Uganda's Efforts towards Industrialization: Catalyzing Production, Productivity and Investment in Local Industries

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Abstract

The Ugandan economy's trade balance has been in deficit for a number of years. Imports have been growing faster than exports, leading to trade deficits. Uganda has a vision for transformational development of the economy with a role for industrial development. The national plans and Industrial Policy outline how to achieve the desired state of industry. This article focuses on how manufacturing development, with specific attention to catalyzing investment, production and productivity in local industries can be used to address Uganda's trade balance. Manufacturing contributes employment opportunities, improved balance of payments position, greater efficiency driven by technological innovation, the development of managerial and entrepreneurial capabilities and improvement in technical skills. Uganda government has committed to transfer value-adding technologies and to empower women with agri-business skills to step up the growth of industry. In order to propose a perspective on approaches to catalyze investment, production and productivity, it is essential to analyze Uganda's current manufacturing performance to inform interventions to stimulate industrialization. The findings reveal that the manufacturing sector needs stimulation to increase growth. Government should stimulate investment by building productive capacity in selected sub-sectors of manufacturing. Investment should be accompanied by development of requisite skills demanded by manufacturing development. A possible approach should be targeting industries that have strong linkages and generate spill-over effects engaging in production that touches on a number of sectors of the economy.

Key words: Manufacturing Sector, Local Industries, Investment, Trade Balance, Uganda

Introduction

Uganda's exports have been growing, but imports have been growing faster, leading to trade deficits on its trade balance. In the last five years, the trade deficit has averaged $3,176.9 million. The highest trade deficit, between 2011 and 2015 was US$ 3,462.8 million registered in 2014. Opportunities available to deal with the situation include expansion of exports and industrialization. This article was originally presented as a paper and discussed at a public policy dialogue on Uganda's trade balance.

Development of Uganda's industrial sector can be viewed in three phases: colonial-era (1945 – 62); the turbulent years between 1971 and 1986; and the current situation from 1987 to the present. Obwona, Shinyekwa, Kiiza and Hisali (2014) and Shinyekwa, Kiiza, Hisali and Obwona (2016) provide an outline of development experienced in each phase. Industrial development grew faster after the Second World War when difficulties in the United Kingdom forced a strategy to increase exports of primary commodities to earn foreign currency. This provided impetus for the development of agro-processing industries based on the preparation of cotton and coffee for exports. Industries producing goods whose trade was prohibited by transport costs and their size such as brick- and furniture-making were also started.

Uganda established the Uganda Development Corporation (UDC) to attract foreign companies to invest in Uganda. Agro-processing of wood, food, tobacco and metal were the dominant industries at independence. After independence, industrialization featured in the Second Five-Year Plan (1966/67-1970/1971) as a tool for transformation of Uganda's economy. The plan targeted the growth of chemical products, metal products, and non-metallic mineral products at a rate twice that of the growth of total GDP, suggesting it aimed at structural transformation of the economy based on low to high value-added manufacturing.

The Uganda government of 1971 to 1979 disrupted Uganda's development progress with its 'Economic War' that expelled foreign investors from the country and allocated stores and industries to inexperienced indigenous traders. The mismanagement interrupted growth of the industrial and other economic infrastructure. Manufacturing declined significantly in the 1970s. As a consequence, Uganda's manufacturing activities in mid-1970s and through the 1980s were in form of light industries characterized by low value addition. Food, beverages, tobacco, and the 'miscellaneous' sub-sectors were the most prominent products. According to Obwona et al (2014) performance of the machinery sub-sector declined by over 90 per cent between 1970 and 1980. Steel production fell from 19,500 tons in 1970 to 1,900 tons in 1980 while superphosphate production declined from 24,800 tons in 1970 to 0.0 tons in 1980.

Current attempts to rebuild industries began in 1986 with revised economic priorities. In 1987, the Government adopted the Economic Recovery Programme, with objectives to: restore price stability and a sustainable balance of payments position; improve capacity utilization in industrial and agro-processing units; rehabilitate existing infrastructure; introduce price policies and use markets to restore incentives for producers; ensure discipline, accountability and efficiency in the public sector; and improve public sector resource mobilization and allocation (World Bank, 1987). Uganda introduced a number of World Bank initiatives to deregulate and liberalize economic recovery, placing emphasis on "getting the prices right". The Macro-economic Strategy (1990-95) and the Medium-Term Sectoral Strategy 1991-95 were introduced as Way Forward I and II. The Medium-Term Sectoral Strategy identified agriculture as the engine of economic transformation and did not emphasise industrialization. Uganda's Industrialization Policy Framework 1994-99 identified agro-processing as central to Uganda's industrialization. The government created institutions to facilitate expansion and attract investment. The Uganda Investment Authority (UIA) was established in 1991 by the *Uganda Investment Code, 1991* with a key objective to operate a *one-stop centre* for the promotion of investments in Uganda. The Uganda Industrial Research Institute (UIRI) was established by Act of Parliament in 2002 but had been operational since 1997. UIRI's mandate is to engage in activities for rapid industrialization of Uganda. These policy initiatives and support institutions led to an increase in foreign investment.

The Government of Uganda has developed a vision to achieve transformation of Uganda from a peasant to a modern and prosperous country within 30 years (Republic of Uganda, 2013). This vision is being implemented through five-year National Development Plans. The first was implemented over the period 2010/11 – 2014/15. Implementation of NDP II is ongoing. Both the Vision and NDP II have plans for industrialization which we discuss in the next section.

