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**Promoting manufacturing to accelerate economic growth and
reduce volatility in Africa ***

By

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Abstract

This paper investigates the role of structural dynamics and transformation, especially in the form of increased manufacturing share in aggregate output, in accelerating growth and reducing growth volatility in Africa. Using data from 36 African countries, the paper examines the key determinants of manufacturing share in aggregate output and its relationship with real GDP growth and growth volatility. The analysis indicates that an increased share of manufacturing in total output has the potential to raise GDP growth and reduce growth volatility. It is therefore argued that African countries should design and implement effective industrial policies to promote manufacturing and other innovative activities as a means to boost economic transformation and achieve economic and social development goals, including employment creation and poverty reduction.

Key words: Manufacturing, economic growth, volatility, industrial policy, and Africa.

JEL classification: E65, 014

1. Introduction

For more than three decades Africa's economic performance was characterized by low growth rates and high volatility compared to other developing regions. Numerous studies have attempted to explain the phenomena of low and volatile growth in Africa using different methodologies and with reference to various factors including institutional, policy and geographic variables (Ndulu et al. 2007). In most African countries growth instability is associated with high commodity dependence (World Bank 2000; Weeks and Geda 2004). While strong global commodity demand and prices underpinned Africa's economic recovery since the turn of the 21st century, growth remains insufficient for the continent to

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achieve its development goals and high variations exist across countries and within countries over time.

Other factors behind Africa's recent recovery include improved macroeconomic management, increased capital flows, debt relief and improved performance in non-oil sectors such as agriculture and tourism (UNECA 2008). However, industry and particularly manufacturing continues to have the least share in aggregate output and contribution to GDP growth in most African countries. This underscores the need for African countries to embrace diversification strategies in order to achieve broad-based and sustainable growth rates commensurate with their employment and poverty reduction goals.

The benefits from high commodity prices will only be maximized and sustained to the extent that commodity revenues are effectively utilized to ensure diversification of the sources of growth and export base. In this regard the African Union Commission adopted "industrialization" as the thematic focus of its 2008 Summit held in Addis Ababa, Ethiopia in January 2008. The summit called for accelerating Africa's industrial development for both resource-rich and non-resource-rich countries to promote broad-based and sustainable growth (AUC 2008). However, there is a lack of comprehensive comparative analysis of industrial policies and outcomes in Africa. Also African policymakers need a better understanding of how to design and implement effective industrial policies to accelerate and sustain growth. This calls for an in-depth examination of Africa-specific experiences, constraints and opportunities to assist effective policy design and implementation.

This paper aims to investigate the question of whether increased manufacturing output relative to aggregate output is associated with higher growth rates and stability. This investigation will help us to identify the key factors behind growth in manufacturing output and discuss the main elements of a successful industrial policy. The paper draws policy lessons for African countries to promote manufacturing a potentially powerful vehicle for achieving broader economic transformation and job creation. By focusing on manufacturing the paper explores one dimension of economic diversification that has not been adequately analyzed in recent research on the topic. For example, the Economic Report on Africa published by the United Nations Economic Commission for Africa and the African Union Commission used various diversification indexes that do not explicitly identify manufacturing as the key to economic growth and diversification on the continent (UNECA 2007).

However, this focus does not mean that the domain of industrial policy should be limited to manufacturing. Indeed, the paper argues for an industrial policy that fosters close collaboration between the private and public sectors to identify constraints and remedies to facilitate the discovery of new productive activities in various sectors, including industry, agriculture and services.

The next section examines growth levels and volatility in Africa, including trends, the factors associated with low and volatile growth rates in Africa, and the need for effective strategies for economic diversification. Section 3 quantitatively analyses the relationship between manufacturing value added and GDP growth and volatility using data from 36 African countries covering the period 1980-2007. Section 4 discusses salient issues relating to the design and implementation of effective industrial policies for economic transformation. Finally, section 5 concludes with broad policy implications.

2. Africa's economic performance and growth volatility

This section presents trends on key economic and social indicators in Africa during 1980-2007 in the context of global economic and social development especially in comparable developing regions. The analysis covers the crisis period of the 1980s, the post-adjustment era of the 1990s, and the recent and ongoing recovery period of the 21st century. Each of these periods is characterized by a specific development orientation and has experienced vastly different outcomes especially in terms of growth and social development.

