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The evolution of industry in Uganda

Marios Obwona,[1] Isaac Shinyekwa,[2] Julius Kiiza,[3] and Eria Hisali[4]

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Abstract: The paper looks at the evolution of industry in Uganda examining drivers and constraints since the pre-colonial period in the 1940s to date. It is argued that the state played a central role in industrialization during the pre-colonial and immediate post-colonial period. The paper further looks at industrialisation during the liberal phase. The current structure, size and distribution of industry are discussed in light of the laissez fair paradigm. The non-direct interventionist policy to industrialization has not been adequate to propel industrial development in Uganda. State withdrawal from direct involvement in industrial development was prematurely done and should be revisited

Keywords: industry, structure, firm, evolution, size, distribution, policy
JEL classification: B15, B52, L11, L16

[1]National Planning Authority, marios.obwona@gmail.com, [2]Economic Policy Research Center, [3]Makerere University, Department of Political Science and Economic Policy Research Centre, Kampala, Julius.Kiiza@ss.mak.ac.ug; [4]School of Economics Makerere University, ehisali@fema.mak.ac.ug

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UNU-WIDER, Katajanokanlaituri 6 B, 00160 Helsinki, Finland, wider.unu.edu

1 Historical perspective

1.1 Introduction

This section examines industrial development in Uganda in an historical context. Our central question is simple: *Why is there so little industry in Uganda (and elsewhere in Africa)?* Studies that have recently addressed this question typically identify the 'investment climate' as being the key constraint, in particular, the institutional and regulatory environment. In this paper, we first outline the colonial and post-colonial history of industrial development in Uganda. We then document the trend of industrial development under the prolonged National Resistance Movement regime led by President Museveni (1986 to date). The current structure of the industrial sector comes next, followed by an outline of Uganda's industrial policy framework. A concluding section crowns the paper.

1.2 Industrial development in the dying years of colonial rule (1945-60)

Uganda was under colonial rule from 1890 to 1962. However, colonial industrial policy assumed significance only in the post-Second World War period. The pro-industrialization stance of the colonial administration is associated with the serious economic hardships Britain was experiencing after the disastrous war. As the Colonial Secretary noted, 'In the six years of the war, the UK [had] changed from one of the major creditor countries of the world to the world's principal debtor nation'.[1] The British Empire was in an economic coma. The problem was that the UK gold and dollar reserves were being used up with no replenishment. The solution was to be found in a two-pronged strategy designed to (a) increase exports of primary commodities, particularly to hard currency areas, and (b) increase production in dollar-earning and dollar-saving industries.[2]

It is in the strategy of the push for 'dollar-earning' and 'dollar-saving' industries that Uganda found an opportunity for industrial development. To finance this initiative the Colonial Development and Welfare Act of 1940 was amended by Britain in 1945 and £120 million were reserved for the 'development of the resources of the colonies'.[3] Two categories of industries emerged – the processing industries, and manufacturing enterprises. The former were numerous, rural-based, and dispersed; the latter were fewer and concentrated in urban areas. One category prepared cotton and coffee for export (through cotton ginneries and coffee hulleries), the other primarily targeted the domestic market through import substitution.

Among the 'manufacturing' enterprises, two sub-categories were identified – those that 'produce goods which must inevitably be produced locally … as transport costs would make their import prohibitive' and industries which 'do compete with imports' (Elkan 1961: 7). The former sub-category includes industries such as brick- and furniture-making which have a low-value in relation to their bulk; the latter includes cement, textiles, soap, and beer. The former sub-category developed

1 See, Memorandum from the Colonial Office to Governor of Uganda, *The Colonial Empire and the Economic Crisis*, 6 August 1948, in Main Papers, AR MA 5/34, Standing Finance Committee, 1944-49: 1.

2 Memorandum: 2.

3 Interestingly, the bulk of development 'aid' for manufacturing in Uganda came from the surpluses accumulated by the colonial produce marketing boards. By 9 December 1950, these surpluses, which essentially accrued to the cotton (and later, coffee) growers of Uganda, amounted to £129.6 million (Uganda Herald, 9 December 1950: 4).

spontaneously, the latter largely owe their existence to 'varying measures of government intervention in their favour' (Elkan 1961: 7-8). Thus, while cotton ginning, coffee curing and other processing industries started in the pre-war period, manufacturing activities started (in the inter-war and post-war periods) with the formulation of Uganda's development plans. Mamdani (1976) alleges that the Worthington Plan of 1947 was Uganda's first development plan. This is erroneous. The plan may have been the first to be effectively implemented; but it was certainly *not* the first inter-war or post-war plan.

Uganda's first development plan (for the period 1936–41) appeared in 1936. It was 'a modest programme of works, to a total of £1.6 million with hardly any provision for recurrent expenditures' (Elkan 1961: 47). With the outbreak of the war, and the departure of trained British administrators, the plan did not run its full course. The new six-year plan of 1944 prioritized social development, particularly education and health service delivery. These were the priorities of the then governor Sir Charles Dundas. Like the 1936 plan, the 1944 plan was scrapped before it ran its course. Unlike the 1936 plan, the 'problem' this time was the arrival of a new governor Sir John Hall whose notion of development was 'entirely at variance with his predecessor's' (Elkan 1961: 48). Thus, in 1946 governor Hall appointed Dr E. B. Worthington, an accomplished natural scientist, to review the old plan and prepare a new development plan for Uganda.

The Worthington Plan (1947-56) emphasized the primacy of economics over social development. This was precisely what Governor Hall stood for. Driven by the primacy of economics doctrine, the plan substantially increased government expenditure on 'productive' public investments (such as public works and agricultural extension). Major capital projects were embarked upon in the 1950s. They included the construction of the Jinja hydro-electricity power station; the promotion of mineral exploration at Kilembe and Tororo in western and eastern Uganda, respectively; and the westward extension of the railway from Kampala.

The birth of the Uganda Development Corporation

The most important outcome of colonial developmentalism was the construction and establishment (in 1952) of the Owen Falls Dam and the Uganda Development Corporation (UDC), respectively. These 'colonial development companies', as they were then called, were, by design, strategic public corporations. Their main purpose was to promote British manufacturing enterprise by having the state guarantee the initial risk capital. Specifically, the dam was meant to provide cost-effective hydro-electricity for industrial development.

The UDC, for its part, was endowed with £5 million of capital to entice 'reluctant' foreign companies to venture into the Ugandan economy. Banking on its endowment fund, the UDC would:

> '... [A]ssist the local investor and be able to enter into partnership with the investor from outside – not with the idea of itself going into industrial businesses and running those businesses permanently, but with the idea of filling this gap, to give enterprise a start, and gradually to be able to pass over to the private investor in the colony both capital burden and the managerial responsibility in the industries ..'. (Colonial Secretary, quoted in *Uganda Herald*, 1 April 1952: 4).

The dam and the UDC were united by a common denominator, which was an attempt by the state to uproot the obstacles to industrialization and national development. The UDC, for example, 'attracted new industries to Uganda by the offer of advice and capital participation' (Elkan 1961: 50). By participating in the venture, the UDC demonstrated willingness to shoulder part of the risk. According to Elkan (1961), the UDC:

> 'Could also provide overseas businessmen [and women] with reliable basic data on industrial conditions and requirements; it could advise them in the selection of suitable factory sites, and act as go-between with the numerous Government departments that might be involved. Finally, it would furnish economic or technical research into specific marketing or production problems' (Elkan 1961: 61).

The overseas investors were expected to bring with them technical expertise, managerial skills, and some capital. The UDC 'would contribute the remainder of the capital as a pledge of security' (Elkan 1961: 61). This way, the UDC became *the* fulcrum of strategic public-private partnerships between government and foreign capital. This model of industrial promotion delivered concrete public-private partnerships in the industrial sector.[4]

Industrial development at the time of independence

By the time Uganda obtained political independence in 1962, the colonial state, as already hinted, had established key developmental infrastructure. The state had also initiated a culture of co-ordinated industrial development through strategic partnerships. However, industrial deepening had not yet taken place by the early 1960s. A 1961 study describes Uganda's economy as a poor agrarian economy, dominated by the 'African farm enterprise'. This sector used imported hand hoes and other primitive technologies to create wealth. Of the total domestic product of US$342 million, the African farming sector accounted for US$205 million (or 60 per cent). Of the total population of 6.5 million, less than 25 per cent were in wage employment. The subsistence sector accounted for roughly 25 per cent of gross domestic product (GDP). Uganda's agrarian economy was dominated by two crops – cotton and coffee. Both were produced for export. Both were *processed* (i.e. cosmetic value addition) via cotton ginning or coffee curing before export. However, the purpose of pre-shipment processing was not value addition, but lowering shipping costs.

At the time of independence, mining and industry were insignificant sectors in the economy. As Elkan (1961) notes, Uganda had only one significant mine, Kilembe copper mine, whose contribution to GDP was negligible, although it already accounted for 5 per cent of the value of Uganda's exports (Elkan 1961: 4). Uganda had 78 coffee hulleries, 145 cotton ginneries, and only two factories engaged in higher value added activities such as cotton-spinning, weaving, and finishing (Elkan 1961: 4-5). Of the 1,176 factories subject to the Factories Ordinance of 1957, 254

4 The UDC's pivotal role was evident in the mining sector. For example, Kilembe Mines Ltd. (which mines copper and cobalt in mid-western Uganda) was a partnership of UDC Ltd. and Duncan, Gilby & Mathieso Ltd. The role of UDC was even more manifest in the manufacturing sector. For example, Universal Asbestos Manufacturing Co. (E. Af.) Ltd. (a manufacturer of cement) was a partnership of UDC Ltd.; Universal Asbestos Manufacturing Co. Ltd. (an English company); and Tanganyika Cotton Co. (Holding) Ltd. In the case of Chillington Tool Co. (E. Af.) Ltd., the partners were Chillington Tool Co., Ltd of Wolverhampton, England; the UDC Ltd.; and Mitchell Cotts (E. Af.) Ltd. The UDC also played a key role in development banking. For example, Ugadev Bank Ltd. (a financial institution) was a partnership between UDC Ltd. and Lombard Banking of London. For a detailed list of UDC's partnerships, see *Uganda Herald*, 24 April 1951.

were involved in wood processing; 360 were in food and tobacco processing; and 233 were in the metal and engineering sub-sector. This sub-sector was dominated by motor vehicle and plant-repairing (with 148 firms).

In short, the level of value added industrial manufacturing was low. As a consequence, per capita income was US$62 (including subsistence production) or US$50 if subsistence production was excluded. Less than 15 per cent of the population lived beyond 45 years, and roughly 50 per cent of children died before celebrating their fifteenth birth day (Elkan 1961: 10). After 70 years of colonial rule, life in Uganda was in Thomas Hobbes' terms, nasty, brutish, and short.

1.3 Post-colonial industrial development, 1962-86

The spirit of state-guided capitalist development, which started in the dying years of the colonial administration, continued in the post-colonial era. However, state elites were not always certain of what development priorities to pursue. The case in point is the First Five-Year Development Plan for independent Uganda (1961/62-1965/66). This plan was premised on the World Bank (1962) Mission Report. In the foreword to the plan, Prime Minister Dr Milton Obote stated:

> 'In 1960 the [World Bank] provided Uganda with an economic survey mission headed by Dr. Edward S. Mason of Harvard University. In its report – *The Economic Development of Uganda* – … this mission made practical recommendations supported by analysis as to a basis for a programme of development for Uganda covering the period 1961/62 to 1965/66. My Government broadly accepts the recommendations in the report and has produced a development plan closely modelled on them' (World Bank 1962: i).

The development plan provided for a central planning authority, and underlined the need for *agricultural* development. Industrialisation did not feature prominently. Industrialisation features prominently in the Second Five-Year Plan (1966/67-1970/1971). This Plan, like the Worthington Plan of 1946, had a long-run perspective. It was part of a long-term perspective plan covering the period 1966-81. The goal of the plan was to transform the economy and society of Uganda via industrialisation. The plan for the evolution of the structure of the economy over the proceeding 15 years is presented in Table 1.

Two issues stand out clearly. First, the agricultural sector accounted for the majority of GDP in 1966 but its *planned* share was to decline from 37.8 per cent in 1966 to 27.2 per cent in 1981. While this suggests that the plan was for the economy to undergo *structural* transformation it should be noted that the statistics presented in Table 1 related to the 'monetary' economy alone. A substantial proportion of rural agricultural output was for subsistence and this was not accounted for in these statistics.

Table 1: GDP: Perspective structure: monetary economy at constant (1964) prices (%)

Sector	1966	1971	1981
Agriculture	37.8	34.3	27.2
Cotton ginning, coffee curing, and sugar man.	4.2	3.9	3.2
Forestry, fishing, and hunting	1.6	1.5	1.3
Mining and quarrying	2.8	2.8	2.5
Manufacture of food	2.0	2.4	3.2
Miscellaneous manufacturing	5.7	7.3	11.6
Electricity	1.9	2.1	2.6
Construction	2.8	3.4	4.3
Commerce	19.7	19.5	19.5
Transport and communications	3.5	3.7	4.0
Government administration	3.3	3.4	3.6
Local government	1.5	1.5	1.4
Miscellaneous services	10.3	11.4	12.5
Rents	2.8	2.9	2.9
Total	100.0	100.0	100.0

Source: Republic of Uganda (1962: 20).

Second, *miscellaneous* manufacturing was planned to grow at twice the rate of growth of total GDP. Accordingly, its share of monetary GDP was expected to increase from 5.7 per cent in 1966 to 11.6 per cent in 1981. This category includes activities such as chemical products, metal products, and non-metallic mineral products. A sustained rate of growth in this sub-sector might, therefore, suggest a structural change of the economy from low to high value added manufacturing. Yet the fact that these were included as 'miscellaneous' suggests that there was no clear strategy for the development of these sectors.

Third, the goals of Uganda's Second Five-Year Plan were consistent with the views of the Economic Commission for Africa (ECA). The ECA Conference held in Zambia in 1965 underscored the need for industrialisation and economic transformation in the whole of eastern Africa.[5] Planned, *region-wide* industrial promotion was perceived to provide an answer to the problems of 'national' markets that were arguably too small for large-scale industrialisation. Some form of integrated industrialism was needed. The ECA identified several industrial development priorities (see Table 2). They were: clothing, wood and cork, furniture and fixtures, footwear, rubber products, and iron and steel (Stoutjesdijk 1967: 8).

5 In ECA terms, 'Eastern Africa' covered 12 member states: Uganda, Kenya, and Tanzania, plus Mauritius, Zambia, Ethiopia, Somalia, Malawi, Zimbabwe, Madagascar, Rwanda, and Burundi.

Table 2: ECA's proposals for the manufacturing sector in Uganda, 1975

Branch of industry	Value added by 1975 (US$ million)	Fixed investment outlays (US$ million)
Food	35.2	85.5
Beverages	6.7	4.9
Tobacco	4.5	1.7
Textiles	16.5	38.7
Footwear and clothing	7.1	11.8
Wood products	13.6	4.7
Furniture and fixtures	2.1	1.1
Pulp and paper	2.4	11.5
Leather	0.6	0.5
Rubber industry	2.6	8.9
Basic chemicals and fertilisers	7.3	19.8
Oils and fats	6.4	17.0
Pharmaceutical and medical preparations	1.6	2.2
Non-metallic industries	11.9	11.5
Iron and steel	23.2	114.2
Non-ferrous metals	--	6.6
Metal products	5.3	10.6
Mechanical engineering	2.2	10.8
Electrical engineering	2.2	3.5
Transport equipment	7.0	7.2
Articles of plastic	0.3	0.6
Total	169.2	366.1

Source: Adapted from Stoutjesdijk (1967: 91-92).

The ECA's proposals for Uganda were closer to the industrial priorities of successful Asian manufacturers (such as Taiwan) in the 1950s and 1960s. The projected value added, however, still emphasised *food processing* (estimated at US$35.2 million by 1975) with fixed investment outlays of US$85.5 million. This was substantially higher than the combined value added projections for basic chemicals and fertilisers (US$7.3 million), pharmaceutical and medical preparations (US$1.6 million), and iron and steel (US$23.2 million). However, the principle was clear. The ECA proposals made provision for high value added industrial activities. In terms of the planned fixed investment outlays, the iron and steel sub-sector, which is pivotal to durable industrialisation, had the largest share of US$114.2 million or over 30 per cent of the total. It is also important that the ECA did not forget the heavy industries such as basic chemicals, pharmaceutical and medical products, non-metallic industries, mechanical and electrical engineering, metal products, and transport equipment. These had a relatively small share of both value added and fixed investment outlays but it signalled a start on the industrialization path.

As a result of the initiatives of the 1960s, GDP at 1966 prices grew by 4.8 per cent a year from 1963 to 1970, while population increased at an estimated rate of 2.6 per cent, implying an annual increase in per capita income of about 2 per cent. Uganda's domestic savings averaged 13 per cent, a level that 'permitted implementation of an ambitious investment programme without undue pressure on domestic prices and the balance of payments' (World Bank 1982: 3). In the 1960s, the terms of trade

for Uganda's exports were favourable and export earnings were, by and large, sufficient to finance the country's imports. In the late 1960s, government revenue increased faster than recurrent expenditure, leading to a relatively healthy state of public finances.