Vision and Plan for Industrial development in Uganda

Uganda Vision 2040 (Republic of Uganda, 2013) envisages transformation of Uganda from a peasant and low-income country to a competitive upper-middle-income population within 30 years. Industrial development is central to achieving the government's vision. Industrial development increases production and diversification of exports, increases employment opportunities, encourages innovation of new products and contributes to structural transformation of the economy. The government of Uganda developed a National Industrial Policy 2008 whose vision is to transform manufacturing into a modern, competitive and dynamic sector. The realization of this vision hinges upon the competitiveness and growth of the industrial products. Key strategic priorities in the 5-year National Industrial Sector Strategic Plan are the exploitation and development of natural resource-based industries; promotion of agro-processing for value addition in niche markets; and support engineering for capital goods, agricultural implements, construction materials and fabrication operations. Sustainable industrialization is a key factor in the overall economic and social transformation of Uganda and presents greater prospects for sustainable growth.

National development plans are the implementation channels to achieve Uganda's Vision 2040. NDPII, currently being implemented, set a target to increase the contribution of industry in GDP from 20.6 per cent in 2012/13 to 24.5 per cent by 2019/20. According to the NDPII, Uganda will pursue an industrialization strategy to stimulate growth and employment, will promote value addition through agro-processing and mineral beneficiation as well as light manufacturing which have a higher multiplier effect on wealth creation (Republic of Uganda, 2015). The way to attain the set target rests on the promotion of investment in selected industries like wood products, food processing; mineral beneficiation, iron and steel, metal fabrication, fertilizers and pesticides, ceramics; and light manufacturing, among others (Republic of Uganda, 2015). Promotion of investment in the selected sectors of manufacturing represents a major catalyst for industrial development in Uganda. However, it takes more than just investment to get things started.

Understanding industrialization

Industrialization represents fundamental change in economic structure in terms of output and occupation patterns. The shift to industrialization transfers the workforce from the relatively low productive economic activities to relatively high productive economic activities. It is this shift that causes structural transformation in the economy of a country. UNIDO (2013) defines industrialization as manufacturing growth or the process through which an economy transitions from agro-based economy. Industrialization involves substitution of manual labour by mechanized mass production and replacement of craftsmen by assembly lines. Bailey (2000) viewed industrialization as the replacement of farming and resource extraction by manufacturing and service activity. Managooli (2002) described industrialization as a key to rapid economic development which by offering a variety of manufactured goods, increases employment opportunities, improves balance of payments position, and contributes to greater efficiency and modernization throughout the economy. Gollin, Jedwab and Vollrath (2013) define industrialization to include manufactured goods and industrial services such as finance and business services because industrialized countries have a comparative advantage in the production and export of these services.

A number of social and economic development indicators represent industrialization including the population switching to using machines for work previously done manually. It is also characterized by sustained economic growth and development based on factory production, more efficient division of labour, concentration of industries and population in certain geographical areas and the use of technological innovation. On the social front, it is associated with income growth, urbanization, and improvements in health, life-span, and standard of living among the population.

This article explores the ways in which industrial development in Uganda can be catalyzed. The article is structured in five sections. After the introduction, section 2 reviews the literature on industrialization. Section 3 explains the idea of catalyzing industrial development. Section 4 sketches the structure of the Ugandan economy. Current performance of the industrial sector is also discussed. Section 5 highlights potential areas of intervention that would improve the industrial sector as envisaged in the Vision 2040, NDPII and the Industrial Policy. Although the industrial sector is much bigger than manufacturing, it is manufacturing that really has scope and offers opportunities for catalyzing and stimulating production, increasing employment and creating competitive products for domestic and export markets. Literature suggests that Africa's economies will find it difficult to sustain growth and to fully participate in global economic activity without an active industrial sector. There is a growing body of evidence that industry's success is created through establishing dynamic economies, concretizing economies of scale, establishing export processing, special economic zones, industrial parks, science parks, encouragement of diversification and improving access to markets (Mutambi, 2013; Page, 2009). Page (2009) further acknowledges that the success of the manufacturing industry is a pivot in the achievement of Africa's development initiative.

Literature Review and Methodology

The focus of this article is on reversing Uganda's balance of trade and increasing the value of exports through industrialization. The areas highlighted for efforts are investment, production, productivity and investment in local industries. UNIDO (2013) retraces the theoretical foundations of the importance of manufacturing in development to Nicholas Kaldor's three laws (Kaldor, 1966, 1967, 1981) which establish the existence of increasing returns within manufacturing. The first of these laws states that the faster the rate of manufacturing growth, the faster the rate of economic growth of the overall system. The second asserts the existence of a strong positive causal relation between the rate of growth of manufacturing output and that of manufacturing productivity. The third law determines that aggregate productivity growth is positively associated with the growth of employment in manufacturing.

There are 'special properties' that are implied in Kaldor's second law allowing manufacturing to trigger the overall growth of the economic system in three ways (UNIDO, 2013). First, manufacturing has relatively broader opportunities for capital accumulation compared to agriculture. Secondly, it offers greater possibilities to exploit economies of scale induced by large-scale production and technical indivisibilities within and across industries. Thirdly, manufacturing production offers higher learning opportunities through embodied and disembodied technological progress. These properties are easily identifiable as accumulated investment, declining unit costs and improved productivity by efficient use of technology.

Through these properties, specialization in manufacturing can induce structural change while avoiding 'structural change burden'. Structural change occurs when labour is transferred from agriculture to manufacturing and structural change burden, on the other hand, relates to an overall slowdown of productivity caused by an over-dependence on services. Manufacturing has strong backward and forward linkages, making it the main driver of development. In addition, proximity to input suppliers and customers allows firms to realize economies of scale and resolve coordination problems (Page, 2010).

