continued improvements in the basics, including sound macroeconomic management, improvements in the general investment climate and support for the private sector and development of public infrastructure and relevant skills
- an export push, including regional trade and integration
- agglomeration through building and implementing SEZs and industrial parks
- active FDI promotion and building linkages with local firms
- supporting productivity enhancement of local SMEs and their access to technology and long-term finance to help them venture into production of new or technologically more sophisticated products
- improved coherence and implementation coordination within government and
- strengthened consultation and collaboration between governments and the private sector

Separate panels at this Forum are dedicated to several of the elements of the strategy above (for example panels on public infrastructure, skills development, regional trade and integration and public-private consultation mechanisms). For this panel, the key issues that participants may wish to consider are:

- How do countries raise their focus and commitment to manufacturing, and develop a coherent strategy to promote it? In what visible forms should this be expressed?
- What key measures can countries take to improve their FDI promotion efforts and link the FDI firms to domestic suppliers?
- How can the performance of SEZs and industrial parks be improved? Should the private sector's role in developing and managing SEZs and industrial parks be increased? How can public-private collaboration be increased in this area?
- How best can the state support access of local SMEs to technology?
- How do we increase access of SMEs to long-term finance? In particular, how can development banks (and similar institutions) be made more market- and performance-oriented? What are the changes needed in their governance? What is the scope for public-private sector collaboration in improving SME access to long-term finance for manufacturing?

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