The development crisis in Uganda and elsewhere in Africa began in the 1970s with the rise to power of Idi Amin (1971-79). The story of economic decay in the 1970s has been oversold, and will not detain us here. It suffices to emphasize that Amin's administration destroyed the economy, disorganised the industrial and other economic infrastructure, and triggered a spiral of economic mismanagement. Analysis of statistical records of the 1970s and 1980s reveals a virtual absence of heavy industries. As Table 3 shows, the bulk of manufacturing activities in Uganda (at a stage of development comparable to Taiwan in the 1950s and 1960s) were light industries characterised by low value addition. Three sub-categories of light industries stand out: food, beverages, and tobacco; wood and wood products; and the 'miscellaneous' sub-sector. Among these, the most distinctive sub-categories were sugar, beer, spirits, and pipe tobacco.

Table 3: Selected 'manufactured' output in Uganda

	1966	1970	1973	1977	1980
Sugar ('000 tons)	128.9	144	68.5	11.4	15.0
Vegetable oils ('000 tons)	--	--	12.5	1.7	0.0
Animal feeds ('000 tons)	--	--	24.9	7.6	0.0
Spirits (Haragi) ('000 litres)	238.0	564.5	910.0	526.0	34.0
Beer (million litres)	19.7	27.8	45.6	22.1	12.0
Cigarettes (billions)	1.3	1.5	1.9	1.9	0.6
Pipe tobacco (tons)	203.0	127	96.0	98.0	12.0
Fabrics (million m^2)	40.0	49.6	38.1	36.6	7.5
Blankets (millions)	0.6	1.2	0.4	0.3	0.0
Soap ('000 tons)	14.9	12.9	6.3	1.1	0.4
Matches (s) ('000 cartons)*	38.2	49.3	50.0	10.0	2.8
Marches (L) ('000 cartons)	--	--	4.6	0.2	0.7
Superphosphates ('000 tons)	24.6	24.8	18.6	1.2	0.0
Steel ingots ('000 tons)	19.8	19.5	11.7	5.6	1.9
Corrugated iron-sheets ('000 tons)	--	11.9	5.1	2.0	0.0
Cement ('000 tons)	122.4	191.9	142.7	73.0	4.9
Paints (million litres)	--	1.7	1.4	0.6	0.1
Blister copper ('000 tons)	--	--	9.6	2.3	0.0
Footwear ('000 pairs)	--	--	3.2	1.1	0.0
Fish-nets ('000)	--	--	349.2	98.5	0.0
Bicycle tires and tubes (million)	--	--	1.4	0.7	0.0

Source: Adapted from World Bank, Uganda: Country Economic Memorandum (1982: 153), based on official statistics, Uganda Statistical Department, Ministry of Finance, Planning and Economic Development.

The availability of cheap labour and the high cost of imported technology meant that light industries (such as foods and beverages) were a natural starting point in the path to industrialization. The problem was that while output increased in a number of industrial sectors in the 1960s, it substantially declined in virtually all sectors after 1970. For example, in the machinery sub-category (which would serve as a basis for heavy industrialisation), the steel ingots declined by over 90 per

cent from 19,500 tons in 1970 to only 1,900 tons in 1980. Superphosphate production (a potential growth-pole of chemical industries) declined from 24,800 tons in 1970 to 0.0 tons in 1980. In short, at a stage of development when Taiwan was undergoing *industrial transformation*, Uganda registered declining output in both light industries and the potential growth poles for heavy industrialisation. Where Taiwan registered industrial *deepening*, Uganda experienced a steady 'death' of industrial vitality. Where Taiwan registered rapid, sustained growth in the 1950s and beyond, Uganda's economy was performing at -5.2 per cent in 1980.

1.4 Industrial development from 1986 to date

Uganda's development priorities for the 1990s and beyond appear in several government documents. Four are worth mentioning. First, *The Way Forward I: Macro-economic Strategy, 1990-95* was a diatribe of what the World Bank calls 'getting the prices right' via deregulation, liberalisation and kicking the state out of the economy. The second was *The Way Forward II: Medium-Term Sectoral Strategy,* 1991-95, which emphasised agriculture as an engine of economic transformation. The third was *The Uganda Industrialisation Policy and Framework, 1994-99*, which, as the *Uganda Investment Statute* of 1991, placed emphasis on *agro-processing* as the main industrial priority for the country. A common denominator through all documents was the call for greater economic liberalism and less involvement of the state in the economy. This resulted in the institutionalisation of a conservative model of economic governance and industrial development.

A major outcome of orthodox economic policies has been the rise of neo-liberal institutions and industrial policies. For example, the Uganda Investment Authority (UIA) was established in 1991 by the *Uganda Investment Code, 1991* (amended in 1994). The Foreign Investment (Protection) Act of 1964 and Amin's Foreign Investment Decree of 1977 were accordingly repealed. A key objective of the new investment law was to create UIA a *one-stop centre* for the promotion of investments in Uganda.[6] To harmonise Uganda's investment climate with the global investment regime, Uganda became a member of the World Bank's Multilateral Investment Guarantee Agency (MIGA) and the International Centre for the Settlement of Investment Disputes (ICSID). MIGA, an international guarantor of investors against non-commercial risk, is meant to shield (foreign) investors in Uganda from the risk of war and civil disturbances. It is also meant to function as an institutional insurance against the possible breach of contract, currency transfer problems, and expropriation.

The ICSID, on the other hand, is expected to provide arbitration in the event of investment disputes that might not be settled amicably through negotiation. Section 30 (2) of *The Uganda Investment Code, 1991* (as amended 1994) stipulates that:

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6 The 'functions and duties' of the UIA are as follows. (1) To issue licences and certificates of incentives in accordance with the Investment Code. (2) To secure all licences, authorisations, approvals, and permits required to enable any approval granted by the authority to have full effect. (3) To recommend to government national policies and programmes designed to promote investment in Uganda. (4) To provide information on matters relating to investment in Uganda. (5) To assist potential investors in identifying and establishing investment projects in Uganda. (6) To determine the terms and conditions that may be imposed in relation to the operation of a business enterprise. (7) To deal with complaints related to investment in Uganda. (8) To do all other acts as are required under the Investment Code, or are necessary or conducive to the performance of the functions of the Authority (See Section 7 of *The Uganda Investment Code, 1991* (as amended 1994).

> 'A dispute between a foreign investor and the [Uganda Investment] Authority or the Government in respect of a licensed business enterprise which is not settled through negotiations may be submitted for arbitration in accordance with (a) ... the rules of procedure for arbitration of the International Centre for the Settlement of Investment Disputes; or (b) within the framework of any bilateral or multilateral agreement on investment protection to which the Government and the country of which the investor is a national, are parties; or (c) in accordance with any other international machinery for the settlement of investment disputes (The Uganda Investment Code, (as amended 1994): Section 30(2)'.

It is from this global investment regime that Uganda's liberalised industrial policies spring. No distinctly *national* industrial policies have been crafted. The problem, nevertheless, does not lie in the virtual absence of industrial priorities. The problem, as already hinted, is that the so-called industrial 'priorities' are defined on the basis of free-market economics, which does not distinguish between generic and high value added manufacturing industries.

1.5 Contemporary problems facing industrial manufacturing

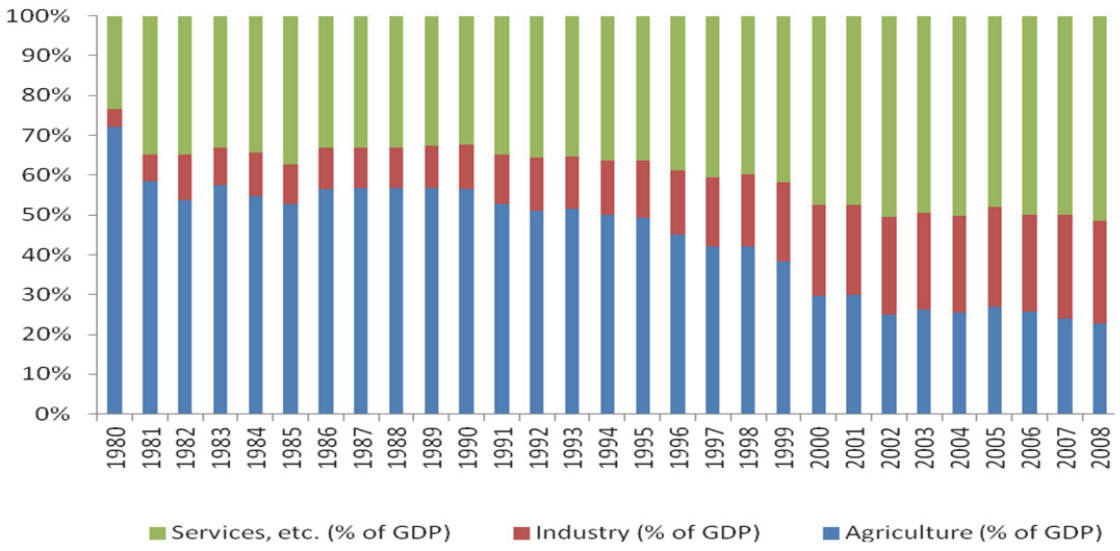
The contemporary problems facing the industrial manufacturing sector in Uganda cover five dimensions: (a) the tiny share of industry in the sectoral distribution of GDP; (b) the predominantly last-stage assembly nature of industry in Uganda (suggesting low value added manufacturing); (c) the problem of excess capacity, with capacity utilization averaging about 50 per cent of installed capacity; and (d) the absence of manufactured products in the export basket, pointing to Uganda's limited capacity to compete in the competitive global markets.

Share of industry in GDP

Official statistics suggest that a qualitative change has taken place. In the official figures (Figure 1), the share of agriculture declined from over 70 per cent in 1980 to about 25 per cent in 2008. Over the same period, the share of services increased from less than 25 per cent to 50 per cent. There are some factors which should be taken into account when interpreting these trends. First, roughly 85 per cent of Ugandans still live in rural areas primarily as peasant farmers using antiquated technology (such as, the hand hoe, for example). Second, the impressive decline of agriculture coupled with the rise of services as a share of GDP is not reflected in the sectoral composition of employment. The official unemployment rate in Uganda is 1.9 per cent, one of the world's best. However, this figure grossly understates the realities on the ground. An estimated 75 per cent of Uganda's total labour-force (estimated at 10.9 million) works in rural areas, particularly in the agricultural sector. About 50 per cent of the economically active youths are not in income-generating employment (Republic of Uganda 2010b). Moreover, 70 per cent of female youths (14-30 years) do unpaid family work. By implication, economic liberalism has triggered rapid growth with no fundamental socio-economic transformation. It is simultaneously associated with impressive economic trends *and* depressing levels of industrial transformation.[7]

[7] The services sector, for example, has impressively attracted high-quality telecommunications companies (such as MTN of South Africa), but it is still dominated by tourism (and retail trade) (Kiiza 2007).

Figure 1: Trends in the sectoral composition of GDP, 1980-2008



Source: World Bank (various years).

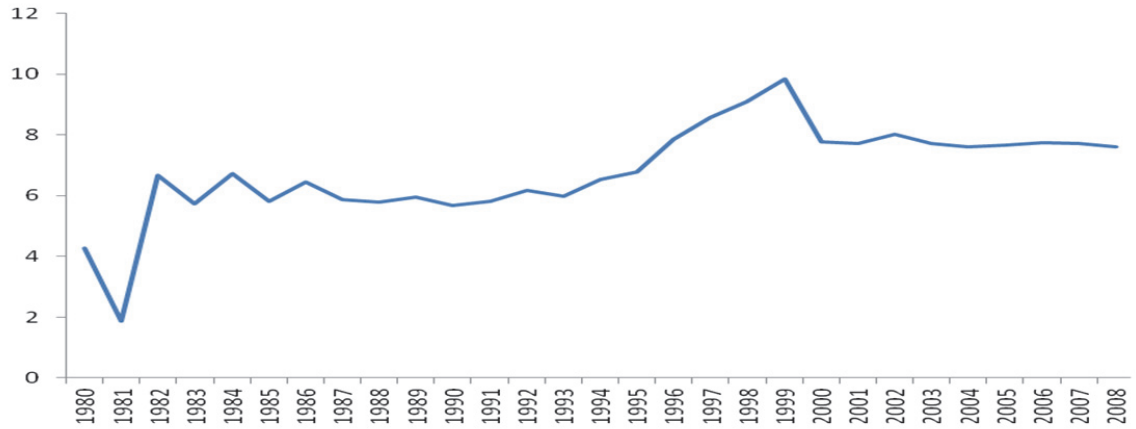
Unimpressive manufacturing sector

The manufacturing sector has played a peripheral role in Uganda's market-driven growth trajectory. As Figure 2 shows, the share of manufacturing in GDP improved from 6.3 per cent in 1982 to 8.4 per cent in 1997. Thereafter, it declined to about 7 per cent. This falls below the average of 11 per cent for least developed countries (UNCTAD 2008: 7). Moreover, manufacturing activities are either of the *end-product assembling* type, or (food) *processing*, both of which are characterised by low value added 'manufacturing'.

Problem of scale and excess capacity

The Directory of Manufacturing Establishments suggests that the bulk of manufacturing firms in Uganda operate on a small-scale (84 per cent) employing 35 persons or less. Nearly 50 per cent of the firms employ 10 persons or less. The medium- to large-scale manufacturing sector is relatively smaller, but has substantial establishments in sugar, beer, cigarettes, cotton fabrics, gunny bags, fish-nets and cement. Uganda's industrial sector is also characterized by low capacity utilization, standing at an estimated 50 per cent of installed capacity (Republic of Uganda 2010b: 118). The small-scale and low-capacity of the manufacturing sector in Uganda is of concern given that leap-frogging from an agrarian economy into a services economy is impossible *without* a viable manufacturing base. Manufacturing is arguably essential for a nationally-embedded high-tech services economy and as such absolutely necessary for a country's 'learning to compete' agenda.

Figure 2: Manufacturing as share of GDP, 1980-2008



Source: World Bank (various years).

Primary commodities in the export basket

Primary commodities still play a dominant role in Uganda's export basket. Uganda's total exports increased from US$171 million in 1992 to US$478 million in 1999 and US$2.8 billion in 2009 (NPA 2010). However, the structure of exports changed superficially from traditional/colonial *commodities* (coffee, tea, tobacco) to non-traditional *commodities* (fish, cut flowers, and maize).

The dearth of human capital

A key constraint to Uganda's industrial development is the lack of human capital. Uganda's post-colonial bureaucracy of the 1960s has been widely described (retrospectively) as having been efficient, effective, and of Weberian calibre (Kiiza 2007). This description is accurate *only* in comparison with the collapsed state structures and civil service decay of Idi Amin's time and beyond (Kiiza 2006). In comparison with the meritocratic bureaucracies of the Asian tigers, the bureaucracy in Uganda was weak. The Civil Service survey of 1962 – the year Britain handed over state power to Ugandans – showed that Uganda had a serious dearth of senior public administrators. Of the 408 Executive Class posts, Ugandans held only 102 (or 25 per cent) of the posts, and 106 posts were vacant, although some were held by temporary staff.[8]

The administrators, professional cadres, and middle grades of the executive class were also in short supply. Of the 1,250 established posts 'in the super-scales and A-scale as at 1st December, 1962, only 269 were filled by Ugandans, while there were no less than 265 vacancies some of which were filled by temporary staff (Uganda 1962: 58)'.[9] After 70 years of British colonialism, Uganda had no electrical or mechanical engineers, required for the kind of industrial development experienced by

8 The senior grades were, at this stage, dominated by colonial expatriates. The scenario in other levels of skills is also informative (see Uganda, 1962: 57-58).

9 These figures make more sense when they are put in perspective. Uganda's population in 1959 was 6,450,000. All were Africans except for 87,000 people. By mid-1962, the population was over 7 million. Over 96 per cent of this population lived in rural areas, primarily as peasants. These are the key elements of the demographic and economic heritage that British colonialism bequeathed to post-colonial Uganda.

the Asian manufacturing tigers (such as Japan and Taiwan). Uganda also had 'no Ugandan chartered accountant, solicitor, architect, or pathologist, while there was only one geologist, one veterinary officer, one entomologist and two dentists…' (Uganda 1962: 57).[10]

Weak institutions

Under the current regime of Museveni, the UDC and its enterprises (that is, Uganda's public enterprises) have been subjected to systematic de-construction. President Museveni has not spared the UDC or any other developmentalist institutions inherited from his predecessors. The claim is that public corporations such as the UDC, Uganda Electricity Board, Uganda Development Bank and Uganda Commercial Bank signify state 'interference' in the economy. Driven by this economic ideology, the UDC was closed and all other strategic public enterprises were privatized.

Thus, since the late 1980s, market-determined priorities have gained primacy over state-guided developmental goals. Unlike Taiwan which prioritised the essential goods industries (like textiles) and the basic heavy industries (such as large-scale integrated steel production), Uganda's neo-liberal economic ideology has militated against state-guided industrial priorities. Preference has been given to market determined choices. The second schedule to *The Uganda Investment Code*, *1991* (as amended) identifies 24 priorities (Kiiza 1996: 71). The first three priorities – which may therefore be deemed to be the priorities amongst priorities – are crop *processing*, *processing* of forest products, and fish *processing*. All are characterised by low value adding activities. The more developmentally important iron and steel industry, textile and leather, and pharmaceutical industries come fourth, sixth and twenty-second on the list. The 'high-technology industry' is the very last on the list of priorities. Thus, the Ugandan developmental viewpoint appears to be the polar opposite of Taiwan's approach involving strong institutions buttressed by economic nationalism. The weak pro-market institutions and economic ideology contribute to explaining Uganda's limited industrialization. In short, while neo-liberal Uganda has attained rapid growth, real *manufacturing* sector outcomes are still modest. This, in part, arises from the weak domestic institutions for economic governance. It also arises from the dominant neo-liberal economic ideology that allocates a 'hands-off' role to the state in the national economy, in preference for market-determined priorities.