Africa's economic performance in the 1980s and 1990s was a continuation of the decline that started in the late 1970s when state-led development embodied in import-substitution strategies (ISS) became unsustainable. Average GDP growth in Sub-Saharan Africa was about 2 per cent per annum during 1980-1999 before recovering to 4.5 per cent in 2000-2006 (figure 1), thanks to increased commodity demand and prices and notable improvement in macroeconomic management in many African countries, which has resulted in price stability and consolidation of fiscal balances. In addition, the continent has recently received substantial external financial resources in the form of new official development aid, debt relief, and private capital flows, including diaspora remittances.

Almost all other economic indicators followed the trend of real GDP growth during 1980-1999. For example, average Sub-Saharan Africa's per capita GDP declined from \$586 in the 1980s to \$534 in the 1990s before rising to \$583.6 in 2000-2006. In addition to low GDP growth, Africa's lack of progress in terms of per capita income is attributable to high population growth rates that only began to decline in the late 1990s. Africa's average annual population growth rate was 3 per cent in the 1980s, 2.6 per cent in the 1990s and 2.4 per cent between 2000 and 2007.

GDP growth and per capita income in Africa compared favorably with other developing regions between 1960 and the mid-1970s. However, since then and until the end of the 20th century, economic performance steadily declined in Africa, but improved markedly in other developing regions especially the East Asia and Pacific region (table 1). Average per capita GDP in SSA was 71 per cent higher than that of East Asia and Pacific in the 1960s, but 24 per cent lower in 1990-1999. Meanwhile, real per capita income in South Asia, a region characterized by greater scarcity of resources and vast population, is now almost the

same as that of Africa. Despite its huge untapped natural resources, the continent has the highest poverty rate, which remained over 40 per cent during the last three decades.

This dismal economic and social performance was attributed to the failure of the model of state-led development and ISS that complicated economic management and proved unsustainable in many African countries by the late 1970s. Indeed, many African countries were mired in economic crisis by the beginning of the 1980s. In addition to declining GDP growth rates, this crisis was manifested in rising fiscal deficits and mounting inflationary pressures, weakening domestic savings and investment rates, increasing external debt burdens, deteriorating terms of trade, sharply reduced financial inflows and generally poor sectoral performance including in agriculture, manufacturing and mining.

Improved macroeconomic management under the structural adjustment programmes began to yield results including continuous reduction in the inflation rates and increased exchange rate stability. As part of economic reforms, most African countries replaced fixed exchange rate regimes with flexible regimes and eased or liberalized foreign exchange markets. But terms of trade continued to deteriorate for African commodity exports until the end of the 20th century (figure 2). The deterioration began in the late 1970s when historically high interest rates intended to curb inflation in developed countries brought about a recession with reduced demand for African commodity exports, while at the same time increasing their external debt burden.

However, a major weakness of the structural adjustment programmes was their focus on macroeconomic stabilization and trade liberalization, leaving accumulation and growth to market forces despite shortcomings in markets, institutions and physical and human capital (UNCTAD 2000). Consequently, freeing markets and privatisation of public enterprises did not generate adequate private investment to expand output and employment. Thus Africa's share in global exports saw a sharp fall from 4.1 per cent in 1980 to 1.6 per cent in 2000 before recovering to 2.3 per cent in 2003 thanks to oil and mineral exports. More importantly, Africa's share in manufactured exports remained close to zero.

Moreover, Africa was unable to develop institutions for effective domestic resource mobilization and domestic savings and investment rates fell continuously during the 1980s and 1990s before recovering in 2000-2007. Currently, domestic resource mobilization remains insufficient for Africa to finance the investment needed for achieving the Millennium Development Goals (MDGs) and African countries will continue to rely on external capital inflows (mainly ODA, FDI and remittances) to fill the resource gap in the near future (UNECA 2008). Private capital flows increased substantially in recent years reaching \$47 billion in 2007, but remained heavily concentrated in extractive industries, a feature that perpetuates Africa's dependence on primary commodities and thus exposes the continent to the adverse effects of fluctuations in international commodity prices. At the same time, despite debt relief initiatives, Africa's external debt remains high relative to GDP and exports, as the debt owed to banks and other private creditors increased over time.

The level and volatility of Africa's growth reflect the narrow structure of production besides policy and institutional weaknesses (UNECA 1990 and 2007). The production base in Africa is narrow both in terms of size and in relation to the range of the goods produced. The limited sectoral shifts that took place in Africa lack the necessary dynamics to spur economic transformation. The share of agriculture in GDP declined over time, from 20 per cent in 1980 to 16 per cent in 2006 (figure 3). This decline resulted mainly from stagnation in agriculture and growth in the services sector. The share of industry remained around 30 per cent throughout Africa's postcolonial history. Manufacturing contributes less than 50 per cent of total industrial output, which is dominated by primary commodity production and exports especially oil and minerals.