Workers with specialized skills are attracted to areas where their skills are used intensively and firms are attracted to areas in which there are a large number of workers or managers with skills relevant to their industry. Externalities from concentration may arise from common skills and services like accounting, law and from knowledge spill-overs specific to individual production technologies (Henderson, 1997; Nakamura, 1985).

For Uganda to reverse its balance of trade using industrialization, its manufacturing sector must produce goods that are competitive in the domestic, regional and international markets. The drivers of competitiveness are production, productivity and technology. Local industrialization can lead to the reduction of imports and increase in manufactured exports which have a positive impact on the trade balance. An increase in the growth of manufacturing output is associated with faster economic growth; the growth rate of manufacturing output is associated with that of manufacturing productivity; while aggregate productivity growth is associated with growth of manufacturing employment. Broader opportunities for capital accumulation in manufacturing relate to investment while learning opportunities relate to the use of technology and innovation in production to boost growth. Uganda is looking to catalyze production, productivity and investment. It is imperative to establish and analyze Uganda's current performance in key determinants of manufacturing performance as a basis for designing interventions to catalyze growth that would stimulate industrialization. This approach is similar to the growth diagnostics approach where analysis seeks to identify constraints and then propose ways of dealing with them (Felipe & Usui, 2008).

Production can vary for a variety of reasons including level of operations or capacity utilization or lack of investment in the sector. By analyzing production performance, an understanding of determinant and constraining factors is obtained, making it easier to consider alternative ways for improving manufacturing production. An understanding of current productivity and any constraints and challenges is necessary to identify ways to unlock it. For example, UNIDO (2016) found that the growth of high-tech industries does not depend significantly on an increase in the use of energy and natural resources. In developing countries, productivity accounts for a significant share of the growth of high-tech industries although other factors such as energy and capital investment make a significant contribution. Investment is required for the creation of productive capacity that can be used to produce manufactured goods and services. UNCTAD (2004) defines productive capacity as consisting of three components namely, productive resources, entrepreneurial capabilities and productive linkages. Productive resources including accumulated physical, human, social and organizational capital are developed by deliberate efforts of governments through policy.

The Government of Uganda plans to transfer value-adding technologies, empower women with agri-business skills and support the private sector to establish technology incubation centres to enable the promotion of technological innovation as well as importation and adoption of low-cost technology. Technology is the application of scientific knowledge for practical purposes, especially in industry. It includes machinery and equipment developed from the application of scientific knowledge or the branch of knowledge dealing with engineering or applied sciences. Technology has an important influence on the development of industries (Bairoch and Kozul-Wright, 1996; UNECA, 2000). Industrial development is the process of building technological capabilities through learning and translating them into product and process innovations.

According to UNIDO (2013) technology is a complex bundle of knowledge which is embodied in machinery, as well as in people, organizational arrangements, routines and procedures. These 'vectors of technology' are interconnected and an improvement in one of them may result in a major transformation in the others. Introduction of new machinery through technological diffusion requires a creative process of problem-solving and re-configuration of the production process which may lead to technological innovation. Dahlman (2007) argues that technology is an important element of globalization and competitiveness, and that the requirements for effective participation in the acceleration of technological change are too expensive and complicated for developing countries. As a result, developing countries must build more technological capability and greater flexibility to succeed in the global environment. There has been a shift to include organizational dimensions of learning and capacity building which together are referred to as technological capabilities. In this regard, developed countries focus on increasing their flexibility to adjust to changing comparative advantage.

Innovation is more about facilitating the use of new technology in the domestic context (UNDESA, 2007) and should reflect in improved products, processes, businesses or organizational models and managerial practices that effectively enhance the productivity of firms and improve their international competitiveness (Fu and Akter, 2015). According to UNDESA (2007), development strategists must think of Research and Development and the creation of knowledge as well as attend to the details of its translation and use in diversified local conditions.

UNDESA (2007) recognized that technological change gradually released women into the workforce and increased output. Uganda looks to use technology to empower women with agri-business skills. According to a 2016 global survey, Uganda is the world's leading enterprising country (Global Entrepreneurship Monitor (GEM), 2016). Kikooma (2012) points out that the economic crisis of the 1970s elevated the position of Ugandan women and galvanized them to learn and work outside of their homesteads. Women are among active entrepreneurs owning 44% of businesses with fixed premises. However, their success in this sphere is both limited and conditioned by culture. The number of women-owned businesses has grown faster than of male-owned businesses by 1.5 times over the last decade (ILO, 2015) and women are, in particular, overrepresented in micro-enterprises. However, women entrepreneurs still face difficulties in business because they are women (ILO, 2015; Mugabi 2014). Kikooma (2012) argues that research on female entrepreneurship has provided insight into the behaviours of women business owners and much of the focus has remained on strategies through which

female entrepreneurs can mimic the male norm. ILO (2015) analyzes three areas that influence the performance of women entrepreneurs: legal and regulatory system; policy framework; and access to services. The position of women entrepreneurs should be given attention and promoted.

Given that this article set out to investigate and analyze the prospects for catalyzing industrialization, it was necessary to adopt a method that analyzes Uganda's performance in order to provide clear understanding of the context within which the article is written. Document review was done to capture progress towards industrialization. The method used was to focus on each of the industrial sector parameters to assess how Uganda has performed in each of them. The reason behind the approach is that each of the parameters is either an important contributor to industrialization of a country or is an indicator of how much industry is developing.