This underscores a substantial distinction between Taiwan and Uganda. Taiwan implemented some form of liberalisation in the late 1980s after it had attained industrialised nation status. In contrast, Uganda's globally integrated liberalisation in the 1980s and 1990s took place in a predominantly Ricardian agricultural economy with a low value added industrial sector. Uganda's liberalisation, it seems, was premature. It was, in effect, an exposure of local embryonic firms to the competitive pressures of the global marketplace. This is antithetical to the logic of learning how to compete.

10 Under the Second Five-Year Development Plan, 1966/67-1970/71 government planned to increase the intake of Ugandans into university level institutions from the 1966 level of 460 to 870 in 1971. This planned increase still fell far below Taiwan's level in the 1940s.

2 The current structure of the industrial sector

2.1 Introduction

This section describes the current structure of the industrial sector in Uganda. The industrial sector can be defined in various ways depending on the chosen classification criteria; see, for example, Scherer (1996) and Adams and Brock (2005). Classification by the level of production consists of the following components: primary, secondary, tertiary, quaternary, and quinary sectors: The primary industrial sector of the economy extracts or harvests products from nature, which includes raw materials such as food and non-food crops, fish, timber, mineral ores, etc. The primary sector is therefore associated with activities such as agriculture (both subsistence and commercial), mining, forestry, farming, grazing, hunting and gathering, fishing, and quarrying. It is common that this sector diminishes as countries develop. The secondary sector is where value addition takes place and this includes manufacturing, processing, and construction. Key activities in this sector include, among others, metal works and smelting, automobile production, textile production, chemical and engineering industries, aerospace manufacturing, energy utilities, engineering, breweries and bottlers, construction, and shipbuilding. The tertiary sector of the economy largely forms the service industry that provides services to the public and the private sectors. Key activities associated with this sector include retail and wholesale sales, transportation and distribution, entertainment restaurants, clerical services, media, tourism, insurance, banking and finance, healthcare, and law. The quaternary sector consists of intellectual activities that include culture, libraries, scientific research, education, and information technology.

The industrial sector can also be looked at as an energy-consuming sector that consists of all facilities and equipment used for producing, processing, or assembling goods. It encompasses activities like manufacturing, quarrying and mining, including oil and gas extraction, construction, and the utilities sub-sectors. Classification as an energy-consuming sector is similar to classification by level of production except that there is emphasis on transformation of products through use of energy. It is this classification that we use in this paper given that it is broader in the sense that it consists of all facilities and equipment used for producing, processing, or assembling goods and encompasses activities like manufacturing, quarrying and mining including oil and gas extraction, construction and the utilities sub-sectors. Moreover, this classification of the industrial sector is what is used in the official publications in Uganda.[11]

We start by looking at the sectoral composition of the industrial sector. This is followed by an analysis of the size distribution of the sub-sectors which involves categorising particular sub-sectors by the number of employees. This helps in grouping industries as small-, medium-, and large-scale industries. We also look at employment by sub-sector, the ownership categories in the different sub-sectors and finally, we present and discuss sunrise and sunset industries in Uganda examining the factors underlying the dynamics at work.[12] It should be noted, however, that detailed data on the industrial sector in Uganda is limited in the sense that it is incomplete, inaccurate, and of limited coverage and so our analysis is limited somewhat by this constraint.

[11] See, for example, the background to the budget and statistical abstracts.

[12] Note that up-to-date statistics are absent due to the lack of recent comprehensive surveys on the industrial sector.

2.2 The performance of the industrial sector over time

Section 1 outlines the evolution of the industrial sector up to the present day. As highlighted, despite efforts in the 1960s to diversify the economy by establishing basic industries producing goods like textiles, tea, sugar, beverages, edible oil, wood, paper and paper products, iron and steel, non-metallic and metallic products among others, most of them depended on imported raw materials and other factor inputs (MTTI and UNIDO 2007). At that time, industry contributed close to 12 per cent of GDP. However, pursuing an import substitution strategy failed to generate sufficient employment and adequately integrate the agricultural sector into the industrial sector. Thus the industrial sector was largely dependent on imported inputs, a practice that negatively impacted on the sector. The civil conflict and mismanagement of the economy during the 1970s destroyed the industrial base of Uganda leading to dilapidation of industrial infrastructure so that by 1980, production had come to a grinding halt.

With major reforms and rehabilitation in the 1980s and 1990s and other initiatives, this trend was reversed. The industrial sector has since then experienced steady growth over the last decade with an average of 7 per cent and reaching 15 per cent in 2005/06 (Table 4). This growth is mainly driven by the construction, mining and quarrying, and the manufacturing sub-sectors.

Table 4: The contribution to GDP growth at constant 2002 prices

	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11
Mining and quarrying	7.8	12.2	12.8	1.7	27.2	6.1	19.4	3.0	4.3	13.8	15.8
Manufacturing	3.7	6.7	4.4	6.3	9.5	7.3	5.6	7.3	10.0	7.3	6.5
Formal	3.2	7.7	4.6	8.3	11.8	7.8	4.9	9.2	12.0	7.9	7.2
Informal	4.8	4.5	4.0	1.7	3.6	6.0	7.7	2.1	4.4	5.7	4.3
Electricity supply	0.7	-1.7	3.7	7.7	2.1	-6.5	-4.0	5.4	10.6	14.5	13.1
Water supply	3.3	3.0	3.9	4.2	3.9	2.4	3.5	3.8	5.7	3.0	4.1
Construction	3.2	10.1	14.6	10.0	14.9	23.2	13.2	10.5	3.7	7.0	7.7
Total industry	3.3	7.4	9.5	8.0	11.6	14.7	9.6	8.8	5.8	7.2	7.5

Source: Database of the Department of Macroeconomics, Ministry of Finance planning and Economic Development.

During the same time the contribution to GDP (Table 5) by the industrial sector grew to an average of over 25 per cent. It is evident that the industrial sector has not only regained its position in the economy, but is making an increasingly commendable contribution to growth. The recent growth in the manufacturing sector is largely driven by food processing, paper and printing, chemical paint and soap, and metal products. One common characteristic of the manufacturing sector in the current state is limited value addition. Although the manufacturing sector is diverse in terms of composition, as discussed in Section 1, it is characterized by processing of raw materials and very few capital goods industries with very low utilization of manufacturing capacity.

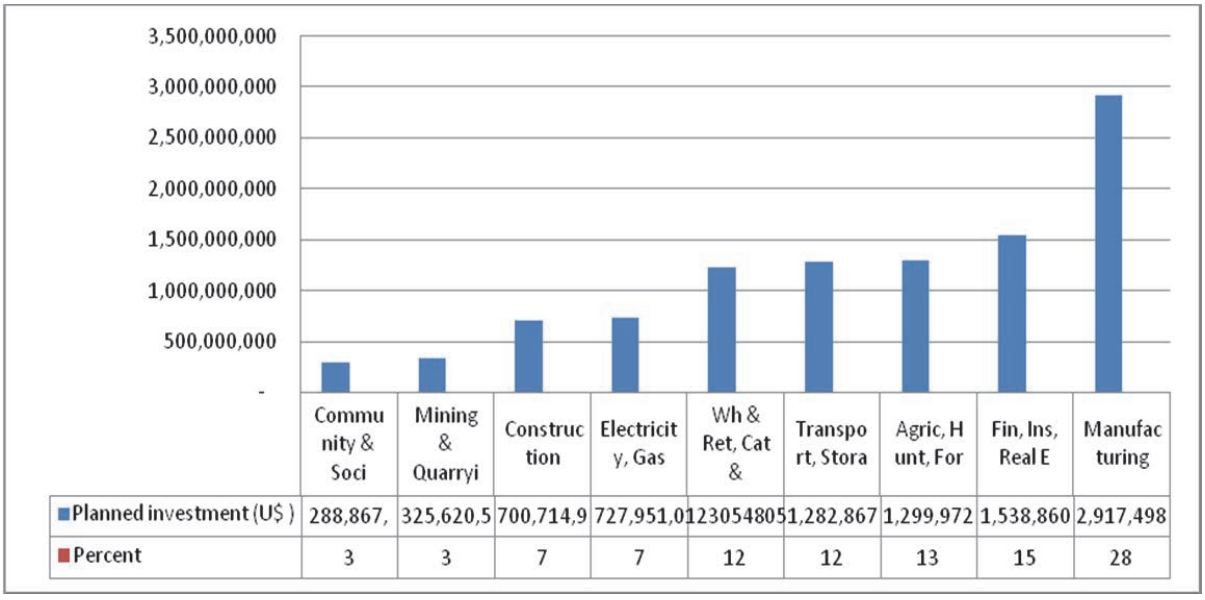
Table 5: The share of GDP at market price

	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11
Mining and quarrying	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.4	0.3
Manufacturing	7.3	7.1	7.0	7.0	7.2	6.9	6.8	6.7	6.8	7.0	8.6
Formal	5.0	5.0	4.9	5.0	5.2	5.1	4.9	4.9	5.1	5.3	6.5
Informal	2.2	2.2	2.1	2.0	1.9	1.9	1.9	1.7	1.7	1.7	2.0
Electricity supply	1.5	1.4	1.3	1.3	1.3	1.1	1.0	0.9	1.0	1.0	1.5
Water supply	2.5	2.4	2.3	2.2	2.2	2.0	1.9	1.8	1.8	1.8	2.0
Construction	10.7	10.9	11.7	12.0	13.0	14.4	15.1	15.3	14.8	15.1	13.0
Industry	22.2	22.0	22.6	22.8	24.0	24.8	25.1	25.1	24.8	25.2	25.4

Source: Database of the Department of Macroeconomics, Ministry of Finance planning and Economic Development.

Uganda attracted substantial foreign direct investment (FDI) between 1991 and 2009 with the largest proportion going into the industrial sector (Figure 3) which partly explains the growth and contribution to GDP by the sector. The distribution of investment by sector and industry during 1991-2009 reveals that manufacturing took the largest share, close to one third and an equivalent of US$2.9 billion. The other industrial sub-sectors (construction, electricity, water and mining and quarrying) attracted investment to a tune of US$1.8 billion representing 17 per cent of the total. Overall, the industrial sector attracted 45 per cent of the FDI that came into Uganda between 1991 and 2009.

Figure 3: Cumulative flow of Investment in Uganda between 1991 and 2009 (US$)[13]



Source: Uganda Investment Authority Database (2010).

[13] The UIA has not conducted any empirical study to establish the actual investment during this period. This implies that planned cumulative flows of investment should be used and interpreted with caution. It is likely that about a half of planned cumulative flows of investment are realized as actual.

In spite of the progress made in the industrial development of Uganda in the last decade, there are a number of challenges/constraints that exist (Republic of Uganda 2010a; 2010b). The manufacturing sub-sector is faced with weak institutional support, limited access to credit, inadequate skills, inadequate physical infrastructure, a low level of technology and a lack of indigenous capability for mastery of science, technology, and innovation capabilities, a lack of serviced industrial parks across the country, and an unreliable supply of inputs. The mining sub-sector is constrained by inadequate geological data for mineral exploration, inadequate human resources and requisite skills, land encumbrances, and inadequate infrastructure such as transport and power.

The industrial sector in Uganda consists of the construction, mining and quarrying, formal manufacturing, informal manufacturing, electricity, and water supply. The composition of the sub-sectors in the industrial sector as computed using annual GDP numbers in constant 2002 prices gives a strong indication of the dominant sub-sectors (Republic of Uganda 2010a; 2010b; 2011). In the financial year (FY) 2010/2011, for example, the construction sub-sector was the largest (61 per cent) followed by formal manufacturing (20.2 per cent), water supply (6.9 per cent), informal manufacturing (6.6 per cent), electricity supply (3.9 per cent), and mining and quarrying (1.4 per cent). Although the proportions slightly vary for the previous three financial years, the differences are negligible suggesting that the construction sub-sector largely dominates the industrial sector. In what follows we describe in more detail each of these sub-sectors.

2.3 The manufacturing sector

The manufacturing industrial sector in Uganda consists of the production of processed foods, beverages, non-metallic minerals, wood and wood products, chemical products, leather and footwear, textiles, and wearing apparels. Although growing, the sector remains relatively small and is dominated by subsidiaries of multi-national corporations, largely attributed to the privatization era in the mid-1990s and heavy investment by foreign companies in sectors such as textiles, steel mills, tannery, bottling and brewing and cement factories, once stability returned to the country. The most important sectors are the processing of agricultural products (such as coffee), the manufacture of light consumer goods, and the production of beverages, electricity, and cement. The sector is faced by a number of challenges such as high costs of electricity, strong competition from imported products and relatively high poverty levels that directly impact on the purchasing power of the domestic market.

Small- and medium-scale enterprises in the manufacturing industrial sector account for over 90 per cent of enterprises (Republic of Uganda 2010a; 2010b). The Business Registry collected by the Uganda Bureau of Statistics (UBOS 2007) lists 3,280 manufacturing establishments in Uganda.[14] The study which forms the main source of information and data for this analysis focused on the formal sector, that is, businesses employing 5 persons and above. This means that the informal sector is not included. This is a major limitation as the informal sector is widespread and is believed to account for a large proportion of employment and output. The businesses covered in this registry were those engaged in the following activities: processing of meat, fish and dairy products; coffee processing; grain milling; tea processing; bakery and manufacture of other food products; manufacture of beverages and tobacco; manufacture of textiles and leather products; sawmilling, printing and publishing; chemicals and chemical products; manufacture of plastics; manufacture of metal products; manufacture of furniture; and other manufacturing.

[14] UBOS dataset includes firm-specific address information which can used to do a cluster analysis.

Description of sub-sectors

The agro-industrial sub-sector in Uganda consists of two broad categories, namely food processing and industries producing other agro-based products. The food processing industries mainly include the production of maize flour, vegetable oils, meat and dairy products, coffee and fish. In addition, Uganda produces and processes large quantities and varieties of fruits, including pineapples, mangoes, passion fruit, and tomatoes. Fishery is also a thriving activity and fish processing into fillet and other fish meat are produced for the domestic, regional, and international markets. Finally there is the beverages and tobacco industrial sub-sector. The industries producing other agro-based products include textiles, garments, leather products, and footwear although these sub-sectors have been shrinking in size in recent years.[15]

The chemical industries have been rapidly expanding in recent years. The major products produced include food, health products, household, and building materials. They also consist of the pharmaceutical industries and industries producing plastics.

The metallurgical industrial sub-sector consists of steel rolling mills, and metal working industries such as galvanising plants producing roofing and fencing materials, foundries, forging and machine shops and the manufacture of domestic appliances, spare parts, equipment and tools. The engineering sub-sector is closely linked to the metallurgical industries which consist of: industries producing transport equipment; producing agricultural equipment; machinery used in the textiles industries; the metal working industries; and the electric and electrical equipment industries. The non-metallic minerals industrial sub-sector consists of large production units producing cement and small and medium enterprises producing lime (from limestone) demanded by the agriculture, construction, leather and paint production industries. The paper and printing sub-sector is made up of a number of small-scale processing industrial units producing primarily for domestic consumption. The main products from the sub-sector include cartons, boxes, paper bags, and printed materials.

Size distribution

Analyzing the distribution of firms by size requires grouping the number of employees, the level of outputs or capital investment in order to categorize firms as small, medium, and large. The UBOS Business Register which this analysis largely draws from used the number of employees which implicitly categorizes firms into small, medium and large (Table 6). Out of the 3,280 firms registered in 2006/07, 58 per cent employed between 5 and 9 persons which is the largest category. The most prominent industries in this category are furniture making, grain milling, and the manufacture of metal products. This is followed by firms that employed between 10 and 19 persons represented by 18 per cent of the total number of firms. This illustrates that the majority of the firms are small scale. Firms employing between 20 and 49 persons, in this case medium-sized enterprises, constitute only 9 per cent of the total. The proportion of firms employing between 50 to 99 persons and 100 or more is extremely small, each represented by 3 per cent. This suggests that Uganda has a very

[15] Cotton as an enterprise has lost to other more lucrative enterprises at households level especially following the liberalization of the sector which led to the collapse of the Cooperative movement. As a result of this, most spinning infrastructure operates below capacity due to inadequate cotton supply. Most infrastructure is dilapidated and out of use. The importation of used clothes further exacerbates the problem.

small proportion of large-scale manufacturing firms. We note that these statistics, although helpful, are dated and therefore may not represent the current status of the sector.

Table 6: Distribution of firms in the manufacturing sub-sector by employment band

Number of employees	1-4	5-9	10-19	20-49	50-99	100 +	Total
Processing of meat, fish and dairy products	15	21	16	11	11	15	92
Coffee processing	24	110	28	15	5	3	185
Grain milling	55	390	119	23	6	3	599
Tea processing		1	2	5	3	26	38
Bakery, manufacture of other food products	6	72	54	50	11	8	203
Manufacture of beverages and tobacco	1	33	19	14	5	9	83
Manufacture of textiles and leather products	14	120	36	28	8	11	220
Sawmilling, printing and publishing	42	199	81	45	5	9	385
Chemicals and chemical products	11	18	19	21	8	5	83
Manufacture of plastics	7	66	49	27	11	12	178
Manufacture of metal products	33	326	62	35	13	12	484
Manufacture of furniture, other man.	25	545	115	36	7	1	730
Total	233	1,901	600	310	93	114	3,280

Source: UBOS (2007).