Agriculture is characterized by traditional technology and low productivity, while manufacturing continues to depend on imported capital, technology, inputs and skilled labor in some instances and very few countries have progressed beyond mere assembly and light industries (UNECA 1990 and 2007). Further, besides severe market fragmentations and imbalances in the distribution of resources and services across economic sectors and between rural and urban areas, the continent has the largest informal sector among developing regions, accounting for 39 per cent of GDP in 2003 (Elhiraika and Nkurunziza 2007). Fragmentation of the African product and factor markets is the result of policy biases, hostile physical environment, small nation states and relatively low levels of incomes (UNECA 1990).

Commodity dependence condemned African economies to low growth as well as vulnerability to external shocks emanating from volatility of external commodity markets, exchange rate fluctuations, high interest rates and protectionism. Indeed, terms of trade and other exogenous factors such as weather and general political instability and uncertainty are often found to have a dominant impact on growth in Africa (Ndulu *et al.* 2007; Fosu and O'Connell 2006). Civil conflicts have a strong external influence on economic performance and development on the continent because they have the tendency to spill over political borders, disrupting trade links and diverting government attention and resources as well as donor aid away from investment in infrastructure and long-term development to humanitarian assistance (Mkandawire and Soludo 1999).

Moreover, vital economic institutions are generally lacking or inefficient in many countries (see UNECA 2006). Economic governance and management in Africa suffered from lack of relevant institutions and institutions building, resulting in poor accountability and policy discontinuity. Economic management often focused on short-term crisis management instead of long term planning and suffered from external debt burden and interventions by international financial institutions and donors. This has limited policy flexibility or space and development efficiency. As a result of weak institutions and poor infrastructure, Africa's investment is not just low compared to other developing regions but also less productive because of higher costs (Berthelemy and Soderling 2001).

3. Manufacturing growth and overall growth rate and volatility in Africa

3.1 Preliminary analysis

As mentioned previously, low growth rates and high growth volatility in Africa are the result of many frequently interrelated factors relating to policies, external shocks and underlying structures of the economy. Financial and trade constraints affect growth through volatility of macroeconomic outcomes (inflation, exchange rate and fiscal policy). In addition to their direct impact, shocks can lead to growth instability through volatility of macroeconomic policies (Sahay and Goya 2006). Initial conditions (including initial income, education level and investment rates) and socio-political institutions can have direct effects on economic growth.

Despite recent improvements in policies and the implementation of a wide range of reforms, African economies continue to suffer from structural rigidities, especially in the form of over dependence on primary commodity production and exports, and shocks emanating from natural calamities and conflicts. This underscores the need for effective long-term diversification strategies, including industrial and trade policies to promote manufacturing. As mentioned above, given its strong linkages with other sectors, the analysis in this study focuses mainly on the relationship between manufacturing value added on the one hand and GDP growth and growth volatility on the other.

Figure 4 shows that generally economic performance and volatility are positively associated at higher growth levels but inversely related at lower levels. In 33 out of the 49 African countries considered, high growth volatility appears to be associated with lower growth rates. Overall, there is a negative, though weak, correlation (-0.04) between GDP growth and volatility as measured by a 3-year moving standard deviation of the growth rate. As the share of manufacturing value added in GDP increases, GDP growth also rises, while growth volatility declines. Four African countries (Egypt, Tunisia, Mauritius and Zambia) are among the top 10 countries in terms of manufacturing share in GDP, the top 10 performing countries and the 10 most stable economies in 1980-2006 (table 2). Also as the manufacturing rate of growth rises, aggregate growth increases and growth volatility decreases. Conversely, higher volatility in manufacturing share in GDP or manufacturing growth rate results in lower growth rates and greater growth volatility.

These findings are in line with existing evidence. For example, Sahay and Goyal (2006) find robust relationship between growth and business cycle volatility in developing regions; the relationship was highest in Africa and the Middle East followed by Latin America. Evidence indicates that volatility of macroeconomic outcomes, including inflation, devaluations and fiscal imbalances is negatively related with growth. External shocks such as terms of trade, external assistance and natural disasters had stronger impact in Africa than in other developing regions. This reflects the fact that more diversified economies are less vulnerable to external shocks. Also greater market-oriented reforms and

fewer reform reversals were associated with higher growth and less growth volatility in Latin America. Economic reforms can generate benefits in terms of accelerated and sustained growth when they are associated with effective long-term industrial strategies.