Catalyzing investment, production, productivity and Investment in local industries

To catalyze is to make something start happening. In this context, it is to quicken investment, production, productivity and growth of local industries. Catalysing industrial development refers to what needs to be done to make the growth and development of the industrial sector happen much more quickly. When successful, the industrial sector will generate more jobs, create competitive products acceptable to regional and international markets and be successful as exports. In the end, it must be a catalyst for structural transformation and elevation to middle-income status. The question is: how is the industrial sector performing? Where is Uganda's industrial or manufacturing sector and why is it where it is today?

Structure of the Ugandan Economy and Performance of the Industrial sector

The advent of the National Resistance Movement (NRM) government in 1986 changed national priorities and focused on broadening production of exportable products with agriculture as the main driver of development and agro-processing in the centre of industrialization. In this section emphasis is on the structure and current performance of the industrial sector.

Uganda's manufacturing contributes only a small portion to the gross domestic product. The major industries are based on processing agricultural products such as tea, tobacco, sugar, coffee, cotton, grains, dairy products, edible oils and others. Other industries are beer brewing, the manufacture of cement, matches, metal products, paints, shoes, soap, steel, and textiles. Manufacturing in textile apparel has the highest number of businesses in Uganda, accounting for up to 30% business units. There are a number of cottage industries, which produce a wide variety of domestic and commercial iron and wooden products ranging from security doors, household and farm goods, numerous spare parts and furniture. Industrial production grew dramatically in the years following independence but then declined precipitously from the early 1970s. With the return of stability to the country, foreign companies and lending institutions have since the 1990s invested in such businesses as textile and steel mills, a car assembly plant, a tannery, bottling and brewing plants, and cement factories.

Structure of the Economy

Figure 1 shows Agriculture's contributions to GDP, industry and services over time. Measured by the share of value added by each sector to GDP, the industrial sector contributed more than 20 per cent between 1998 and 2008; but since 2008, contribution is around 20 per cent. Manufacturing value-added contribution to GDP has consistently been below 10 per cent. Agriculture's contribution declined from 52.8 per cent in 1990 to 24.7 per cent in 2014. On the other hand, services contribution has been on the increase, providing evidence of structural shifts but not the desired transformation. While the industrial sector's value-added contribution to GDP fluctuated, that of manufacturing was steady but not growing. Recent studies have attributed such industrial sector performance to foreign direct investment (FDI) into the sector. Forty-five per cent (45%) of the FDI came into Uganda between 1991 and 2009, a third of which (about US$2.9 billion) was absorbed in the country's manufacturing sector.

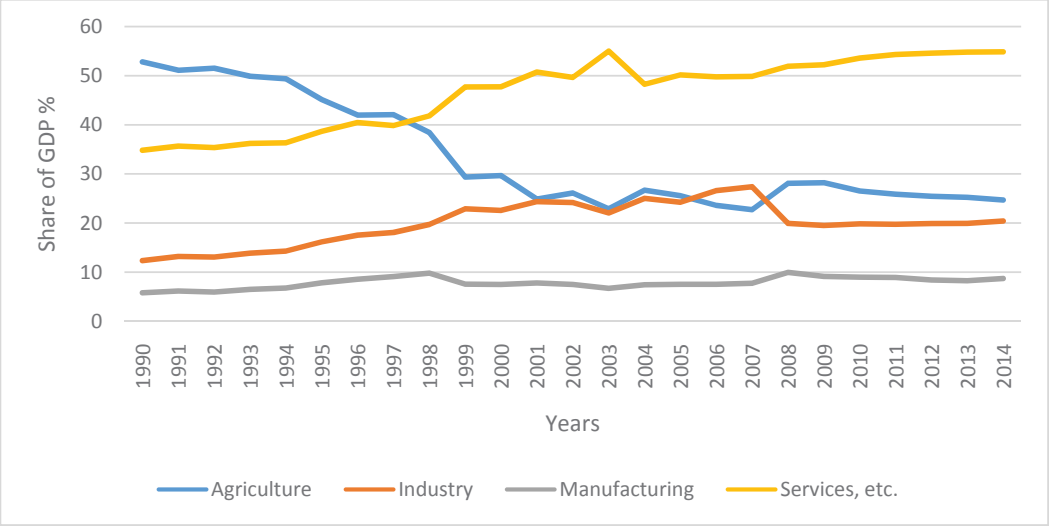

Fig. 1: Sectoral Value Added share of GDP
Source: WDI accessed on 3/12/2016

Despite growth and performance experienced in the country's industrial sector, the number of people employed in the agricultural sector remains high, accounting for about 71.9% of national employment and unprocessed primary products continue to dominate the country's exports. This remains a major concern as agricultural practices are largely subsistence, providing little impetus to stimulate value addition through manufacturing. The form of manufacturing is predominantly of last stage end-product assembly and raw materials processing. Both of these are low value addition activities. Industrial growth in Uganda has been largely in form of construction services rather than machinery and equipment, which is essential for industrial sector expansion.

Performance of Uganda's Industrial sector

Growth

Uganda's industrial sector experienced positive growth since the year 2000 with a peak growth of 14.7 per cent in 2005. Thereafter, growth declined for three consecutive years and declined again in 2010. The sector has, however, performed better than agriculture and services (Fig. 2). The manufacturing sub-sector growth was higher than the broader industrial sector between 1995 and 1998. Since 2000, manufacturing growth has been lower than that for the industrial sector, meaning that other sub-sectors of the industrial sector performed well. The mining and quarrying sub-sector grew by an impressive 18.6 per cent in 2010/11. Performance in 2011/12 was lower at 5.7 per cent and in 2012/13 it further decreased to minus 0.4 per cent. The sector performance recovered in 2013/14 to register an increase of 4.3 per cent. Uganda was ranked 43rd by industrial growth in 2013.