Regional distribution

During the 1960s and early 1970s, Jinja town in the eastern region was the main industrial hub of Uganda. This has since changed with Kampala emerging as the major industrial town. Regarding the regional distribution of firms in the manufacturing sector, there is a high concentration in the central region and more specifically Kampala, as illustrated in Table 7. The central region accounts for 61 per cent of manufacturing firms with 42 per cent located in Kampala alone. The eastern region has 18 per cent followed by the western region with 15 per cent. The northern region has the least number of manufacturing firms with only 6 per cent. This could be attributed to a number of factors including colonial policy, inadequate infrastructure and in the last two decades the conflict that rendered it impossible to invest in the region. With the return to peace in the region, this is likely to change.

Table 7: Regional distribution of manufacturing firms

Industry	Kampala	Central	East	North	West	Total
Processing of meat, fish, and dairy products	23	19	18	13	19	92
Coffee processing	21	94	33	1	36	185
Grain milling	190	98	193	39	79	599
Tea processing	2	8	3	2	23	38
Bakery and manufacture of other food products	93	45	25	8	32	203
Manufacture of beverages and tobacco	51	12	10	6	4	83
Manufacture of textiles and leather products	80	33	47	26	34	220
Sawmilling, printing and publishing	275	35	26	19	30	385
Chemicals and chemical products	66	8	7		2	83
Manufacture of plastics	60	37	47	2	32	178
Manufacture of metal products	263	79	55	32	55	484
Manufacture of furniture and other manufacturing	250	151	137	51	141	730
Total	1,374	619	601	199	487	3,280

Source: UBOS (2007).

A further disaggregation of the distribution of firms by region shows that Kampala has the highest proportion of firms in all manufacturing sub-sectors except for coffee processing, grain milling, and tea processing. While the eastern region has the highest proportion of grain milling firms (32 per cent), the western region specializes in tea processing with about 60 per cent. Finally, the central region has the most coffee processing firms (51 per cent) while the northern region is not specialized in any particular sector. The Kampala region dominates the chemical and chemical products manufacturing sub-sector with 80 per cent.

Employment

According to the Business Register (UBOS 2007), the manufacturing sector employs about 72,200 persons (2007). More than three quarters of the employees are males. The majority of employment is in firms that employed more than 100 persons (52 per cent of the total number of employees as illustrated in Table 8). This is followed by firms that employ 5 to 9 persons with 16 per cent of total employment. At the sub-sector level, the tea processing sector is a major employer as it employs about 37 per cent of workers among firms that employed 100 or more persons. The sub-sectors that employ the least number of persons are coffee processing and chemicals and chemical products. As mentioned in the previous sections, these statistics do not include the informal manufacturing sector which contributes significantly to employment in Uganda. Moreover, between 2007 and 2011 many changes took place in the Ugandan economy that suggests that more people are now likely to be employed.

Table 8: The distribution of employment in the manufacturing industrial sector

Industry	1-4	5-9	10-19	20-49	50-59	100+	Total
Processing of meat, fish, and dairy products	39	133	212	275	766	4,927	6,352
Coffee processing	67	672	357	405	342	407	2,250
Grain milling	167	2,400	1,434	628	344	482	5,455
Tea processing		8	35	177	267	13,695	14,182
Bakery, manufacture of other food products	19	461	748	1,439	655	3,267	6,589
Manufacture of beverages and tobacco	2	211	267	365	298	3,662	4,805
Manufacture of textiles and leather products	37	708	470	777	505	2,990	5,487
Sawmilling, printing and publishing	139	1,225	1,063	1,360	350	2,004	6,141
Chemicals and chemical products	37	126	223	635	525	1,062	2,608
Manufacture of plastics	24	405	644	798	722	2,514	5,107
Manufacture of metal products	100	1,987	759	871	850	2,213	6,780
Manufacture of furniture	78	3,333	1,385	978	424	135	6,333
Total	709	11,669	7,597	8,708	6,048	37,358	72,089

Source: UBOS (2007).

Ownership

The legal ownership of manufacturing firms according to (UBOS 2007) reveals that the majority consists of sole proprietors (55 per cent), followed by private limited companies (29 per cent), partnerships (11 per cent), and others (5 per cent). The legal ownership thus demonstrates the relatively small proportion of private limited companies as compared to sole proprietors. This implies that most manufacturing firms are not listed and cannot therefore raise capital through the capital market. Capital for investment has been identified as one of the limiting factors to industrial growth and expansion. This is evident as the dominance of the sub-sector by sole proprietors and other business units implies that equity financing is the major source of capital.

The other forms of ownership are domestic, foreign, and joint ventures as illustrated in Table 9. We compute the proportions of firms by ownership using the private sector investment survey data of 2009. The largest proportion of manufacturing firms is wholly owned by foreigners with an average of 41 per cent between 2007 and 2009. Local ownership is an average of 38 per cent during the same period. Joint ventures form the smallest proportion although those with the majority shares by foreigners are more than those joint ventures with majority shares by local investors. Overall, more than half of the firms in the manufacturing sector are foreign-owned during the period of analysis. This reflects the overall government policy since 1991 when the investment law was enacted that led to the establishment of the UIA. UIA has been promoting investment in Uganda by mainly attracting foreign investors. Uganda has been a major investment destination in the East African region.

Table 9: Ownership of firms in the manufacturing sector between 2007 and 2009

	2007		2008		2009	
Ownership	Number	Per cent	Number	Per cent	Number	Per cent
Joint-venture majority foreign	178	16	178	15	170	15
Joint-venture majority local	62	5	63	5	58	5
Wholly foreign	465	41	479	41	472	42
Wholly local	440	38	457	39	436	38
Total	1,145	100	1,177	100	1,136	100

Source: Authors' calculation using private sector investment survey data from the Bank of Uganda.

Labour productivity

The data assessing labour productivity was compiled from the two waves of the World Bank Enterprise Surveys – Investment Climate Assessments (ICA). The first wave covers the period 2002-2005 and the second wave covers the period 2006 to present. Labour productivity is computed as total annual sales divided by the total number of employees (full time plus part time). Table 10 demonstrates that the construction sub-sector has the highest labour productivity followed by food and other manufacturing. The garments sub-sector has the lowest level of labour productivity.

Table 10: Labour productivity

Sector	All firms	0-5 year	6-10 year	11-20 year	20+ year	Foreign-owned	Exporting
Textiles	6,713.54	-	2,772.00	1,572.08	11,255.03	9,216.79	-
Garments	2,968.05	2,425.50	3,128.13	2,643.10	3,840.38	-	3,128.12
Food	8,335.02	8,261.55	6,931.86	11,187.73	3,671.64	18,498.82	14,680.12
Other man.	7,949.46	8,788.35	6,177.28	8,789.48	9,688.83	12,538.69	14,100.26
Construction	11,039.93	32,340.00	9,573.77	9,377.91	13,813.20	12,695.94	7,652.46
All sectors	8,150.06	8,909.31	6,514.99	9,254.48	8,742.07	13,980.61	13,625.92

Note: n=346; Labour productivity is computed as total annual sales divided by the total number of employees (full time + part time).

Source: Data from the World Bank Investment Climate Assessments, available at: https://openknowledge.worldbank.org/handle/10986/12249

Technology and capacity utilization

Table 11 presents descriptive statistics on technology and technology usage of enterprises from the World Bank survey data. The computation was twofold: (i) it was computed as the level current output of the establishment in comparison to the maximum output possible using its facilities at the time. (ii) The usage of email and website by firms to communicate with clients and suppliers was used to capture such technology as well. On average capacity utilization of all the sectors was above 70 per cent. Whereas the garments sectors had the highest utilization of capacity, the textiles sector had the lowest. Overall the use of email and websites is low in the sector. There is more use of emails than use of websites when the two are compared. While construction uses mainly emails, textile uses websites.

Table 11: Technology

Sector	Capacity utilization	Email	Website
Textiles	61.75	25.00	50.00
Garments	76.67	33.33	0.0
Food	69.67	27.78	7.78
Other man.	70.86	31.62	12.82
Construction		62.50	12.50
All sectors	70.51	32.68	11.76
n	307	357	357

Source: See Table 10.

The indicator of the ratio of temporary to full time staff helps to explain job security and stability issues in the sector. Table 12 illustrates that overall there is more use of permanent than temporary staff. However, the contraction sector, may be by its nature, relies more on temporary than permanent staff.

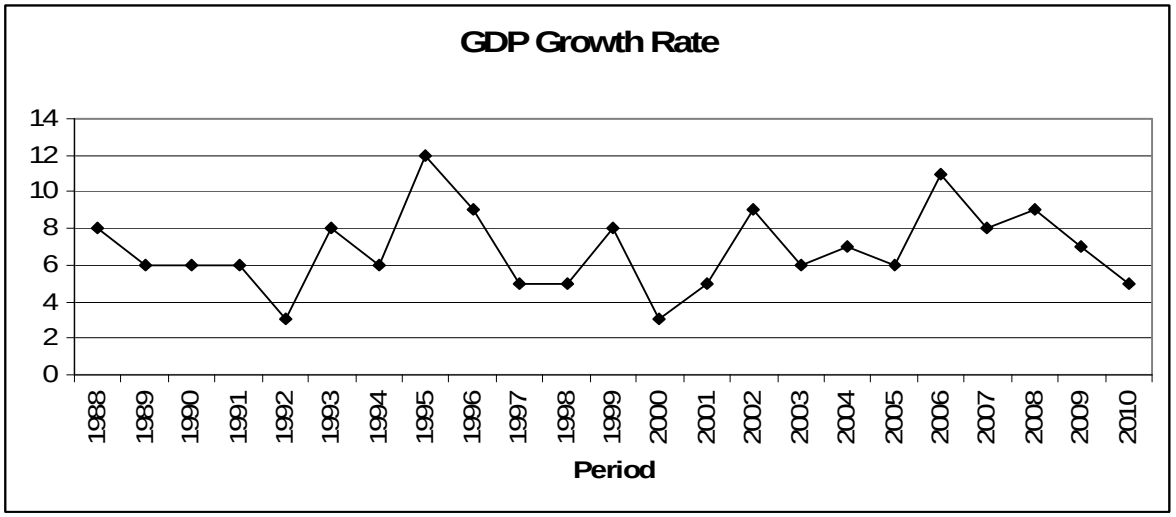
Table 12: The Ratio of temporary to full time staff and number of years of experience of top manager

Sector	Ratio	Years
Textiles	0.49	19.50
Garments	0.20	13.33
Food	0.35	9.94
Other man.	0.26	10.91
Construction	0.87	15.25
All sectors	0.32	11.09
n	358	358

Source: See Table 10.

The garments sector uses the least temporary staff relative to fulltime staff. On the other hand, as presented in column three the number of years of experience of the top manager in the firms surveyed suggests either a younger manufacturing sector or a greater level of firm turnover and very little variation across sectors. The manufacturing sector has shown some signs of rebounding but it is still basic and is largely based on food processing (meat preparation, grain milling, bakery production, dairy production) and drinks and tobacco (beer production and tobacco manufacturing). These two categories constitute over 50 per cent of the sector (Figure 4).

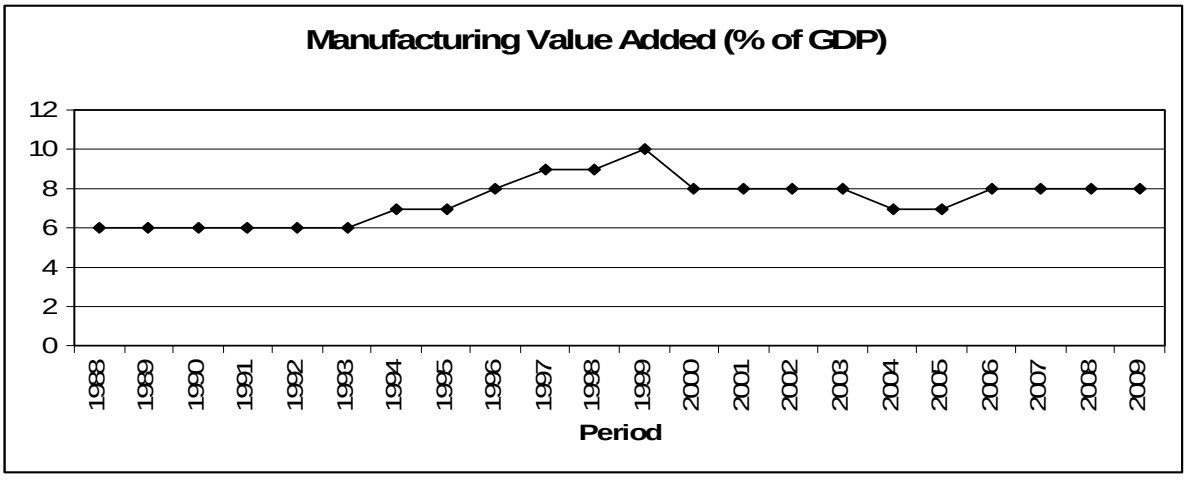
Figure 4: GDP growth rates in Uganda, 1988-2010



Source: Statistical abstracts of the Uganda Bureau of Statistics (several issues).

The manufacturing sector's contribution to total value added is relatively small and has averaged about 7.5 per cent over the period 1988-2009 (Figure 5). The declining trend in the manufacturing sector performance from 1999 is conjectured to arise from increased import competition following the signing of the EAC treaty, as well as excess capacity at plant level owing to infrastructural constraints.

Figure 5: Manufacturing value added (% of GDP)



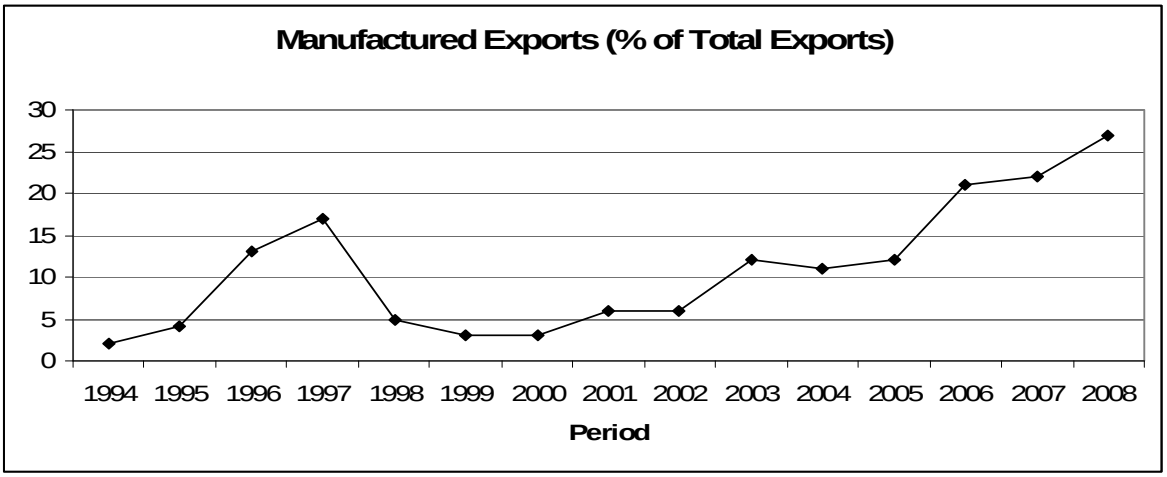
Source: Statistical abstracts of the Uganda Bureau of Statistics (several issues).

Most manufacturing production is largely for the domestic market with manufactured exports contributing an average of about 11 per cent[16] of total exports (Figure 6). The recent improvement

16 This does not take into account what is exported indirectly as inputs into other sectors' production.

in export performance pattern is largely the result of new market opportunities in the Democratic Republic of Congo, Sudan, and Rwanda.

Figure 6: Manufactured exports (% of total exports)



Source: Statistical Abstracts of the Uganda Bureau of Statistics (several issues).

The dismal export performance is certainly a cause of concern especially when seen in light of the enormous market potential in the regional markets given the low levels of industrialization in the region. We conjecture that the low participation rates in the export markets by Ugandan firms may reflect the:

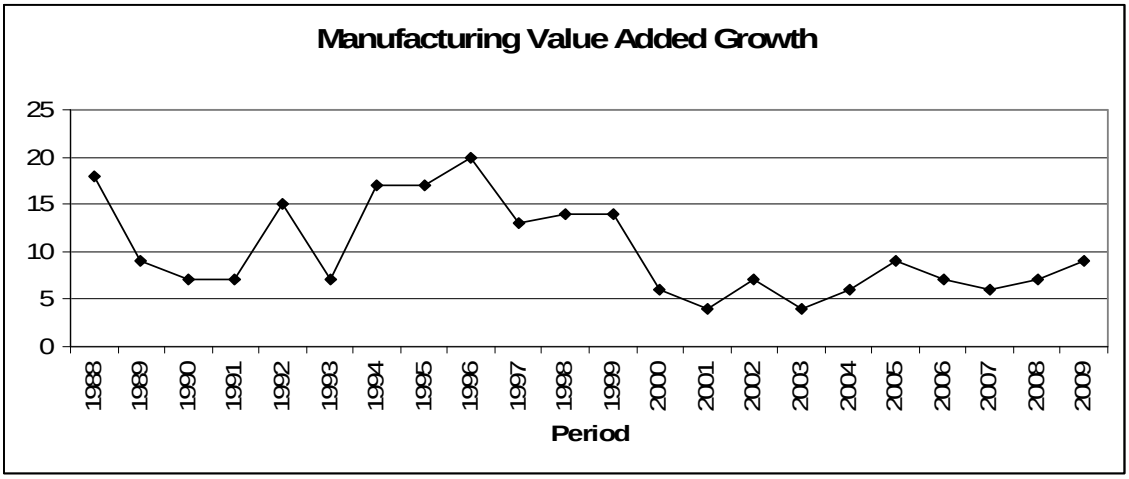
- Underlying bottlenecks (such as infrastructure constraints) that impede export business making it more costly and less profitable;

- Incentive on the part the entrepreneurs to capture the domestic market for most of the basic manufactures following a long period of over reliance on imports. Indeed the primary aim of returning some nationalized manufacturing firms to the private sector was to encourage private investment and promote self-sufficiency in consumer goods; and

- Possibility that some of the domestic manufacturing firms are less efficient than their foreign counterparts and may 'fear' facing competition. Consequently only a few domestic firms that are 'sure' that they are quite efficient and competitive are left to participate in export business (the self-selection hypothesis). It might also be the case that Ugandan firms are relatively new in export markets and thus still in the process of 'learning to exporting'.