3.2 Econometric approach

The econometric methodology of the paper consists of estimating a modified form of the Chenery-Syrquin model of economic transformation to characterize the pattern of manufacturing transformation in African countries using cross-section as well as time-series data. The simple form of the model is:

$$MFGGDP_{it} = \beta_0 + \beta_1 \log(Y_{it-1}) + \beta_2 \log(Y_{it-1})^2 + \beta_3 \log(POP_{it-1}) + \beta_4 \log(POP_{it-1})^2 + \beta_5 Z_{it} + \varepsilon_{it} \quad (1)$$

Where MFGGDP is the share of manufacturing in GDP, Y_{it-1} is initial GDP per capita, POP_{it-1} is initial population, Z is a set of country specific variables including dummies (oil dummy and landlocked countries' dummy), t is a time trend and ε_{it} is the error term. Real per capita income and population are expected to stimulate investment in manufactured goods through increased demand.

The literature identifies several underlying factors that can affect the rate of output growth (Ndulu *et al* 2007). Key among these are the rate of investment, increases in the size of the workforce, and changes in economic policies including fiscal policy, exchange rate policy, interest rate and credit policies as well as debt and trade policies. Furthermore, external capital flows, economic performance in major trading partners and exogenous shocks can have strong effects on growth. Over the long-term, various institutional and economic reforms, including human capital and private sector development can have profound impacts on growth. In the framework of sound national development strategies, foreign trade policies can promote competition, encourage learning-by-doing, improve access to trade opportunities, and raise the efficiency of resource allocation (Collier *et al* 2003).

We specify a rather simple model to study the relationship between the share of manufacturing value added in GDP and GDP growth (g).¹ In addition to the manufacturing variable, the model includes a few factors assumed to be major determinants of growth in Africa. These include the investment rate (GDIGDP), labour force (LF), official development assistance relative to GDP (ODAGDP), public expenditure as a percentage of GDP (GEGDP) and growth in Africa's major trading partners, namely OECD countries (OECDg). Accordingly, the growth equation is specified as follows:

$$g_{it} = \beta_0 + \beta_1 GDIGDP_{it} + \beta_2 \log(LF_{it}) + \beta_3 ODAGDP_{it} + \beta_4 OECDg_{it} + \beta_5 MFGGDP_{it} + \beta_6 GEGDP_{it} + \beta_7 Z_{it} + \varepsilon_{it} \quad (2)$$

¹ The main aim of the model is to examine the relationship between manufacturing output and economic growth. For more elaborate growth models see Ndulu *et al.* 2007 and Nugent and Pesaran (2007).

All the explanatory variables in equation 2 are expected to impact positively on real GDP growth except the labour force, ODA and government expenditure variables. The coefficient of the labor force variable can take either sign depending on the level of unemployment and excess capacity. Government expenditure and official development assistance normally stimulate domestic demand and enhance growth. However, depending on whether government expenditure and ODA are used to finance investment or consumption spending their coefficients can take either sign. Growth in major trading partners increases demand for African exports and can result in increased domestic growth rates. An increasing share of manufacturing value added in GDP means increased productivity and higher growth given the strong forward and backward linkages between manufacturing and other economic sectors.

An alternative specification of equation 2, based on Kador's first law, depicts GDP growth as a function of growth in manufacturing value added only (see Dasgupta and Singh 2006).² This gives:

$$g_{it} = \beta_0 + \beta_1 MFGgrew_{it} + \beta_2 Z_{it} + \varepsilon_{it} \quad (3)$$

Where MFGgrew is the rate of growth in real manufacturing value added. All other variables are the same as defined above.

In principle changes in the factors that affect growth can also lead to growth volatility. The key factors relating to growth volatility in Africa are specified in the dynamic equation below to include previous growth volatility besides volatility of terms of trade, ODA, and growth in Africa's major trading partners (OECD countries). All these factors may be positively correlated with growth volatility in Africa. The only exception is that over the long-run increases in the share of manufacturing value added in GDP rises should boost the ability of African countries to sustain growth and reduce growth variability. Growth volatility is expected to be high in oil exporting countries and thus the oil dummy (OILDMY) is included in Z. This gives:

$$gstdev_{it} = \beta_0 + \beta_1 gstdev_{it-1} + \beta_2 TOTstdev_{it} + \beta_3 ODAGDPstdev_{it} + \beta_4 OECDgstdev_{it} + \beta_5 MFGGDP_{it} + \beta_6 GEGDP_{it} + \beta_6 Z_{it} + \varepsilon_{it} \quad (4)$$