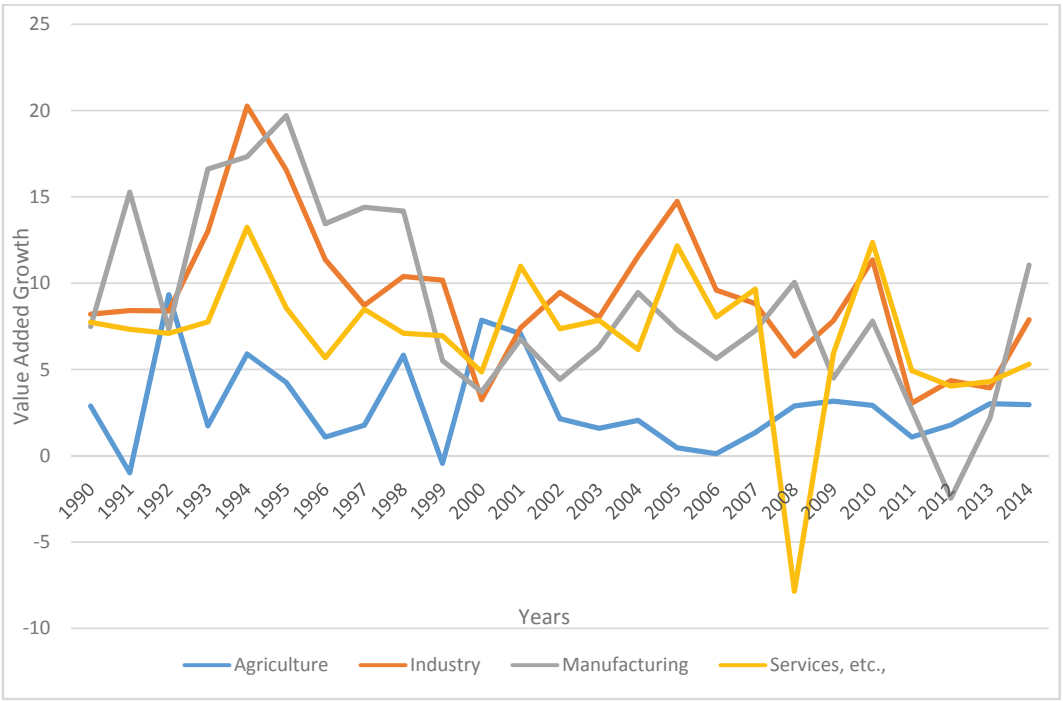

Fig. 2: Growth of Sectors % p.a.
Source: World Bank , 2016

Investment

Uganda is one of the significant destinations of foreign direct investment (FDI) in the East African Community (EAC). FDI at current prices rose from $181 million in the year 2000 to $1,057 million in 2015, an annual average growth rate of 16.9 per cent. Its peak was $1,205 million in 2012. There was a jump from $380 million in 2005 to $640 million in 2006. FDI inflows have declined since 2013. In the period 2012 – 2014, Uganda FDI inflows exceeded $1.0 billion. This growth was in response to policies and good investment opportunities in all

sectors of the economy. Uganda was second behind Tanzania in the EAC during the period 2011 – 2014 (UNCTAD 2016). According to UIA (2015), manufacturing led in attracting foreign investment and in creation of jobs. The actual investment value during 2014/15 increased by 171 per cent to US $ 456,109,937, from US $ 187,394,312 in 2013/14. The high levels of FDI were due to the newly confirmed vast mineral resources and nascent oil sector which was registering commercial findings of oil. In 2014/2015 China contributed the largest amount of FDI planned Investment (US $ 528.9 million) accounting for 56 per cent of all the FDI planned investment that financial year.

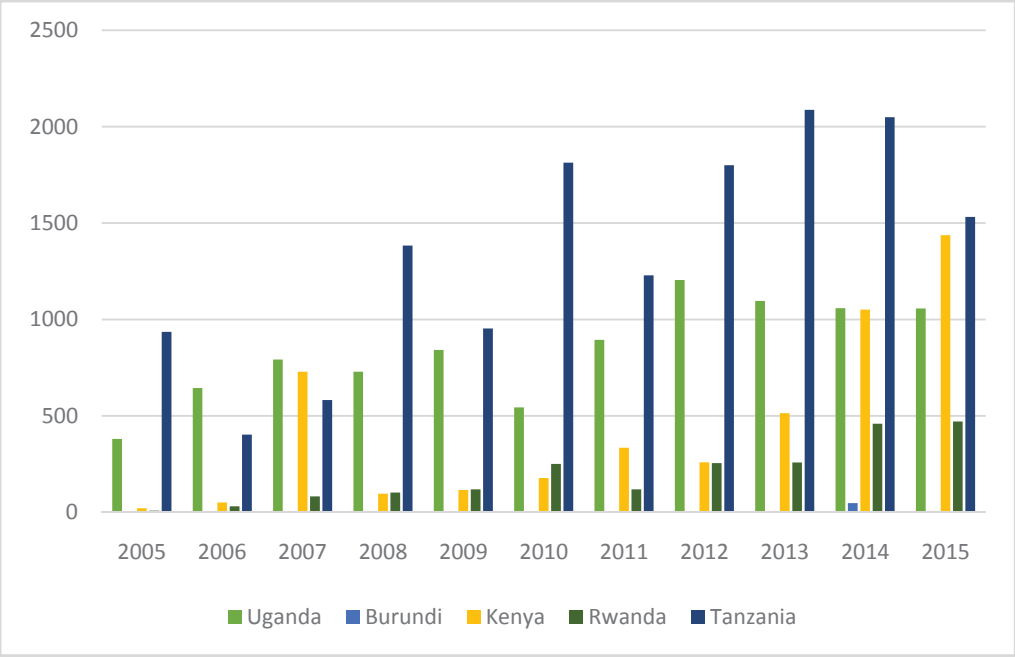

Fig. 3 EAC FDI Value Trends in US$ Million, 2005-2014

Source: UNCTADStats (Accessed on 27 Jan. 2017)

Manufacturing received the largest actual FDI as compared to that planned and approved in 2013/14 with US $69.5 million and US$170.8 million in 2014/15.