It should also be noted that domestic production has not responded to the recent market access opportunities (Figure 7). In fact, increased sales to the export market have been met by domestic shortages which partly explain the recent inflationary episodes.

Figure 7: Manufacturing value added growth



Source: Statistical Abstracts of the Uganda Bureau of Statistics (several issues).

Constraints

The National Development Plan (Republic of Uganda 2010b) identifies a number of binding constraints that should be addressed in order to further improve the performance of the sector. There is poor and inadequate physical infrastructure which makes the industrial sector and the manufacturing sub-sector specifically uncompetitive due to high transaction costs. The technical requisite skills and manpower to run the sector are inadequate lowering productivity and increasing costs of hiring expatriates. Uganda lacks the indigenous capacity to adapt and develop technology and exhibits low science, technology, and innovation capabilities. The Ugandan manufacturing sector heavily relies on imported industrial inputs. The locally available agricultural inputs are characterized by low quality. Access to serviced industrial parks remains a major bottleneck except in some few areas. The running of factories is faced with erratic power supply and high electricity tariffs and high fuel costs compared to Uganda's neighbours. There are serious inadequacies in the domestic transportation and logistics infrastructure (road system, storage, and ancillary facilities) which slow down the movement of high volume products.

Table 13 presents firm's perceptions of the extent to which telecommunications, transport, electricity, finance, crime, and corruption are considered obstacles to growth based on the World Bank survey data. Firms were asked to rank on a scale of 0 to 4 the extent to which they view these factors as obstacles to growth with 0 = not an obstacle, 1 = minor obstacle, 2 = moderate obstacle, 3 = major obstacle and 4 = very severe obstacle. Results suggest that electricity is the biggest constraint to growth followed by transportation. Note that telecommunication is not a major constraint largely because of the rapid growth of the sector following liberalization. Finance is considered as a moderate to a major constraint among firms, while crime and corruption are considered minor obstacles.

Table 13: Constraints to firm growth

Sector	Telecomm.	Transport	Electricity	Finance	Crime	Corruption
Textiles	0.00	1.50	2.50	2.25	0.75	0.75
Garments	1.67	1.33	3.50	1.50	1.17	1.17
Food	0.94	1.69	3.74	2.43	1.03	1.03
Other man.	0.74	1.53	3.48	2.50	0.91	0.91
Construction	1.04	2.00	2.92	1.75	0.63	0.63
All sectors	0.82	1.60	3.50	2.40	0.93	0.93
n	358	358	358	358	358	358

Source: See Table 10.

These bottlenecks lead to increases in transaction costs that make manufactured products uncompetitive. Strategies to address these impediments should primarily target lowering the cost of doing business to increase the competitiveness of the sector.

2.4 Mining and quarrying

The mining and quarrying industrial sub-sector comprises underground or surface mining and all supplementary activities near or at the mining site (UBOS 2007). The mining activities classified in this study include: mining of iron ores; mining of non-ferrous metals; quarrying of stone, sand, and clay; and other mining and quarrying that include extraction of salt.

The mining industry in Uganda has a historical background that started in the colonial times. In the 1950s and 1960s, mining reached peak levels when the sector contributed up to 30 per cent of Uganda's export earnings and 7 per cent of GDP. This trend was reversed due to the political and economic instability that prevailed in Uganda in the 1970s. Although in the 1990s the sector experienced a recovery, the contribution to GDP has since been maintained at less than 1 per cent. The recovery of the sector has witnessed a number of mining companies obtaining licenses leading to the sector growing at an average rate of above 6 per cent per annum. The number of investors licensed in the sector has grown from 91 in 2003 to 517 in 2008 and production volumes have increased from 4,827 tons in 2005 to 17,620 tons in 2007 (Republic of Uganda 2010b). The monetary equivalent in exports grew from UGX 173 million to UGX 153,347 million (Republic of Uganda 2008).

Size distribution

There are no up-to-date statistics that are representative of the mining and quarrying sub-sector as different sources use different methods to categorize and collect data. The Business Register 2006/07 for example, registered only 39 firms in the mining and quarrying sub-sector. This is partly explained by the predominantly informal nature of the activities in the sub-sector which makes it difficult to capture them all. The distribution of mining and quarrying firms based on these statistics is accordingly dominated by the quarrying of stones, sand, and clay (54 per cent). Mining of iron ores and non-ferrous metals accounted for 36 per cent, and others only 10 per cent. The distribution of firms in the sub-sector by employment size band is presented in Table 14 and reveals that the categories employing between 5 and 9 persons represented the highest proportion at 30 per cent. Given that hundreds of informal undertakings in the mining and quarrying sector exist, this analysis is inadequate to reflect what is actually happening on the ground.

Table 14: Distribution of firms in mining and quarrying by employment band

Employment size band	Mining of iron ores and non-ferrous metals	Quarrying of stones, sand, and clay	Other mining and quarrying	Total	%	Scale
0	1	0	1	2	5.1	
1-4	4	0	0	4	10.3	
5-9	3	9	0	12	30.8	Small
10-19	1	5	0	6	15.4	
20-49	2	4	1	7	17.9	Medium
50-59	1	3	1	5	12.8	
100 plus	2	0	1	3	7.7	Large
Total	14	21	4	39	100	

Source: UBOS Business Register (2007).

Most of the activities in the sub-sector are centered on quarrying given that the construction industry is growing at a very fast rate requiring raw material inputs like hard core stones, clay, aggregates, and slates and sand. It is not surprising that the Business Register (UBOS 2007) reported regional distribution concentration largely in Kampala (55 per cent) where most of the construction takes place, followed by the eastern and central regions (15 per cent each), the western region (10 per cent) and the northern (5 per cent) region.

Employment

According to the National Development Plan (Republic of Uganda 2010b) the current employment status in the sub-sector is 130,000 persons and they work as artisans and small-scale miners. These statistics capture both the informal and formal sectors of the industry. In addition, about 700,000 people indirectly benefit from artisans and small-scale mining in the transport, marketing, food vending, and equipment supply sectors. More than 100,000 of the miners work in the production of industrial minerals like salt, clay, sand, aggregates, limestone, and slates. About 50 per cent of these are female. The employment figures from the Business Register (UBOS 2007) survey are very conservative totaling only 1,500 persons. As mentioned, this is explained by the fact that the latter only captures the formal sub-sector leaving out the informal sector which consists of possibly more than 90 per cent of employment.

Ownership

The ownership of the firms in the mining and quarying sub-sector in this analysis is captured along business unit groupings as reported in UBOS (2007), and nationality computed from the Bank of Uganda (Central Bank) private sector investment survey data. The most dominant type of business units is the private limited company, accounting for more than half. This is followed by the sole proprieter that consists of close to a third of the firms. Partnerships are the least common form of ownership. The Private Sector Investment Survey (2009) data reveals that the majority of firms are owned by foreigners as demonstrated in Table 15. In addition, the proportion of foreign ownership is increasing.

Table 15: Ownership of firms in mining and quarrying between 2007 and 2008

	2007		2008		2009	
Ownership	Number	%	Number	%	Number	%
Joint-venture majority foreign	11	38	11	39	11	48
Wholly foreign	12	41	12	43	12	52
Wholly local	6	21	5	18	-	-
Total	29	100	28	100	23	100

Source: Authors' calculation using private sector investment survey data from the Bank of Uganda.

When the informal sub-sector is considered, it is largely dominated by local ownership although the exact magnitude is not known. In addition, the businesses are mainly under sole proprietorship operating on a very small-scale.

Constraints

Uganda has large under-exploited mineral deposits of gold, oil, high-grade tin, tungsten/wolfram, salt, beryllium, cobalt, kaolin, iron-ore, glass sand, vermiculite and phosphates-fertilizer (MTTI and UNIDO 2007). A discovery of petroleum wells in the Lake Albert region has enhanced the sector. Over the period 1997 and 2008, a total of US$500 million in private capital was invested in upstream activities in the oil and gas sector (Republic of Uganda 2010a; 2010b).[17] There are also significant quantities of clay and gypsum. Uganda provides special incentives to the mining sector with some capital expenditures being written off in full. In addition to the known mineral deposits identified, Uganda has the potential to produce a variety of other important minerals such as platinum, nickel, diamonds, and rare earth elements. However, there are constraints that impede the performance of the sub-sector that should be addressed. These include: inadequate infrastructure, in particular transport and power; land encumbrances following prolonged land legislation; limited access to appropriate technologies and equipment; inadequate human resources (skilled personnel like geologists); and inadequate basic geological data for mineral exploration and land use planning.

2.5 The construction industrial sub-sector

The construction industry consists of all those industries involved in the construction, maintenance and renovation of residential, commercial, and industrial structures. The Business Register (UBOS 2007) primarily includes the following sub-sectors: general construction, clearing of building sites, and the demolition or wreckage of buildings, and other structures. In addition, it includes: civil engineering, work alterations, repair of buildings, plumbing, installations, plastering, and glazing.

The construction industry has experienced tremendous growth following the liberalization of the Ugandan economy during the 1990s. Investment into the sector initially saw the rehabilitation of a number of public and private residential, commercial, and institutional premises. After the rehabilitation phase, investment into the sector has been dominated by construction of new private and public infrastructure. This is evidenced by the sector's contribution to GDP in the recent past that has grown at an annual rate of 12 per cent from an average of 5 per cent in the 1990s and early 2000s. Overall the construction and building sector during 1991 to 2009 experienced growth in

[17] Upstream activities include exploration and production.

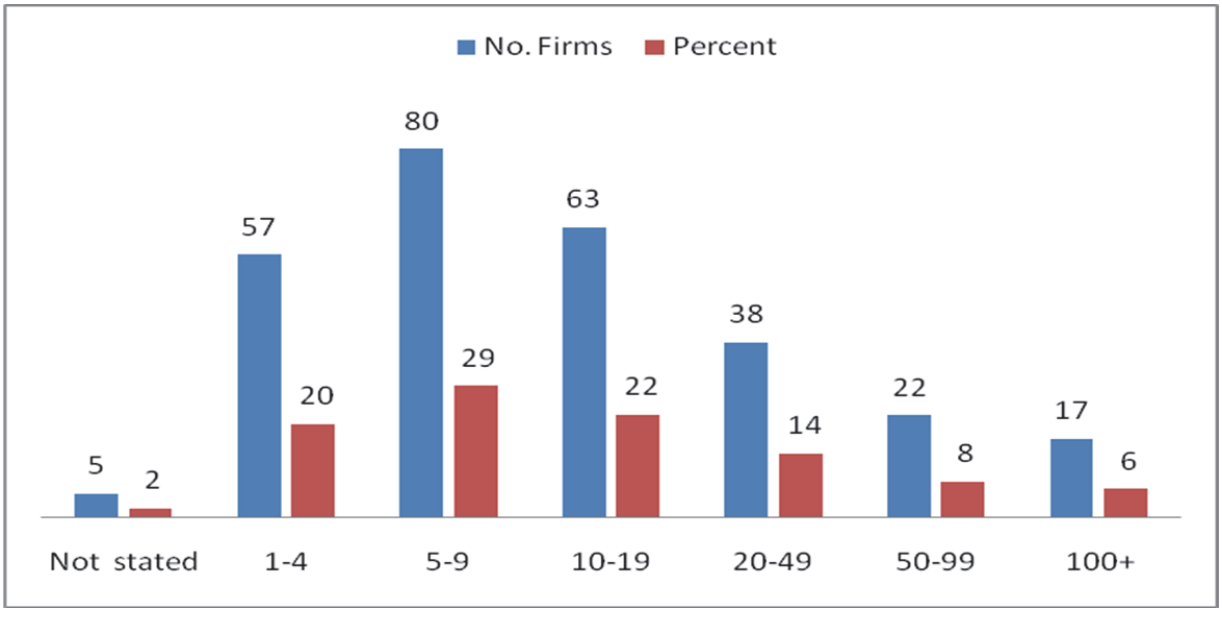
investment which is reflected in the growth rate and contribution to GDP. The contribution to GDP was 4 per cent in 1989, increased to 7.7 per cent after 10 years and by 2010, it was 15 per cent.

The production of building materials is an important element of the construction sector. However, enterprises in the sector still heavily depend on imported machinery, spare parts and imported raw materials. This is largely due to operation below capacity, poor management, low levels of working capital, and obsolete plants and machinery. Currently, imported construction items include cement, lime, floor and wall tiles, sanitary ware, plumbing pipes and associated fixtures, glass, ironmongery including hinges, door lock handles and pulls, steel reinforcement structures, electrical items, including water heaters, light fittings, switch control units, metal socket boxes, among others. Other small items such as nuts, bolts, screws, rivets and washers are also imported. Although in the short-term, a wide range of opportunities for the importation of a number of these building and construction materials exists, in the medium- to long-term a number of them can be manufactured locally. This will create self-sufficiency in their supply and lead to exports especially to the East African Community partner countries and other regional countries.

Size distribution

The Business Register (UBOS 2007) coverage of the construction industry was restricted to only firms employing five persons and above in which a total of 282 construction firms were surveyed. The distribution of construction firms by employment size band is given in Figure 8. The firms employing between 5 and 9 persons had the highest proportion at 29 per cent followed by firms employing between 10 and 19 persons with 22 per cent. The least number of firms were those employing 100 or more persons. Overall, the construction industry is dominated by small-scale firms with medium- and large scale firms accounting for less than 15 per cent.

Figure 8: Construction industry firms by employment band



Source: UBOS (2007).

Regional distribution

The regional distribution of firms follows a similar pattern to that of other industries. The UBOS (2007) survey shows that Kampala had the highest number of construction firms accounting for 63 per cent. This was followed by western and northern regions each with 11 per cent. The central region had 9 per cent and the eastern region had the lowest proportion of construction firms accounting for only 6 per cent. When Kampala is considered as part of the central region, then the region ends up with close to three quarters of the construction firms in Uganda. The distribution is thus skewed regionally.

Employment

The estimated total employment in the sector was close to 9,000 persons in 2007. This suggests that the average number of persons employed in a single construction firm was approximately 30 given that 282 firms were involved. The industry is dominated by male employees (78 per cent). These statistics are rather limiting and misleading as in reality the sub-sector employs many more people. There are many casual workers in the construction industry who significantly contribute to the sub-sector and yet they are not captured in these data. Furthermore, the informal component of the construction industry is not included and yet it plays a significant role with regard to employment.

Ownership

Out of the 282 construction firms in the Business Register (UBOS 2007) survey, close to 80 per cent of them are private limited companies. This is followed by sole proprietorships with approximately 8 per cent and partnerships with 7 per cent. Table 16 illustrates the domestic and foreign ownership of firms in the construction industry.

Table 16: Ownership in construction industry

Ownership	2007		2008		2009	
	Number	%	Number	%	Number	%
Joint-venture majority foreign	38	18	35	16	29	14
Joint-venture majority local	8	4	8	4	8	4
Wholly foreign	98	46	99	46	99	48
Wholly local	71	33	75	35	72	35
Total	215	100	217	100	208	100

Source: Authors' calculation using private sector investment survey data.

Opportunities

The majority of the firms are wholly owned by foreign entrepreneurs and this is close to a half. About a third is wholly locally owned. Joint ventures that constitute about 20 per cent have a majority ownership by foreigners. This analysis suggests that the construction industry is dominated by foreign ownership. The established local and foreign firms in the building and construction industries are many and the number is increasing every year. With the strengthening of the private sector, the building and construction industry is providing further scope for trade and investment opportunities in the following areas: provision of low-cost housing to cater for the majority of the population especially in the urban and peri-urban areas; provision of housing and mortgage finance

to enable the majority of Ugandans to own residential houses; construction of commercial and industrial buildings; and manufacture of prefabricated concrete systems and sanitary wares.

Uganda also has a road construction programme requiring the construction of many roads both in the medium- and long-term. The Uganda National Road Authority is mandated to develop and maintain the national roads network totalling to about 20,000 km, manage ferries linking the national roads network and controlling axle overloading. This means that large amounts of raw materials like aggregates, sand, steel, timber, cement, paint, and others will be required. Therefore, opportunities are available in the setting up of factories to manufacture lime, cement, and paint and the establishment of quarries to produce aggregates, sand, and timber for the construction of bridges, fly-overs, among others.

2.6 The electricity supply sub-sector

The current composition, spatial distribution, employment, and ownership status of the electricity supply sub-sector in Uganda is a function of the institutional and regulatory reforms conducted since 1999. At the peak of public sector reforms in Uganda in 1997, the Government formulated a comprehensive and detailed Strategic Plan and an Energy Policy aimed at transforming the Uganda power sector into a financially viable electricity industry (Mutambi 2010). This was followed by a new Electricity Act enacted in 1999, which provided for the establishment of an independent regulator, the Electricity Regulatory Authority (ERA). ERA was given responsibility for setting tariffs and other charges, issuing licenses for generation, distribution and transmission, regulating the quality of service and technical standards, and enforcing compliance. Before the reforms, the electricity sector was managed by a parastatal called the Uganda Electricity Board that handled generation, transmission, and distribution.