An alternative specification of equation 4 simply examines the relationship between growth volatility and the share of manufacturing value added in GDP, i.e.:

$$gstdev_{it} = \beta_0 + \beta_1 gstdev_{it-1} + \beta_2 MFGGDP_{it} + \beta_3 Z_{it} + \varepsilon_{it} \quad (5)$$

² For purpose of comparisons we also examine the relationship between GDP growth on the one hand and agriculture and services on the other.

3.3 Estimation and discussion of results

We use annual cross-section data from 36 African countries for the period 1980-2007 to estimate the regression equations.³ Before estimating the equations, we investigate the time series characteristics of the regression variables. The unit root tests show that all the variables used in each equation are integrated of order zero, i.e. $I(0)$, or stationary, except the logs of GDP, population and labour force, which are integrated of order one, i.e. $I(1)$ or non-stationary in level. We also use (Kao and Pedroni) cointegration tests to inform the specification of the equations so as to avoid spurious regressions. The results of the panel unit root and cointegration tests are reported in tables A1 and A2 in the appendix.

Selected estimation results for the three equations are presented in tables 3-5 for the determinants of the size of the manufacturing sector relative to aggregate output, and how changes in manufacturing value added, among other factors, affect the overall economic growth rate and growth volatility. To avoid endogeneity problems, the equations were estimated using ordinary least squares as well as two-stage least squares.⁴ The estimation results are discussed below.

Determinants of the share of manufacturing value added in GDP

In line with our theoretical expectation, the results show that the initial level of income has a positive and significant impact on the share of manufacturing value added in aggregate output over the period considered. This highlights the importance of the income variable in stimulating manufacturing and indirectly supports the argument that the failure of the import substitution strategies and consequent de-industrialization in many African countries in the 1980s and 1990s had more to do with policy mistakes than income and market opportunities (Aryeetey et al 2003; Dasgupta and Singh 2006).

The negative and significant coefficient of the square of real per capita income is an indication of a convergence pattern in the sense that the relative share of the manufacturing sector rises faster in poorer African countries compared to richer ones. However, as we argue below, this does not mean that industrialization is a natural process; policies and institutions can sometimes be more important than income and natural resources in promoting the manufacturing sector and broader economic transformation.

As expected initial population level has a positive, though only marginally significant, impact on manufacturing value added's share in total output. This indicates that countries with larger populations are more likely to industrialize than others because it means a larger market for manufactured goods, providing incentives for greater private investment in the manufacturing sector. This finding lends support to the argument for regional integration as a means to expand markets and promote global competitiveness in Africa since many African countries have small population.

³ These countries are listed in table 2.

⁴ The equations may later be estimated as a system, time permitting.

Again as in the case of income, population size alone may not be sufficient as the example of Nigeria, the most populated African country, clearly suggests. Some African countries with smaller population and much limited resources, e.g. Mauritius and Tunisia, have been more successful than Nigeria in diversifying economic activity and promoting accelerated and sustained growth. The inability of Nigeria to stimulate greater investment in manufacturing despite its substantial endowment in natural resources was mainly the result of lack of coherent and sustained strategies for economic transformation (UNECA 2006).⁵

It is interesting to note that in the short-term both real income and population have positive and significant effects on manufacturing growth. Also the positive and significant oil dummy coefficient suggests that oil economies in Africa are undergoing a transformation in favor of manufacturing. However, the finding that the income effect on manufacturing is not sustained over the long run underscores the need for policies and reforms that assist African countries to use commodity revenue to boost domestic investment especially in infrastructure and human capital development to promote long-term investment in manufacturing. In addition to accelerating and sustaining growth, these policies would generate more jobs and help reduce poverty on the continent.

Manufacturing and GDP growth

All the explanatory variables in the estimated real GDP growth equation turned out with theoretically consistent signs. Domestic investment has the most significant impact on growth followed by growth in Africa's major trading partners (OECD countries) and the labour force variable. These results are in line with existing evidence on Africa, economic reality and the common growth policy agenda advocated by development research and institutions (see e.g Ndulu *et al* 2007). The results confirm that growth in its trading partners means increased demand for Africa's exports, resulting in higher growth rates. Indeed much of recent growth recovery in Africa has been attributed to higher global commodity demand and prices.