Employment

The employment statistics by sector are provided in percentages. It is not clear how many people are employed in Uganda although the workforce is estimated at around 18 million. Agriculture employs the largest number and accounted for 60.2 per cent of employment in 2013. This is followed by wholesale, retail, hotels and restaurants which employed 11.3 per cent and manufacturing accounted for 5.7 per cent employment. It can be justified to rank it as the fourth largest employer. As a dynamic sector, manufacturing is expected to employ more people as well as increase its share of employment.

Table 1: Sectoral shares in GDP and employment by sector (%)

Economic activity	Gross value added (current US$, %)					Employment by sector (%)				
	1991	2000	2005	2010	2013	1991	2000	2005	2010	2013
Agriculture	46.3	34.1	30.8	26.7	26.8	70.4	66.6	68.3	61.5	60.2
Mining & utilities	2.0	3.5	3.9	3.7	3.7	0.4	0.4	0.2	0.4	0.4
Manufacturing	6.5	9.5	9.3	11.0	10.1	6.1	6.3	4.3	5.6	5.7
Construction	3.2	4.7	5.5	7.2	8.5	0.8	1.1	1.3	1.7	1.8
Wholesale, retail, hotels	13.7	14.6	14.3	18.2	17.6	13.0	14.5	10.6	11.0	11.3
Transport, storage	4.7	5.9	7.5	6.7	6.3	1.7	2.0	2.1	2.6	2.6
Other	23.6	27.8	28.6	26.5	27.1	7.7	9.0	13.1	17.3	18.0
Total			**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: ODI (2015)

Productivity

In 2013, labour productivity was highest in transport followed by manufacturing, wholesale and construction (Table 2). Productivity in manufacturing declined between 2010 and 2013 at an average of 3.1 per cent per annum. This was preceded by declining productivity over the period 2005 -2010 at an average rate of 2.2 per cent per annum. Mining and utilities are other sectors that experienced productivity declines between 2005 and 2010 at an average rate of 9.6 per cent per annum. Manufacturing productivity needs to increase if it is to make the expected contribution to national development. Productivity can be accelerated by technological capabilities and improved management skills and organizational capabilities. A declining manufacturing sector ceases to be a source of advantage and takes away one of the critical cornerstones for advancing towards industrialization.

Table 2: Labour productivity levels and changes

Economic activity	Labour productivity (index, 1991=100)					Annualised growth in labour productivity				
	1991	2000	2005	2010	2013	1991-2013	1991-2000	2000-05	2005-10	*2010-13*
Agriculture	100	119.7	122.8	128.0	122.6	0.9%	2.0%	0.5%	0.8%	-1.4%
Mining & utilities	100	156.7	327.6	197.9	212.9	3.5%	5.1%	15.9%	-9.6%	2.5%
Manufacturing	**100**	**207.9**	**363.8**	**326.1**	**297.0**	**5.1%**	**8.5%**	**11.8%**	**-2.2%**	**-3.1%**
Construction	100	128.5	178.9	235.1	234.1	3.9%	2.8%	6.8%	5.6%	-0.2%
Wholesale, retail, hotels	100	146.8	244.9	316.2	292.8	5.0%	4.4%	10.8%	5.2%	-2.5%
Transport, storage	100	143.3	216.4	341.2	426.3	6.8%	4.1%	8.6%	9.5%	7.7%
Other	100	115.8	102.5	98.2	92.4	-0.4%	1.6%	-2.4%	-0.9%	-2.0%
Total	100	138.4	167.2	206.0	207.3	3.4%	3.7%	3.8%	4.3%	0.2%

Source: ODI (2015)

The expansion of manufacturing activities in Uganda continues to be hampered by weak institutional support; limited access to affordable credit; the absence of financial infrastructure to support micro, small, and medium enterprises (MSMEs); inadequate entrepreneurship and managerial skills; costly, unreliable and inadequate physical infrastructure; absence of energy and communication infrastructure; lack of serviced industrial parks across the country; unreliable supply of inputs; low level of technology and a lack of indigenous capability for technology and innovations mastery (AfDB, 2014).

Catalyzing the performance and development of the industrial sector Catalyzing can be approached in short-term and medium-term strategies. Strategies would seek to increase exports and to increase manufactured exports. Unfortunately, if there is no capacity excess or unused capacity, it is difficult to envisage a situation where it could be possible to increase manufacturing production and exports. The key is through increasing investment. In the short-term, only increased productivity gives an opportunity for some limited increase. But what are the sources of productivity improvements? It has been shown earlier that technology and technological capabilities can drive productivity and competitiveness.

Investment

The performance sketched out above confirms that the industrial sector requires catalyzing. The Doing Business Report 2017 shows that Uganda faces challenges in the business environment. There is a lag between licensed projects, planned and actual investment; and the gap needs to be narrowed. The rate of converting licensed investors and approved investments into actual investors is low. There is a need to follow up and see how the implementation or realization of approved investment can be speeded up.

Domestic investment has a role to play in highlighting the attractiveness of Uganda as a destination for investment. It is absolutely critical that Uganda promotes and profiles investment by domestic investors either through joint ventures and requiring participation in strategic industries to provide learning opportunities. A dynamic domestic sector attracts FDI. Investment creates productive capacities. A scheme or schemes of affirmative action or empowerment for local investors involved in industry can boost the manufacturing sector and harness locally available resources.