The successor companies following privatization were registered in accordance with the Companies Act under the following names: Uganda Electricity Distribution Company (UEDCL); Uganda Electricity Transmission Company (UETCL), and Uganda Electricity Generation Company (UEGCL). The UEDCL Ltd. owns the electricity supply infrastructures that operate at 33 kV and below. Under a 20-year concession, its assets were leased to Umeme Ltd. in 2005. The UETCL Ltd. owns and operates the grid connected electricity supply infrastructure operating above 33kV. It is the sole company responsible for buying power in bulk from generators and selling it to the distribution company. The UEGCL Ltd. owns the Kiira and Nalubale hydro-electric power stations which were leased to Eskom (U) Ltd in April 2003 under a 20-year concession agreement. In addition, the Electricity Act set up a Rural Electrification Fund to promote rural electrification.

Size distribution

The distribution within the electricity sector can best be explained in light of these reforms. The response to the reforms was positive; however, new challenges related to power generation threatened the productive sectors of the economy that rely on electric energy. An electricity crisis effectively started in 2005 owing to the limited generation of hydro-electric power from Nalubaale and Kiira. The installed capacity at the plants in Jinja was 380 MW (180 MW at Nalubaale and 200 MW at Kiira power plants), however, real generation was far below this capacity at only 110 MW (Figure 9). This was due to the reduced water level of Lake Victoria as a result of a drought in the region since 2003. Although both stations stabilized generation between 2006 and 2009, the output

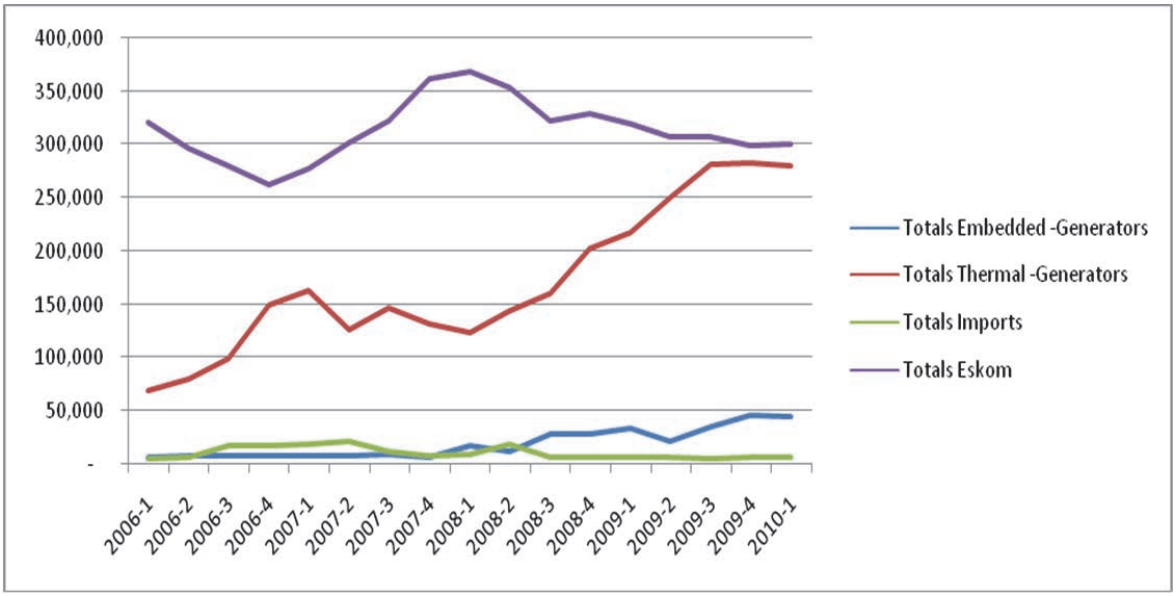
was less than 140 MW, way below the installed capacity. Uganda has continued to experience shortfalls that have prompted varied responses to increase installed and generation capacities.

Figure 9: Variation between installed and actual power generation at Kira and Nalubale (MW)

Source: Data from the Electricity Regulatory Agency.

As a result of further reforms, a number of firms joined production including thermal power providers (see details in Appendix Table A1). As part of the short-term solution to the power problem, the Government of Uganda contracted thermal generation companies like Aggreko International Power Projects, an independent power producer, to supply additional MW of electricity from diesel fueled generators in May 2005. This increased power generation with the hydropower generated at Owen Falls being around 140 MW plus the thermal generators (100 MW). However, the amount generated was not sufficient to satisfy the demand for electricity, which was around 390 MW in peak periods (18:00 hrs to midnight), 285 MW in shoulder periods (06:00-18:00 hrs) and 220 MW in off-peak periods (midnight to 06:00 hrs). This problem is compounded by the fact that thermal power, generated to make up for the reduced hydropower generation is ten times more expensive than the hydropower from Owen Falls (ERA 2008) and yet it constitutes a substantial proportion (Figure 10) of the total electricity generated in Uganda.

Figure 10: Trends in the hydro- and thermal-power generation (MW)



Source: Data from the Electricity Regulatory Agency.

This has strong implications on the end-user tariffs which almost doubled in 2006. In response, the government provided subsidies to the sector amounting to UGX 92 billion a year, which was increased to UGX 115 billion in FY 2006/07. The problem was exacerbated by the increase in the international oil prices during FY 2007/08 which had an adverse negative impact on the sector. There are ongoing heavy investments in hydropower generation in Uganda, such as Karuma. Bujagali Energy Limited with a large capacity of 250 MW was completed in 2012 and is operational. This is in addition to several small-scale power generation plants (from hydropower and cogeneration) at various stages of development which aggregate to as much as 100 MW.

Employment

The three segments of the electricity supply sector are generation, transmission and distribution. The generation segment employs mainly permanent workers, followed by contract workers and expatriate workers. The available statistics relating to the generation segment only include employees in the ESKOM Company. This may not give a complete reflection of the employment status at generation level, however given that ESKOM is the main company, it gives a rough picture. In the transmission segment, employment is predominantly contract and casual. The distribution segment (Umeme Ltd.) has the largest number of employees who work on a permanent basis. The company also employs contract and casual laborers but on a limited scale compared to the transmission company. Appendix Table A2 gives details of the types of employees of the three companies on an aggregated basis which illustrates that permanent workers constitutes the largest proportion followed by casual and contract. Employees contracted on an expatriate basis are extremely few.

Connectivity and consumption

Uganda has limited access to energy which negatively impacts on the economic and social transformation of the economy. Whereas biomass accounts for 92 per cent of total energy consumed, fossil fuels account for 7 per cent, and electricity only 1 per cent (Republic of Uganda

2010a; 2010b). Furthermore, households consume most of this energy rather than industries – 70 per cent for households, 13.6 per cent for commercial activities, 10.7 per cent for industrial use, and 5 per cent for transport. This pattern of energy consumption highlights the low levels of industrial development in the country (see Appendix Tables A3 and A4 for more details).

Of the 1 per cent of electricity energy in use, most is consumed by industries. The National Development Plan reports that 29.3 per cent of hydropower consumption is in residential activities, 13.2 per cent for commercial, and 57.5 per cent for industrial activities. Access to hydro-power is extremely low owing to the limited national power grid coverage and low generation capacity. In the most disadvantaged rural areas 6 per cent of the households have access to grid power, compared to 40 per cent of households in urban areas. Regarding geographical coverage, the transmission network consists of 1,100 km of 132 kV and 54 km of 55 kV network (Republic of Uganda 2010a; 2010b). In 2009, the number of domestic consumers connected to the grid stood at 282,194, commercial consumers at 22,243, medium industrial consumers at 918 and large industrial consumers at 189 (ERA database). This illustrates the coverage of electricity and consumption by the different agents in the economy which is rather poor.

Constraints

The main source of electrical power in Uganda is hydropower. It is estimated that Uganda has the potential to produce 2,000 MW although its current production is extremely low. At the regional level, Uganda has a comparative advantage in hydropower resources. Most of Uganda's hydropower potential is concentrated along the White Nile in addition to several small rivers in different parts of the country, with a potential for mini and micro hydropower development. However, the sector has encountered constraints at generation level as discussed above. In addition, there are losses during distribution (both technical and commercial) estimated at 31 to 35 per cent (ERA 2008) which is a huge cost to the company that is eventually passed on to the consumers. Furthermore, Uganda's current electrification rate is extremely low. It will require heavy investment to reach most rural areas.

2.7 Water supply

About 18 per cent of Uganda's total area (241,038 km^2) is under water and swamps in the form of lakes and rivers, some of which are navigable.[18] The lakes and rivers include Lake Victoria (shared with Tanzania and Kenya), Lake Kyoga, and Lake Albert and George (shared with the Democratic Republic of Congo). The main rivers include; Kagera, the Victoria Nile, and the Albert Nile. At present both motorized and non-motorized vessels use the lakes and rivers. Routes for wagon ferries include Port Bell-Mwanza and Port Bell-Kisumu and these connect to the rail network. There are seven bridge vehicles ferries; three on Lake Victoria, two on Victoria Nile, one on Lake Albert, and one on Albert Nile. The potential for water transport is immense as Uganda is endowed with many navigable water bodies. It is noted however, that water transport has over the years declined due to a number of factors including poor management of the infrastructure and the state of disrepair. There is potential for investment in this area, especially on the major lakes, and specifically Lake Victoria that is shared by three of the East African Countries.

[18] The information is obtained from the Uganda Bureau of Statistics Statistical Abstracts

Water is a very important ingredient in industrial production. It is likely that every manufactured product uses water at some stage of the production process. Particularly, the industries that produce metals, wood and paper products, chemicals, gasoline and oils, among others, are major users of water. Industrial water use includes water used for such purposes as fabricating, processing, washing, diluting, cooling, or transforming a product; incorporating water into it; or for sanitation needs within the manufacturing facility. The National Development Plan (Republic of Uganda 2010a: 2010b) identifies the major uses of water for production as: water for crop irrigation, fish rearing, livestock farming, industrial processing, and wildlife conservation. Uganda's industrial base is mainly based on agro-processing: fish processing, sugar, tea, cooking oil, dairy processing, breweries and soft drinks. Factories for textile, paper products, and tobacco processing are now playing an increasingly important role.

In Uganda, the water and sanitation sector is grouped into the following components: water resources management; rural water supply; urban water supply and sewerage; water for production; and sanitation. A number of government departments/parastatals manage the water resources (MWE 2009): The Directorate of Water Resources Management monitors, assesses, allocates, and regulates water resources through the issuance of water abstraction permits and water discharge permits. In addition it co-ordinates the country's participation in the joint management of trans-boundary water resources and peaceful co-operation with the Nile Basin riparian countries. The Directorate of Water Development regulates water services and provides the overall technical oversight for planning, implementation, and supervision of delivery of both urban and rural water and sanitation services. The Directorate of Environment Affairs promotes and ensures rational and sustainable utilization of water resources. The National Water and Sewerage Corporation operates and provides water, and sewerage services in a number of designated urban centres across the country. Finally, the National Environment Management Authority manages the environment to ensure compliance with discharges into public water and the maintenance of environment flow through the limitation of excess abstraction of water.

2.8 Sunset and sunrise industries in Uganda

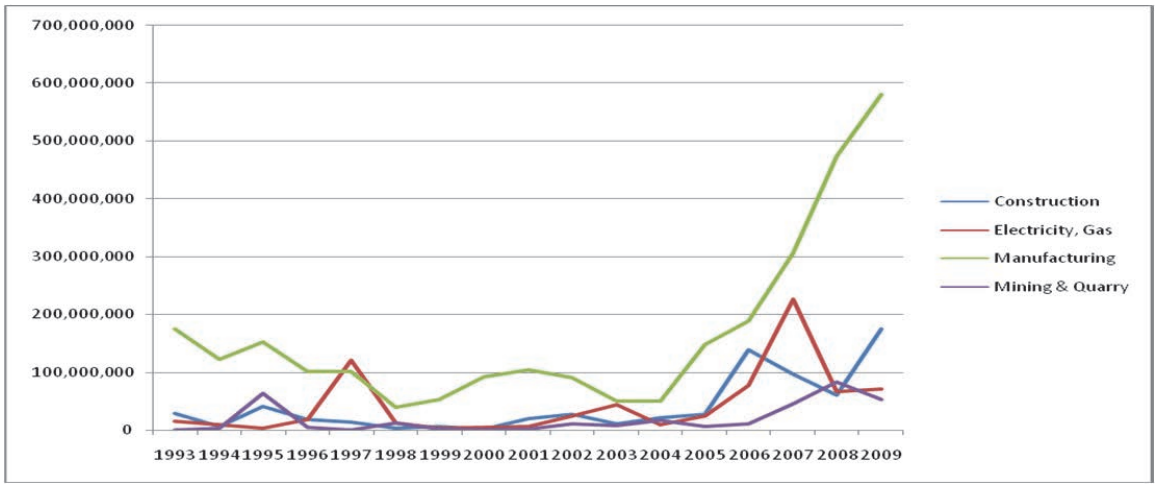
A sunset industry is an industry on the decline, has passed its peak or boom periods and production levels are progressively declining. A typical example is the analogue recording technology for audio or video that has been overtaken by the digital technology. Although analogue equipment is still used, the quantities sold and used have declined dramatically and are unlikely to recover. On the other hand, a sunrise industry is one that is new or relatively new, is growing fast and is expected to become important in the future. Examples of sunrise industries in Uganda include the Information, Communications Technology sector that has grown tremendously. In the last two decades, Uganda like the most of the world witnessed phenomenal growth in the telecommunications sector. This growth is attributed to the deregulation and liberalization policies pursued by the government, and the major strides made in technological advancements.

The telecommunications sector is characterised by heavy involvement of multi-national companies in Uganda which include: MTN, Orange, Uganda Telecommunications Limited, Warid, and Airtel with a total subscription about half of Uganda's population (16 million). In 2009, the total turnover in Uganda's communications sector was US$600 million, while the total investment was US$240 million having grown from only US$15 million between 1999 and 2000 (UCC 2010). The investments largely arise from the steadily increasing revenues that doubled between 2005 and 2009 from US$303 million to US$700 million (UCC 2011). The telecommunications sector contributions

to tax revenue (VAT, Excise and PAYE) tremendously grew to over US$80 million in financial year 2010/11 (UCC 2012). The growth in revenue and investment in the sector has generated employment opportunities directly and indirectly estimated to be 300,000 persons, who are mainly employed as network engineers, sales personnel, air-time vendors, among others. Overall, posts and telecommunications contributed 3.4 per cent to Uganda's GDP (UCC 2010).

There is however, evidence that the firms producing construction materials like cement, steel products, building, and roofing materials are also on the rise and are expanding at a fast rate attracting a lot of investment as is shown in Figure 11.

Figure 11: Trends in investment in industrial sub-sectors (US$)



Source: Data from the Uganda Investment Authority.

Manufacturing has attracted the largest proportion of planned investment although the performance of individual firms within the industrial sector varies significantly warranting further empirical analysis (details in Appendix Table A7).

The textile industry has been on the decline and is facing a number of challenges that are both internal and internal in nature. The Ugandan textile sub-sector came to the limelight in the 1950s and 1960s, under the then UDC. The sector worked with international partners like the Calico Printers of the United Kingdom and YAMATO International plus Asian companies to establish mills across Uganda (Republic of Uganda 2009). These were established largely up-country, near sources of either raw materials or energy and prominent among these were: Nyanza Textile Industries Ltd. in Jinja, Mulco Textiles in Jinja, African Textile Mills in Mbale and Lira Spinning Mill in Lira. A national Textile Board was established in the late 1960s to guide textile industry activity in Uganda that focused on import substitution. However, following the nationalization policy in the early 1970s, the textile mills in Uganda were nationalized. This marked the beginning of the sub-sector's journey to decline when all mills virtually closed.

By the time of the divestiture of the government owned mills in the 1990's, machinery was obsolete due to a long period of disrepair and mismanagement across the board. At its peak in 1972/3 the textile industry consumed approximately 400,000 bales of cotton. Due to deterioration of the sector, the current consumption of cotton lint is about 15,000 bales per annum. Among other constraining factors are rampant counterfeits, second hand clothing and undervaluation/declaration of imports

that continue to undermine the sub-sector's performance. Technology is another key area of concern which needs upgrading to enhance the competitiveness of the overall textile industry. Access to credit remains a challenge as the interest rate is extremely high (between 18-24 per cent). As a result there is no expansion in addition to perpetuation of idle capacity. Uganda has only two functional vertically integrated textile mills and several garmenting factories which are all operating below capacity. Mills like Mulco, African Textile, Rayon Textiles, as well as Lira Spinning are closed.

2.9 Sum-up

This section described the current structure of industry in Uganda. There are no up-to-date statistics that are representative of the current state of the industrial sector. Although an effort has been made in this paper, it is limited by gaps and inaccuracies in the data. One of the major limitations is the dominance of the industrial sector by informality which renders it difficult to capture the true state of the sector as most surveys concentrate on the formal sector. This is a major limitation as the informal sector is quite widespread and a major component of the manufacturing industrial sector in Uganda. The UBOS Business Registry was published in 2007 using data collected prior to this date and so they are approximately five years out of date.

Notwithstanding this caveat, we describe the industrial sector in Uganda and its sub-sectors including manufacturing, construction, mining and quarrying, electricity, gas, and water. Although in the 1960s and 1970s Jinja Town in eastern Uganda was the major industrial hub, Kampala, the Capital City located in the central region has emerged as the major industrial town in Uganda in the last few decades. There is a high concentration of industrial activity in the central region of Uganda and more specifically Kampala.