Domestic investment undoubtedly plays a major role in boosting economic activity and diversifying the sources of growth. Increases in African labour force also stimulate real GDP growth. This calls for greater investment in education and human capital development to increase productivity and accelerate growth. The manufacturing variable has a positive but generally weak impact on growth in Africa. Possibly this is a reflection of the low and limited variability of manufacturing output relative to GDP across African countries. Obviously, more needs to be done by African countries to promote manufacturing as the engine of growth as it has been the case in developed and newly industrializing countries. The manufacturing sector, the main driver of growth in East Asia,

⁵ The results for the square of the initial population variable are not reported because it has always turned out with a large coefficient that is hard to explain. This issue can be further investigated with the use of more data, covering developing countries from other regions.

contributes more than 50 per cent of GDP and exports compared to less than 15 per cent in Africa. The oil dummy simply confirms the fact that oil-exporting African economies experience higher growth rates than their no-oil counterparts. Indeed the 13 oil-exporting African economies contributed 59 per cent of Africa's growth during 2001-2007.

Official development assistance has a positive though only slightly significant impact on growth. On the basis of this finding and the fact that ODA has many social and economic benefits in addition to its direct effect on growth, the international community should live up to its commitments to scale up aid to Africa to maximize the benefits of the current commodity boom in terms of economic restructuring. African governments should ensure that both internal and external resources are used to build productive capacity and deliver public services. The continent's ability to accelerate and sustain growth hinges crucially on its progress towards diversification of the sources of growth and success in mobilizing domestic and external financial resources to increase domestic demand (UNECA 2008).

Manufacturing value added and growth volatility in Africa

Again all explanatory variables in the growth volatility equation have theoretically consistent signs. Growth instability in one year strongly influences growth volatility in the years after and greater stability in ODA flows and government expenditure are two factors that lead to reduced growth volatility in Africa. This calls for more predictable government expenditure and aid policies. Also economic stability in Africa's trading partners has a favourable impact on Africa's growth reflected in reduced growth volatility.

Changes in the terms of trade and the share of manufacturing value added in GDP have the right negative, but insignificant, impact on growth volatility. Although weak the sign of these variables lend support to the correlations results that growth volatility decreases with increasing manufacturing value added relative to GDP and deteriorating terms of trade.

The above results support the argument for orthodox economic policies including use of government expenditure and aid besides diversification in favor of increased share of manufacturing value added in GDP in order to accelerate growth and reduce growth volatility. This brings to light the long forgotten argument for effective industrial policies in Africa, which is discussed in the next section with more focus on how these policies should be designed and implemented rather than whether they are relevant.

4. Industrial policy to promote manufacturing and economic transformation in Africa

Historically, African policymakers have been in favor of industrial policies that promote manufacturing and value addition not only to spur accelerated and sustained broad-based growth and economic transformation but also to raise the incomes of the poor and reduce poverty. There is a broad consensus on the relevance and necessity of such policies.

However, the problem policymakers often encounter is how to design and implement effective industrial policies that are cost effective and sustainable over the long-term. This section discusses these issues based on the analysis in this paper as well evidence from relevant policy studies (e.g. Latsch 2008; Stiglitz 2005; Rodrik 2004; Noland and Pack 2003).

Since import substitution strategies fell out of favor, African governments have, often on advice from donors and multilateral development institutions, concentrated on macroeconomic stability, and institutional reforms to protect property rights and ensure contract enforcement, with no coherent strategies to address market failures and externalities that constrain economic activity. As these policies did not generate adequate private investment to expand output and employment, African countries need to move to an intermediate position regarding the role of markets and government in economic transformation. While market forces and private enterprises would play a leading role, governments have to perform strategic and coordinating roles to address market failures to boost economic growth and transformation (Rodrik 2004). The policies should be designed in such a way as to minimize the risks of waste and rent seeking at the same time they spur productive restructuring.

The failure of the ISS had more to do with industrial policy design than its relevance and should not constitute an argument against industrial policy in Africa. In fact the argument against industrial policy is based on naïve reading of economic theory and a misunderstanding of history (Stiglitz 2005: 25). Advocates of industrial policy point out that instead of subsidizing specific industries to achieve some desired outcomes, governments should focus on getting the industrial policy process right (Rodrik 2004; Haque 2007; Noland and Pack 2003). This requires close collaboration between governments and the private sector in order to identify technological and other externalities that constrain economic transformation and devise measures to resolve them. The correct policy interventions should be based on a diagnostic approach that identifies key constraints and remedies that can vary across countries as well as within countries over time.