The EAC is seeking to integrate the economies in the region. One of the key integration areas should be in industrialization. It is easy to develop a sense of competition between partner states but there is scope for complementary production which can assist the building and development of production networks with countries able to pass raw materials and intermediate products between manufacturing entities operating in more than one location. Many of Uganda's unprocessed products sold on international markets go on to become part of longer value chains that develop outside the country and the region. Investors can only think of investing across the region if they are made to think about this and the idea is sold to them. Explore which value chains can be strengthened and made longer within the region with promising benefits to partner states by being developed across the region and explore ways of making the idea attractive.

Employment creation and productivity

Manufacturing offers the chance for creating the majority of new, high-productivity jobs because it is both labour-intensive and export-orientated. This gives it an edge over other labour-intensive sectors. Job creation is not achievable without growth in investment which is also triggered by growth of demand in export markets leading to necessity for production and demand for employees. It is possible to catalyze activities that create employment by encouraging investment in labour-intensive manufacturing industries such as agro-processing.

Skills

Some of the current constraints to progress of the manufacturing industry include shortage of skilled labour, limited use of science, technology, innovation, infrastructure and financing. In a way, some of these, like infrastructure, are traditional constraints and are being addressed. According to Hausmann and Hidalgo (2011), the skills that are available determine what else they can be used for. It is essential therefore that the vision for manufacturing development be accompanied by a programme for skills and capacity development emphasising science, technology and innovation training as an essential component for industrialization and structural transformation.

Competitiveness

A strategy to manufacture for export should help to reverse the decline of exports. Manufacturing exports are constrained by volume, markets and quality. Markets exist in the region and on the continent. Targeting these markets provides scope for quantity and quality of products that would compete. In developed markets, manufactured products face difficulties as standard requirements create additional barriers. The regional markets on the African continent have less stringent quality and standards requirements that Uganda can meet; hence, an opportunity for Uganda to develop its manufacturing production capacity to gradually compete at global level.

Financing and incentives for manufacturing

Financing has been mentioned as a constraint especially in the development of small and medium enterprises. The investment and development of manufacturing can be catalyzed by a combination of financial support packages that are made available on condition of satisfying given conditions agreed upfront. This can go well with a selective provision of incentives. Incentives can be provided in a number of ways including supporting skills development, a combination of renewal of licenses under specified conditions. More importantly, entrepreneurship development is a key strategy for private sector development and can be used in the development of manufacturing industries.

Some suggested interventions in investment and production

Complexity of the current production influences what Uganda can manufacture and the diversity in its manufactured products. Since it is still at low level of manufacturing, using existing skills may keep Uganda at the lower levels of manufacturing. The current complexity can be stepped up with clear plans on how to move to higher complex manufacturing and how to stimulate growth of the manufacturing industry.

There is need to accelerate investment in manufacturing to exploit the sector's backward and forward linkages with sectors capable of creating and multiplying spill-over effects that generate further product diversification. Transformation will only be possible with an established and growing manufacturing sector that creates jobs and increases incomes. In the more dynamic industrial sector, the industrial policy and micro-small and medium enterprise sector as well as private sector development need to do more to catalyze the strategy of elevating the informal sector to join the manufacturing industries. Manufacturing needs to launch a more ambitious programme of value addition and production of manufactured products. Hausmann and Hidalgo (2011) argue that economic complexity closely links a country's level of development with its future economic growth. Higher levels of economic complexity are a good predictor of future economic growth and development. This makes it is essential for government to initiate dynamic strategies that will determine the future of Uganda's manufacturing sector.

It is necessary to progress in the sectors identified in the NDPII by setting Uganda's opportunities in the vision aspiring to more complex production. Hausmann, Cunningham, Osire, Matovu and Wyett (2014) highlight the areas that Uganda ought to prioritize and recommend two strategies for Uganda's industrial development:

- *Parsimonious transformation* – the strategy that is based on industries in the vicinity of a country's current set of capabilities that require higher sophistication to make the development of the new products faster and less risky. The strategy promotes labour-intensive industries.
- *Strategic bets* – strategy is based on sectors that are more sophisticated and provide a larger strategic value, even if they lie at significantly greater distance. These industries are important for driving economic growth, further diversification and urban job creation.

Top-ranked products in the parsimonious strategy are mainly processed inputs or outputs of the agricultural industry including processed foods and agrochemicals, a reflection of current dominant productive structure in Uganda. The top-ranked products in the strategic bets include construction and industrial materials such as plastics, metal and paper products. The *strategic bets* strategy recommends more sophisticated manufacturing industries. An approach should be devised to balance between the two strategies. In both strategies, skills are critical in determining what can be produced. The sets of recommendations relating to each are shown in Appendix Tables 1 and 2.

Table 3 shows an analysis of Uganda's production potential. Some of the manufactured products include cement, flat-rolled products of iron, black tea, refined sugar, among others. The products identified in this table are similar to those recommended under the Parsimonious transformation.

World Bank (2015) suggests that a linkages analysis may be conducted to identify products and sectors with scope for development and recommends stimulation of agro-processing as likely to have a significant impact on other sectors as well as on the economy as a whole. An understanding of value chains and their backward and forward linkages is critical to identify opportunities and scope of manufacturing development and fits well with the *Parsimonious transformation* strategy.

The above strategy only picks winning, feasible investments because even when a neutral and level playing field has been emphasised, there are certain investment priorities that have to receive support because they can cause others to grow.