Using employment bands as a criterion for categorizing firms, Uganda has a very small proportion of large-scale manufacturing firms. There is a dominance of small-scale manufacturing, many of which are in the informal sector. Therefore industry is dominated by mainly small-scale industries, a few medium enterprises with large scale enterprises accounting for a very small proportion. Although manufacturing significantly contributes to employment, the current published statistics are not accurate. While the statistics arising from the surveys on the formal part of the sector suggest relatively low employment levels, it is expected that including the informal sub-sector would magnify the employment number more than ten times.

Sole proprietors and public limited companies form the major type of business ownership in Uganda followed by partnerships. The data do not include public limited companies, although in reality few exist in Uganda. The majority of the firms are foreign-owned and there is a growing tendancy for foreign ownership to increase both at joint venture and whole ownership level. However, this is as far as the formal part of the sub-sector is concerned. The informal part of the sub-sector is largely dominated by local ownership although the exact magnitude is not known.

The industrial sector is faced with bottlenecks which result in very high transaction costs that make the manufactured products uncompetitive. Uganda has limited access to energy which negatively impacts on the economic and social transformation of the economy. Access to hydro-power is extremely low owing to the limited national power grid coverage and low generation capacity. The coverage of electricity and its consumption by the different agents in the economy is extremely limited. Although Uganda invests heavily in the energy sector, the demand for power has

outstripped supply creating a significant deficit that represents one of the biggest constraints to the expansion of the industrial sector in Uganda in the future.

3 The industrial policy framework

3.1 Introduction

The last two decades have seen a considerable shift in the industrial strategy of many African countries from direct government participation to more indirect approaches, driven mainly by fiscal and external balance considerations. The cost of direct investment in (and subsidization of) the industrial sector was becoming increasingly unbearable in view of the huge public sector deficits that characterized many developing countries in the 1980s. The need to shift to manufactured exports was also quite compelling in light of the dwindling earnings from primary exports. It was also expected that this strategy would boost investor confidence and thereby help relax technological and capital constraints.

Whereas industrial policy has changed quite considerably in many developing countries, there remains some degree of variability in approach across countries. Some countries opted for a more or less laissez-faire approach while others opted to maintain some degree of direct interventionism. The laissez-faire approach is in line with classical economic thinking in which the state limits its role to putting in place a conducive investment environment (through for example provision of basic infrastructural services and a system of law and order) and allowing the market mechanism to shape the structure and pace of industrial development. The classical framework would also permit some degree of public investment but only on the basis of financial viability (Dervis and Page 1984). The interventionist approach is partly in line with the spirit of new growth theory and allows for some level of protection for (and direct public investment in) certain industries if for example they generate large multiplier effects or if this promotes more technologically dynamic sectors (Rodriguez and Rodrik 1999).

This section provides a description of Uganda's industrial policy framework and relates it to observed outcomes in industrial development and structure. It aims to provide policy makers with insights on the usefulness (or otherwise) of the different policies so as to inform the future policy direction. Since discrepancies usually exist between what is stated in policy documents and actual practice, the descriptive analysis goes beyond the sector-specific polices and the institutional and regulatory framework as stipulated in the country's industrial policy to cover broader macroeconomic and trade policies as well. We begin by presenting the policies affecting the industrial sector followed by an overview of the broad trends and directions in Uganda's industrial sector. This section ends with some concluding remarks.

3.2 The policy environment and the industrial sector in Uganda

The importance of industrialization in the process of economic transformation and development is widely recognized. Industrialization for example not only provides synergies with other domestic sectors but also tends to be associated with favourable balance of payments outcomes. Uganda's desire to industrialize should thus be understood in this context.

Following a period of poor economic performance and almost virtual collapse of what was once a very promising industrial sector in the 1970s and early 1980s, Uganda embarked on a broad range of

policy and institutional reforms in the late 1980s and early 1990s to revamp the economy in general and to promote growth of its industrial sector (Siggel and Ssemogerere 2004). The reform process was mainly guided by the philosophy that the market is more efficient in the allocation of resources. The main thrust of the reform process was thus to reduce the role of government in the economy and to promote the role of the private sector. The main considerations in this framework included provision of a conducive macroeconomic environment and infrastructure in order to enhance investment and competitiveness, as well as regulatory and policy oversight. Efforts were also undertaken to expand the market potential for manufactured products both domestically through supporting high GDP growth rates and within the region through the country's active participation in regional economic groupings. Generous incentives (through the tariff code for example) continue to be provided to support both local and foreign investment. This section presents an overview of the industrial policy framework.

Macroeconomic policies

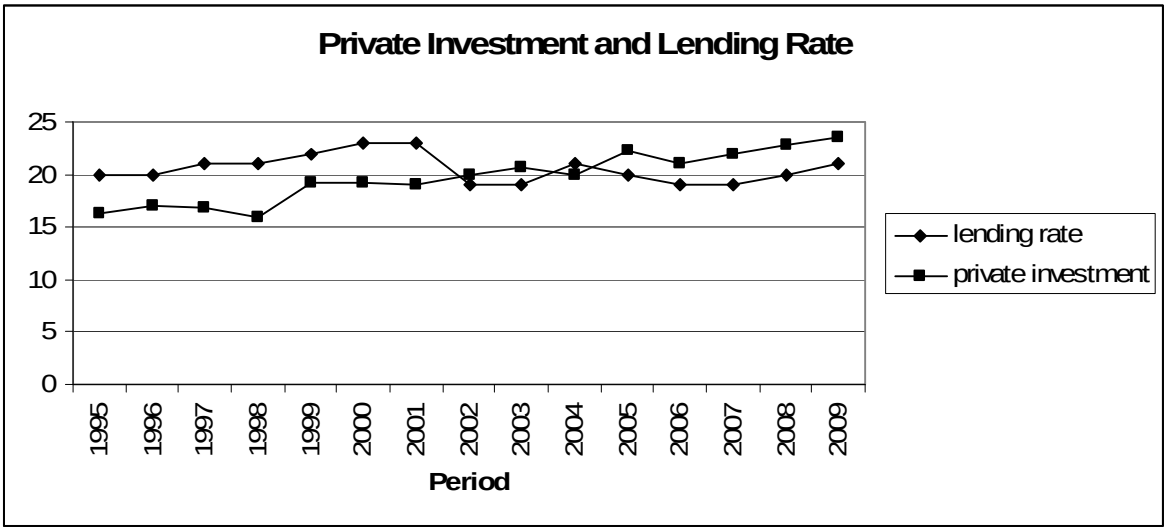
A stable macroeconomic environment increases investor confidence and facilitates long-term planning. It is thus an important prerequisite in the promotion of market-led industrialization. A stable macroeconomic environment in turn requires consistent alignment of monetary and fiscal policies. The competiveness of a country's products and the level of the exchange rate also bear a close conceptual relationship. The main goal of monetary policy since the early 1990s in Uganda has been attainment of a low and stable general price level. The Bank of Uganda uses a monetary targeting approach to monetary policy under which it monitors developments in the base money and weekly indicators of inflation and Treasury bill rates (Katarikawe and Sebudde 2000). The restoration of the productive capacity of the economy coupled with prudent monetary policy implementation have resulted in a decline in the inflation rate from a peak of 250 per cent in 1987 to an average of less than 5 per cent between 2000 and 2010.[19]

The fiscal deficit on the other hand has continued to increase. The deficit as a percentage of GDP increased from about 2 per cent in 1991 to about 7 per cent in 2011. The commitment to price stability and availability of good will from Uganda's development partners have resulted in increased reliance on aid financing. Whereas this approach to deficit financing is considered to be more benign, it poses a serious threat to macroeconomic stability. Monetary authorities have thus had to respond to the increased donor inflows through the sale and purchase of treasury bills[20] and foreign exchange market operations. These responses can, however, limit private sector access to credit and investment, and spur an appreciation of the exchange rate which can in turn hurt export competitiveness. Increased reliance on net treasury bills transactions has not only resulted in high levels of interest rates but has also increased their volatility. High and volatile interest rates discourage private sector demand for credit (Figure 12).

19 Increasing food prices have, however, pushed the inflation rate to 21.4 per cent as of August 2011.

20 In 1992, the government surrendered the treasury bills instrument to the Bank of Uganda and since then it has been entirely a monetary policy instrument.

Figure 12: Commercial bank lending rate and private investment



Source: Bank of Uganda Annual Reports (various years).

Treasury bills also provide a risk-free, yet high yield investment opportunity to commercial banks. Indeed, commercial banks in Uganda hold about 90 per cent of all the outstanding stock of treasury bills. This reduces the resources available for private sector borrowing. This becomes a matter of great concern to policy makers especially given the fact that the policy thrust has been to promote an increased role of the private sector participation in the economy.

By increasing the supply of foreign exchange, net sales of the intervention currency alter the market equilibrium and spur a nominal appreciation of the exchange rate. This may according to standard economic theory render the exports of the domestic economy to become less competitive. High treasury bill rates have also started to attract portfolio inflows. Portfolio inflows are normally associated with temporary domestic currency appreciation.

Trade policy reform and its implications for industrialization in Uganda

Uganda's external trade policy has undergone substantial reform over the last two decades in line with the policy-based lending programme of the World Bank and World Trade Organization (WTO) rules. At the heart of the reform process has been a reduction and harmonization of tariffs, exchange rate devaluation, and a relaxation of quantitative trade barriers. Uganda also continues to participate actively in regional economic groupings. It is a founding member of the East African Community (which is now a Customs Union). It also gives preferential market access to imports from the COMESA trading block.

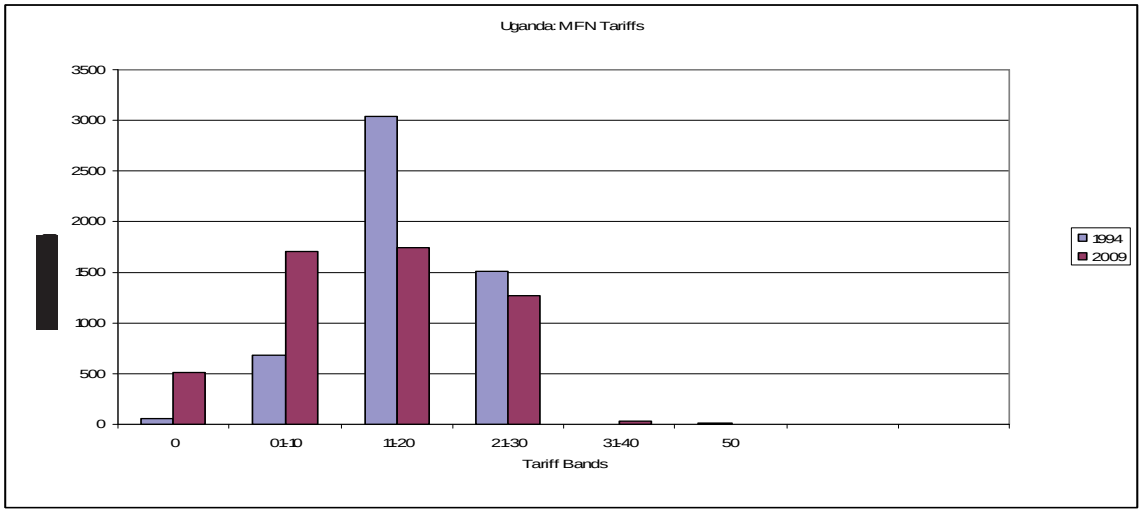
The tariff reform process has resulted in a decline in the average most favoured nation (MFN)[21] rate from 19 per cent in 1994 to 11 per cent in 2005 though it rose slightly to 15 per cent in 2008

[21] MFN is the tariff rate that should generally be applied by a country on products from all World Trade Organization member countries, except in special circumstances such as where free trading arrangements exist, or where some (usually developed) countries give special access to their markets for some products from developing countries, etc.

following the implementation of the CET in the East African Community. The number of tariff lines in the lower bands (of 0 and 1-10) has also increased (Figure 13).

At the conceptual level, the relationship between tariff reduction and industrial sector outcomes is indirect and is mediated by among other things, the response of domestic import competing industries through the elasticity of supply, the domestic economy's elasticity of demand for imports and the nature of imports themselves whether they are production inputs or final consumption goods. Uganda's import demand elasticity is estimated to be -1.22 (Hiau, Nicita, and Olarreaga 2005).

Figure 13: Ad valorem MFN tariff bands in Uganda

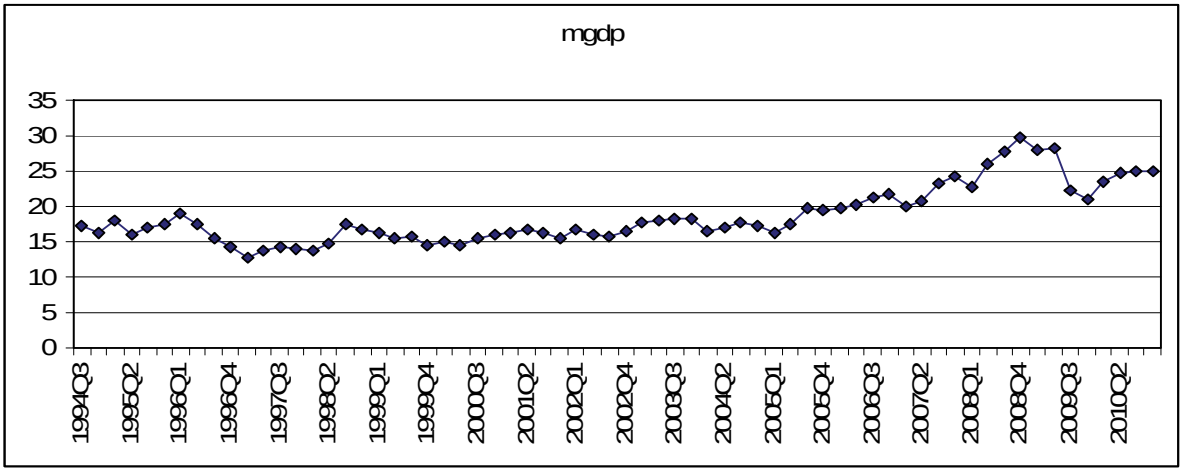


Source: Authors' computation from the TRAINS data set in WITS.[22]

In general, this suggests that there is only limited substitutability between imports and locally produced goods. This has, combined with tariff reductions which have been undertaken as part of the trade policy reform process, to result in increased imports (Figure 14).

[22] Trade Analysis and Information System (TRAINS) is a comprehensive database at the most disaggregated level of Harmonized System (HS), covering tariff and non-tariff measures as well as import flows by origin for more than 150 countries. It is operated by the UNCTAD. World Integrated Trade Solution (WITS) is application software developed by the World Bank with close collaboration with UNCTAD. It is aimed at integrating under one application such trade-related databases as UNCTAD-TRAINS and WTO IDB and CTS databases, as well as UN COMTRADE.

Figure 14: Import as a percentage of GDP

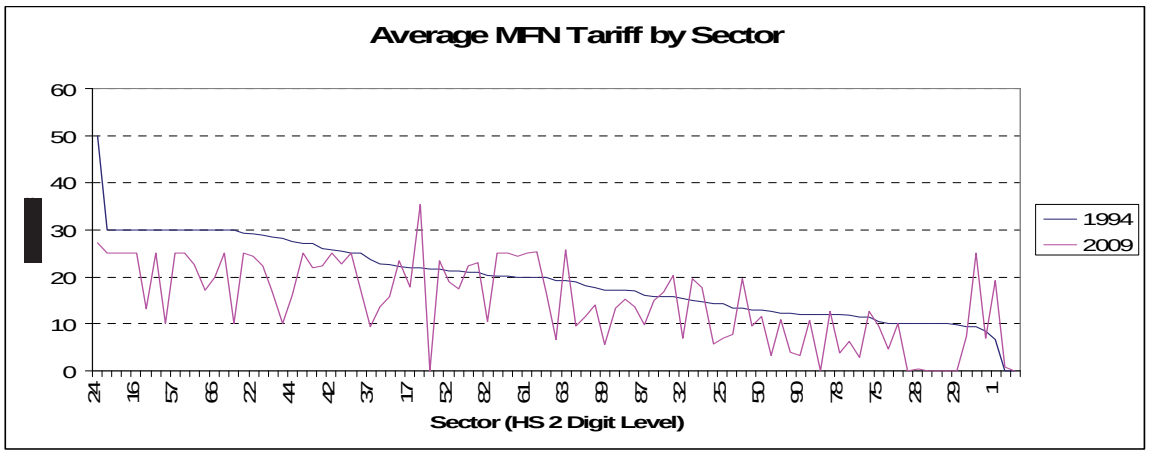


Source: Statistical abstracts of the Uganda Bureau of Statistics (several issues).

Uganda's tariff code grants duty exemptions on inputs that are not locally available especially capital inputs and other raw materials. The tariff code provides for duty exemptions, and the lower than average duties on some categories of intermediate inputs. Products that are eligible for tariff concessions include: fertilizers, insecticides, fungicides, certain products of the printing industry, pharmaceutical products, herbicides, disinfectants, fuels for specific uses, specific electrical machinery and equipment, locomotives, specified aircraft parts, certain ships and boats, medical equipment, and electricity. In principle, exemptions are intended to encourage investment in value addition activities, industrialization and overall economic activity. An insight into imports of capital inputs and raw materials was provided by the value of duty exempted imports as a proportion of total imports. This has been increasing at the rate of about 2 per cent per quarter since 1997. The modest increases in manufacturing sector growth and employment over the past few years can partly be attributed to these incentives.