Evidence shows that industrial and trade policy can stimulate economic growth and restructuring by assisting new industries to emerge, improving the competitiveness of local industry and attracting foreign investment in manufacturing through fiscal, exchange rate and credit policies that reduce costs and enhance profitability. Also trade liberalization can encourage manufacturing and exports by reducing waste stemming from rent-seeking behaviour and reforming the system of import and export licensing as well as the general institutional environment (Rodrik 2000). Improved institutional and policy environment would reduce costs, create comparative advantages for new industries, and lead to reallocation of resources in favour of more competitive industries (UNECA 2006).

Africa needs coherent strategies and market-based reforms to address both demand and supply side constraints to industrialization. Experiences in East Asia in particular provide a

framework on which many African countries might be able to design and implement successful industrial strategies that take account of their unique opportunities and constraints. The process of industrialization in East Asia, like that of Africa, began with ISSs but successfully shifted to export promotion through a combination of policy, institutional and structural reforms (UNECA 2006). In addition to promoting macroeconomic stability, efficient financial systems, and openness to foreign trade, East Asian countries provided support to new export-oriented industries through directed credit, training and technical skills development among other measures. Large investments in human capital and new technologies brought about significant gains in productivity and international competitiveness in East Asia, where governments employed export promotion strategies that were regularly audited and reviewed according to well-defined targets.

A major strength of industrial policy in East Asia was the insulation of implementing agencies from direct political pressure besides high-quality civil service, and sound monitoring. This resulted in fast accumulation and efficient allocation of physical and human capital as well minimization of waste due to corruption and rent-seeking behaviour (Aryeetey et al. 2003). Elements of successful industrial policies for economic diversification in Africa can be summarized in the following:

- Measures to promote entrepreneurship and address market failures. Entrepreneurial skills including management skills, risk-taking and the ability to perceive and exploit profitable opportunities are essential for firms to undertake needed investment, generate and manage technological change and compete in domestic and foreign markets (Haque 2007). In the context of Africa, Botswana provides an encouraging example of active state involvement in the development of domestic enterprises to facilitate long-term private sector-led economic diversification and employment creation.⁶
- Providing incentives for productive diversification by addressing information externalities and coordination externalities. Information externalities arise because new activities that might be profitable in the future are often not feasible based on existing information. The promotion of such activities requires government support through research and development, selective taxation, financing, regulation etc. Coordination failures necessitate active industrial policy because many projects

⁶ Botswana has a number of state-funded as well as non-governmental organizations involved in enterprise development. These include the Botswana Development Corporation (BDC) that provides financial support to medium and large size business and monitor their performance; the Citizen Entrepreneurial Development Agency (CEDA), which provides funding and technical assistance for the development of viable citizen owned enterprises in various sectors; the Local Enterprise Development Authority (LEA), which facilitates entrepreneurship and small and medium enterprise development through targeted interventions in pursuit of economic diversification through business development services, access to technology, finance and infrastructure, networking and R&D; and the Hospitality and Tourism Association of Botswana (HATAB), which provides assistance for business development in its area. CEDA and LEA often work together to provide training to potential entrepreneurs and help them develop business plans.

require large-scale investments to be made in order to be feasible (Rodrik 2004:12). Examples of this include the promotion of horticulture in East Africa, which requires simultaneous investment in farms, energy, transportation and marketing facilities. The policy response may involve coordination of private investment without the need for subsidies or any substantial cost on the part of the government, i.e., making sure that firm A makes this investment if firm B makes the other investment.

- Institutional arrangements that facilitate continuous collaboration between public and private sectors to identify bottlenecks and remedies. The policy design should avoid incentives and structures that fuel corruption and rent-seeking. This can be done if the policy focuses on the process rather than outcomes of industrial restructuring.
- Promoting regionally integrated value chains and markets to enhance investment in manufacturing and other sectors to enhance industrial competitiveness and regional economic transformation in Africa (AUC 2008).
- Noting that industrial policy is feasible under the current international rules of the game, coordination among African countries is essential to ensure that trade negotiations and the economic partnership agreements (EPAs) do not constrain opportunities for industrial policy and transformation. The constraints embodied in trade agreements are all either voluntary or do not bind in a significant way with the exception of WTO agreements on subsidies and trips (Rodrik 2004).
- Institutional building including high-level political support, coordination and deliberation councils, mechanisms of transparency and accountability, and adherence to a set of designing principles (Rodrik 2004).