Table 3: Products with export potential in Uganda

Product group code / description	Exports (US$ thousand)	What is the product's export potential in...?						Technology level	Price stability	Prominence of SMEs	Female labour participation
		Sub-Saharan Africa	Unrealized potential	non-OECD	Unrealized potential	OECD	Unrealized potential				
090111 Coffee, not roasted, not decaffeinated	387,495		55%		51%		15%				
252329 Portland cement nes	90,500		76%		76%		100%				
721041 Flat rolled prod,i/nas,pltd or ctd w zinc,corrugated,>/=600m wide,nes	19,285		80%		84%		100%				
090240 Black tea (fermented) & partly fermented tea in packages exceedg 3 kg	32,663		69%		72%		88%				
180100 Cocoa beans, whole or broken, raw or roasted	41,723		47%		32%		59%				
151620 Veg fats &oils&fractions hydrogenatd,inter/re-esterifid,etc,ref'd/not	36,548		39%		46%		99%				
110220 Maize (corn) flour	11,739		77%		77%		94%				
170199 Refined sugar, in solid form, nes	32,750		22%		43%		79%				
340119 Soap&orgn surf prep,shapd,nes;papers&nonwovens impreg w soap/prep	14,369		70%		71%		100%				
151190 Palm oil and its fractions refined but not chemically modified	31,732		24%		65%		100%				
100510 Maize (corn) seed	22,084		45%		47%		100%				
060210 Cuttings and slips, unrooted	26,418		85%		86%		28%				
520300 Cotton, carded or combed	22,736		92%		91%		51%				
100640 Rice, broken	13,475		59%		60%		100%				
120740 Sesamum seeds, whether or not broken	22,763		43%		39%		61%				
0304Xa Fish fillets and pieces, fresh or chilled	79,300		39%		17%		33%				
721420 Bars & rods,i/nas,hr,hd or he,cntg indent,ribs,etc,prod dur rp/tar,nes	25,285		26%		75%		100%				
1701XX Raw cane sugar	21,688		21%		51%		88%				
110100 Wheat or meslin flour	9,306		72%		75%		100%				
710813 Gold in oth semi-manufactd form n-monetary(inc gold platd w platinum)	12,347		100%		30%		100%				

Source: Trade Map (2016)

In the longer term, the development strategy may include emerging products and increase production potential by default. Uganda's oil and gas development is one of the sectors that has potential for strong linkage opportunities to engage local industries. Producing and exporting crude oil has limited linkages with manufacturing and the rest of the economy. However, the development of an oil refinery will create opportunities for oil refinery-linked manufacturing with petrochemical industries developing around it to produce cosmetics, fertilizers, detergents, pesticides, synthetic fabrics, asphalts, plastics, among others. The impact of the oil and gas sector on other industries and exports will depend on the number and intensity of linkages with other sectors.

Conclusion

The state of Uganda's industrial and manufacturing area shows that industrial development is not viable as a short-term, quick fix intervention to improve trade balance. Manufacturing can accelerate growth through production of exports, and creation of employment. Uganda's current experience shows decline in some areas and the manufacturing sector needs some

stimulation to increase growth and structural transformation in the economy. The number of workers in agriculture must be made more productive or relocated to more productive sectors. The key is to stimulate investment to build production capacity in selected sub-sectors of manufacturing. Investment should be accompanied by a development of requisite skills demanded by manufacturing development. Industrialization suggests a broad approach to producing large volumes of manufactured products which satisfy standards. There is no alternative to this route if structural transformation is to be achieved.

Annex Table 1: Products for parsimonious industrial policy

Product	Distance
Food processing	
Margarine etc.	0.86
Confectionery, non-chocolate	0.86
Jams, jellies, marmalades, etc.	0.86
Edible products and preparations, nes	0.87
Fruit, temporarily preserved	0.87
Other materials of vegetable origin, nes	0.87
Tobacco, manufactured	0.87
Bakery products	0.87
Plastic packing containers and closures	0.87
Fixed vegetable oils, nes	0.88
Cigarettes	0.88
Packing containers of paper	0.88
Beer made from malt	0.88
Bottles etc of glass	0.88
Flour and meals of fruit and vegetables	0.88
Vegetables, frozen or in preservative	0.88
Non-alcoholic beverages, nes	0.88
Insecticides	0.87
Fertilizers, nes	0.87
Propellant powders and other explosives	0.87

Source: Hausmann et. al. (2014)

Annex Table 2: Strategic bets

Product	Distance
Construction and industrial materials	
Printed matter, nes	0.91
Varnishes and lacquers; distempers etc	0.90
Miscellaneous articles of base metal	0.91
Paper and paperboard cut to size or shape, nes	0.90
Wadding, wicks and textiles fabrics for machine use	0.91
Aluminum and alloys, worked	0.90
Structures and parts of aluminium;	0.91
Wood packing cases, boxes, cases, crates, etc	0.90
Metal casks or drums for packing goods	0.90
Trailers and transports containers	0.91
Articles of paper pulp, paper, paperboard, nes	0.90
Polyvinyl chloride	0.91
Polyethylene	0.90
Structures and parts of, of iron, steel	0.90
Builders` carpentry and joinery	0.90
Printed books, pamphlets, maps and globes	0.91
Gauze, cloth, grill, netting, reinforced fabric, etc	0.91
Plastic packing containers and lids	0.87
Fibre building board of wood or vegetable material	0.89
Paper and paperboard, creped, crinkled, etc	0.89
Other sheet and plates, of iron or steel, worked	0.91
Polypropylene	0.90
Packing containers, box files, etc, of paper	0.88
Construction materials of cement	0.89

Source: Hausmann et. al. (2014)

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