As discussed in detail by Rodrik (2004) these principles may be summarized as follows. First, incentives should be provided only to new activities with clear benchmarks /criteria for success and failure. Second, public support must be phased out by default to avoid subsidizing failing industries and support should target activities rather than sectors. Third, subsidized activities must have the clear potential of providing spillovers with demonstrated competence and should be self-renewing to ensure an ongoing cycle of discovery. Fourth, implementing agencies must have demonstrated competence, be monitored by bodies that have stake in outcomes as well political authority at the highest level and maintain channels of communication with the private sector. Finally, there needs to be mechanisms for correcting mistakes of picking the loser.

The literature on industrial policy design also provides many examples of incentive programmes (e.g. Noland and Pack 2003 and Rodrik 2004). These incentives include subsidizing the cost of finding new profitable products, establishing mechanisms for higher risk finance, internalizing coordination externalities, public R&D; providing general

technical training to entrepreneurs and connecting businesses locally and globally, including links with nationals working abroad.

5. Conclusions

While post-independence efforts towards economic transformation in Africa had some positive results in the 1960s and early 1970s, these gains were reversed in the 1980s due to economic crises that led to a major shift in economic policies with a focus on macroeconomic stabilization policies aimed at short-term goals. This reorientation of economic policies failed to accelerate broad-based growth and enhance progress towards the MDGs. As a result Africa's growth remains highly dependent on the production and export of primary commodities and economic diversification is critical for the continent to accelerate and sustain growth and reduce vulnerability to shocks.

This paper demonstrates that economic transformation through increased share of manufacturing value added in aggregate output has the potential to accelerate growth and reduce growth volatility. Given the strong backward and forward linkages between manufacturing and other sectors, promoting manufacturing can foster economic transformation, employment as well as wealth creation for poverty reduction.

However, while manufacturing might be the most dynamic sector, the paper argues that industrial policy should not focus on specific sectors but rather continuously search for new and most profitable activities for productive diversification in manufacturing, agriculture or services. Instead of concentrating on outcomes, effective industrial policy should endeavor to create a process that ensures continuous collaboration between the private sector and the government to identify constraints and remedies to structural transformation.

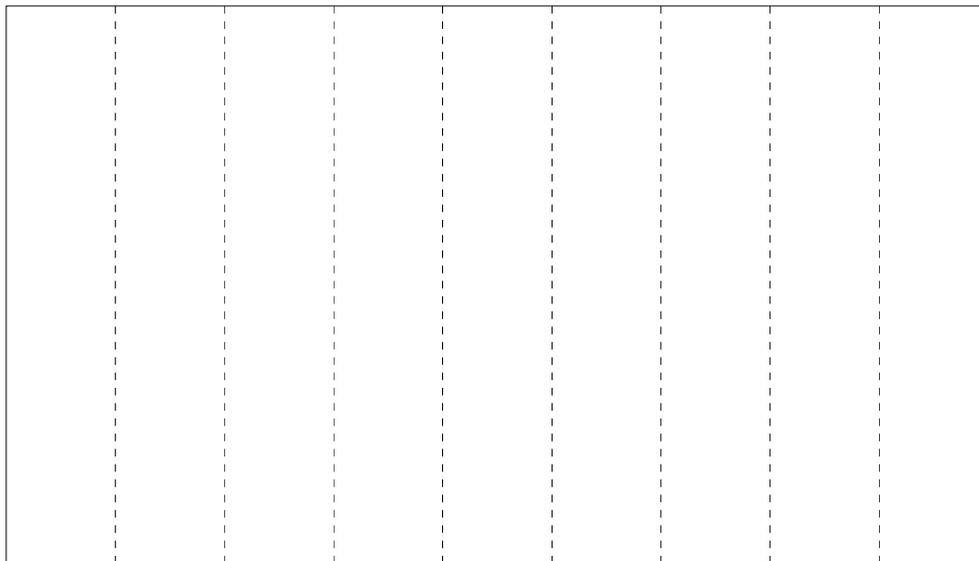
Strategies to accelerate and sustain long-term growth in Africa should go beyond national boundaries. Promoting regionally integrated value chains and markets can be a powerful tool for the continent to widen the scope of profitable investment opportunities, increase productivity through scale economies and enhance international competitiveness. Therefore, there is a need for close collaboration among African countries and coordination of negotiating positions in WTO and EPAs as well as policies to strengthen regional infrastructure and institutions and harmonize economic policies.

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