Whereas the average tariffs have declined considerably over the trade policy reform period, there is still considerable variation in the protective effect of the tariff code on different industries (Figure 15 and Appendix Table A5) which reflects the concerns that policy makers have had about import competition and displacement of domestic industrial activity. Domestic sectors producing dairy products; tobacco and manufactured tobacco substitutes, art of apparel and clothing accessories; meat and offal, cement; tea and coffee are also offered higher than average protection. The significantly high levels of domestic production and the associated multiplier effects are substantial in these sectors which gives them a strong lobby power. Products whose domestic production capacity is still low (such as pharmaceuticals) attract very low duty at importation though it is plausible to think that a higher tariff would be a better approach as a way of attracting investment in the longer term.

Figure 15: Average MFN tariff by sector



Source: The TRAINS data set in WITS.

In line with standard prescription of trade policy reform in developing countries, non-tariff barriers except those that are compatible with the WTO guidelines have been gradually replaced by tariff equivalents.

Sector-specific policies

Industry-specific policies usually aim to promote flagship activities within the industrial sector. These may be sectors of either strategic importance or those associated with large multiplier effects. In line with the country's liberal economic philosophy, however, the focus of industrial policy in Uganda has been to promote competiveness of manufacturing in a more holistic manner as opposed to promoting selected sectors.

The priority of the policies that were implemented in the mid-1980s was to stabilize the economy and to revamp the productive capacity of the industrial sector (Siggel and Ssemogerere 2004). Policies that were implemented in this respect are the Emergency Relief and Rehabilitation Programme of 1986 and the Economic Recovery Programme of 1987/88 to 1991/92. These were followed by the Way Forward I and II of 1990-95 which entailed a wide range of measures to attract private investment through the reform of the tax system, financial sector and foreign exchange market liberalization, and the dismantling of state marketing monopolies. The Industrial Licensing Act of 1969 and the dual licensing were also repealed. The Industrialization Policy and Framework 1994-99 sought to complement the Way Forward I and II by explicitly focusing on investments that promoted the expansion of the country's export base.

The growth of the industrial sector over the initial policy reform period averaged about 12 per cent and its contribution to GDP increased from 3.5 per cent in 1986 to 9.5 per cent in 2004. The contribution of the sector to direct employment and export earnings were, however, quite dismal standing at 5 per cent and 4 per cent, respectively. The subsequent measures thus sought to enhance competitiveness of the industrial sector in general and manufacturing establishments in particular by expanding the coverage of policy to address some pertinent firm level constraints and the microeconomic environment in which firms operate.

The Medium-term Competiveness Strategy (2000-2005) for the private sector sought to address bottlenecks to firm level competitiveness. The key priority areas included:

(i) Expanding the coverage and reducing both the direct costs (particularly the cost of electricity and the cost of moving raw materials because of the poor state of roads) and indirect costs (in terms of reliability for example) of public infrastructure;

(ii) Strengthening the financial sector so as to ensure improved access to credit at competitive rates;

(iii) Improving financial services for micro and small enterprises through licensing of microfinance institutions;

(iv) Strengthening the institutions for export promotion such as the UIA and the Uganda Export Promotion Board;

(v) Skills development and training through expanding the coverage of vocational training institutions, creation of mobile training facilities, and training of trainers, among others.

The Medium-term Competitiveness Strategy of 2000-2005 was expanded by its successor – the Medium-term Competitiveness Strategy (2005-2009) to cater for aspects like business regulation, cluster development and value addition. Uganda's National Industrial Policy was finalized in 2008. Its thrust is to promote private sector-led industrialization through development of an efficient and reliable infrastructure. Other pertinent aspects of the industrial policy include promotion of innovations to support the industrial sector growth and entrepreneurship, provision of a skilled labor force required for industrial development. These priorities are also echoed in the country's National Development Plan (2010/11 – 2014/15). The investment priorities over the National Development Plan implementation period are infrastructure development most especially energy, railway, waterways and air transport; human resource development in the areas of education, skills development, health, water and sanitation; facilitating availability and access to critical production inputs especially in agriculture and industry and promotion of science, technology and innovation.

The budgeting process is now more aligned to the investment priorities identified by the NDP. Other strategies include promotion of Public-Private Partnerships, establishment of Export Processing Zones, stimulating investment in export-oriented industries, undertaking cluster development initiatives and encouraging the use of locally available raw materials in value adding industrial processes to enhance market opportunities for supplying sectors.

Institutional and regulatory framework

The Ministry of Trade, Industry and Co-operatives is mandated to provide the policy and regulatory oversight of industrial development in Uganda. The Ministry is responsible for the drafting of relevant Bills and Policies affecting development of the industrial sector for approval at the level of Parliament and Cabinet, respectively. In the execution of its mandate, the ministry works in close collaboration with other Ministries and government departments most notably the Ministry of Finance, Planning and Economic Development, the Ministry of East African Affairs, and the Ministry of Foreign Affairs on matters of regional integration and export market development. It also provides policy guidance to the different statutory bodies handling different aspects of industrial

development. Statutory bodies under the supervision of the Ministry of Trade, Industry and Co-operatives and what they are mandated to undertake include:

(i) Uganda National Bureau of Standards: The Bureau is mandated to develop and promote all aspects of quality assurance and testing in order to enhance the competitiveness of local industry in the global market place;

(ii) Uganda Industrial Research Institute (UIRI): The UIRI has the responsibility of fostering development and nurturing start-up business enterprises through developing appropriate technology. It ultimately aims to improve the capacity and competence of indigenous entrepreneurs in undertaking viable industrial production processes and in their ability to produce high quality marketable products;

(iii) The Uganda Export Promotion Board (UEPB): The UEPB is mandated to co-ordinate all activities to promote export growth on sustainable basis, including, market and product development, trade promotion services, policy advocacy, and human resource development;

(iv) The Management Training and Advisory Center (MTAC): MTAC is mandated to promote entrepreneurship and improve management performance.

The institutional structure of industrial development also includes the UIA which serves as 'a one stop center for investment promotion', the Uganda National Council for Science and Technology of the Competitiveness Secretariat in the Ministry of Finance, Planning and Economic Development.

4 Summary and conclusion

The importance of a country's industrial policy framework in shaping industrial sector outcomes cannot be overemphasized. Uganda's industrial policy over the last two decades has been a laissez-faire type approach in which the private sector has taken the lead in shaping the structure and patterns of industrial development. The policy framework has sought to enable the macroeconomic environment as well as provide the necessary physical infrastructure to enhance firm level competiveness. The state of physical infrastructure and limited access to credit remain a major hindrance to firm level competitiveness. Two distinct episodes of manufacturing sector performance can be identified for the period under review. The initial phase (from 1988 to 1999) was characterized by relatively good performance of the sector both in terms of growth and its contribution to total value added. This has been followed by declining performance starting in the year 2000. This is counterintuitive from the perspective of both the domestic market potential (due to increased incomes) and the regional market potential (due to regional integration trends and market opportunities in the post conflict countries in the region).

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Appendix

AppendixTable A1: Electricity sector licensed companies

Type of License	Licensee	Dated issued	Expiry date
Generation and sale	Aggreko Internal Projects	1/5/2005	3 years
Generation and sale	Kakira Sugar Works 1985(Ltd).	-	15 years
Generation and sale	Bujagali Energy Ltd.	-	25 years
Generation and sale	China Shan Sheng International (u)	1/1/2007	30 years
Generation and sale	EcoPower	16/7/2007	30 years
Generation and sale	Jacobsen Electro AS	10/9/2007	6 years
Generation, sale and distribution	Hydromax	1/4/2007	30 years
Distribution and sale	Kilembe Investments	1/8/2007	10 years
Distribution and sale	Ferdsult Eng Ltd.	1/12/2007	10 years
Generation and sale	Tronder Power Ltd.	1/4/2008	20 years
Generation and sale	Aggreko International Projects	1/4/2008	3 years
Generation and sale	Electromax Ltd.	1/8/2008	3 years
Generation and sale	S. Asia Energy Management Systems	1/5/2008	-
Distribution	Ferdsult Engineering Services Ltd.	1/12/2007	10 years
Distribution	WSS Services (U) Ltd.	1/7/2007	10 years
Distribution	Kilembe Investment Ltd.	1/8/2007	10 years
Co-Generation	Sugar Corporation of Uganda	1/2/2008	1 year

Source: Electricity Regulatory Agency database.

AppendixTable A2: Employment in the electricity sub-sector industry

Year/quarter	Expatriate	Permanent	Contract	Casual	Total
2005/1	0	1,565	25	183	1,773
2005/2	0	1,561	29	420	2,010
2005/3	0	1,549	36	178	1,763
2005/4	0	1,524	45	213	1,782
2006/1	0	1,471	61	347	1,879
2006/2	0	1,250	270	342	1,862
2006/3	3	1,177	281	237	1,698
2006/4	3	1,190	276	217	1,686
2007/1	3	1,198	301	237	1,739
2007/2	2	1,213	294	215	1,724
2007/3	1	1,253	329	274	1,857
2007/4	1	1,281	279	222	1,783
2008/1	1	1,277	290	249	1,817
2008/2	2	1,292	289	232	1,815
2008/3	2	1,299	265	237	1,803
2008/4	1	1,277	283	230	1,791
2009/1	3	1,288	249	232	1,772
2009/2	3	1,288	245	231	1,767
2009/3	3	1,291	247	239	1,780
2009/4	15	1,273	264	239	1,791
2010/1	15	1,234	251	244	1,744
2010/2	16	1,251	250	244	1,761

Source: Electricity Regulatory Agency database.

AppendixTable A3: Umeme Energy sales by customer categories 2005-2010 (MWh)

Year/quarter	Domestic	Commercial	Medium industries	Large industries	Street lights	Total sales
2005/1	23,273	6,909	25,808	14,873	37	70,900
2005/2	101,268	39,538	57,135	93,831	179	291,951
2005/3	95,150	37,305	51,731	98,050	300	282,536
2005/4	112,059	44,379	71,117	141,331	403	369,289
2006/1	77,525	31,131	41,356	88,077	312	238,401
2006/2	74,732	30,083	43,189	95,768	128	243,900
2006/3	68,294	39,262	40,856	101,793	320	250,525
2006/4	69,635	36,301	47,908	103,321	104	257,269
2007/1	77,421	38,552	54,860	112,594	86	283,513
2007/2	70,204	38,581	51,886	122,457	134	283,262
2007/3	70,728	36,260	54,057	118,362	237	279,644
2007/4	75,142	37,237	50,377	128,690	231	291,677
2008/1	73,915	40,055	53,314	137,415	417	305,115
2008/2	79,794	43,448	53,880	135,957	316	313,394
2008/3	74,805	44,377	58,854	143,771	475	322,282
2008/4	98,927	48,855	56,859	132,329	353	337,324
2009/1	77,524	44,522	57,918	136,574	509	317,048
2009/2	84,635	52,059	57,700	149,996	566	344,956
2009/3	98,762	55,755	57,522	155,835	596	368,470
2009/4	102,731	56,210	59,257	151,735	512	370,445
2010/1	106,300	61,808	60,354	154,379	562	383,403
2010/2	102,555	57,941	63,145	172,706	711	397,058
2010/3	104,560	59,496	66,220	187,585	651	418,512

Source: Electricity Regulatory Agency database.

AppendixTable A4: Customer numbers (connectivity of customers)

Year/quarter	Domestic	Commercial	Medium industrial	Large industrial	Street lights
2006/1	289,874	24,109	812	126	328
2006/2	291,724	24,099	836	130	314
2006/3	295,418	24,870	859	134	314
2006/4	296,702	24,870	870	139	315
2007/1	275,947	23,980	899	143	299
2007/2	279,439	24,922	933	148	314
2007/3	274,855	24,715	936	152	312
2007/4	277,393	24,602	954	161	334
2008/1	274,106	23,553	1,017	166	361
2008/2	276,447	23,627	1,034	170	346
2008/3	275,599	23,331	1,056	169	342
2008/4	276,255	20,484	864	159	291
2009/1	282,520	22,382	884	174	323
2009/2	289,504	22,382	913	184	316
2009/3	282,194	22,243	918	189	233

Source: Electricity Regulatory Agency database.

AppendixTable A5: Tariff structure by sector in Uganda (1994 and 2011)

Sector	Sector description	2011 [23]	1994
1	Live animals	19.32	6.67
2	Meat and edible meat offal	25	30
3	Fish and crustaceans	25	30
4	Dairy, eggs, honey and edible Products	35.37	21.85
5	Products of animal origin	20.39	15.79
6	Live trees and other plants	14.06	17.69
7	Edible vegetables and certain roots and tubers	25	30
8	Edible Fruits and nuts, peel of citrus/melons	24.45	20
9	Coffee, tea, mate and spices	25	25.15
10	Cereals	19.65	13.33
11	Milling industry products	22.32	28.86
12	Oil seeds/miscellaneous Grains/medicated Plants/straw	6.67	19.33
13	Lac; gums, resins and other vegetable saps and extracts	0	21.67
14	Vegetable plaiting materials ; vegetable products	10	28.18
15	Animal or vegetable fats, oils and waxes	13.64	22.83
16	Prep of meat, fish or crustaceans, molluscs etc.	25	30
17	Sugars and sugar confectionery	17.86	22
18	Cocoa and cocoa preparations	13.18	30
19	Preparations off cereals, flour, starch or milk	22.89	25.56
20	Preparations of vegetables, fruits, nuts, etc.	25	30
21	Miscellaneous edible preparations	22.5	26
22	Beverages, spirits and vinegar	24.32	29.09
23	Residues from food industries, animal feed	10	10
24	Tobacco and manufactured tobacco substitutes	27.22	50
25	Salt, sulphur, earth and stone, lime and cement	6.88	14.3
26	Ores slag and ash	0	10
27	Mineral fuels, oils and product of their distillation	7.4	9.48
28	Inorganic chemical , org/inorganic compounds of precious metals, isotopes	0.48	10
29	Organic chemicals	0	9.8
30	Pharmaceutical products	0.81	0
31	Fertilizers	0	0
32	Tanning or dyeing extracts, dyes, pigments, paints and varnishes, putty, and inks	6.93	15.53
33	Oils and resinoids, perfumery, cosmetic or toilet preparations	16.72	28.54
34	Soaps, waxes, scouring products, candles, modelling pastes, dental waxes	15.87	22.57
35	Albuminoidal substances, starches, glues, enzymes	12.67	11.43
36	Explosives, matches, pyrotechnic products	22.5	21.11
37	Photographic or cinematographic goods	9.39	23.68
38	Miscellaneous chemical products	4.7	10.17

[23] The tariff lines changed in 2009 and remained the same in 2011 and are yet to change.

39	Plastics and articles thereof	11.01	12.26
40	Rubbers and articles thereof	7.82	13.38
41	Raw hides and skins & leather	10	30
42	Articles of leather, saddlery and harness, travel goods, handbags, articles of gut	25	25.83
43	Fur skins and artificial fur, manufactures	9.58	19.09
44	Wood and articles of wood; wood charcoal	16.2	27.54
45	Cork and articles of cork	5.71	14.44
46	Manufactures of straw, esparto/other plaiting materials	25	27.14
47	Pulp of wood, waste and scrap of paper	0	12.11
48	Paper and paperboard; art of paper pulp, paper/paper	19.74	15.05
49	Printed books, newspapers, pictures, manuscripts, typescripts	7.02	8.42
50	Silk, including. Yarns and woven fabrics thereof	11.67	13
51	Wool and fine or coarse animal hair, including Yarns and woven fabrics thereof	9.61	13.06
52	Cotton, including Yarns and woven fabrics thereof	19.13	21.34
53	Other vegetable textile fibres; paper yarn and woven	10.65	12.12
54	Man-made filaments, including Yarns and woven etc.	17.71	14.77
55	Man-made staple fibres, including Yarns etc.	16.68	15.86
56	Wadding, felt and nonwoven; yarns; twine, cordage,	17.18	25
57	Carpets and other textile floor coverings	25	30
58	Special woven fabrics, tufted textiles, lace	25	20.24
59	Impregnated, coated, covered, or laminated textile products, textile products for industrial use	13.54	17.2
60	Knitted or crocheted fabrics	25	30
61	Articles of apparel and clothing accessories-knitted or crocheted	25	20
62	Articles of apparel and clothing accessories-not knitted or crocheted	25.33	20
63	Made-up textile articles, needlecraft sets, worn clothing, rags	25.65	19.32
64	Footwear, gaiters, and the like	22.69	30
65	Headgear and other parts	17.22	30
66	Umbrellas, sun umbrellas, walking-sticks, whips, riding-crops and parts	20	30
67	Prepared feathers, human hair and articles thereof, artificial flowers	25	30
68	Articles of stone, plaster, cement, asbestos, mica or similar materials	23.05	21.08
69	Ceramic products	17.41	21.29
70	Glass & glassware	13.75	17.1
71	Pearls, stones, precious Metals, imitation jewellery, coins	23.43	21.61
72	Iron and steel	6.38	11.96
73	Articles of iron or steel	15.24	17.2
74	Copper and articles thereof	12.79	12.07
75	Nickel and articles thereof	9.71	10.59
76	Aluminium and articles thereof	15	15.88
78	Lead and articles thereof	3.75	12
79	Zinc and articles thereof	3.33	12.73
80	Tin and articles thereof	4	12.22
81	Other base metals; cermet; articles thereof	0	10

82	Tool, implement, cutlery, spoon and fork, of base metals	10.53	20.28
83	Miscellaneous articles of base metal	16.67	20
84	Nuclear reactors, boilers, machinery and mechanical appliances, computers	2.99	11.52
85	Electrical machinery and equipment parts, telecommunications equipment, sound recorders, television recorders	11.58	18.23
86	Railway or tramway locomotives, rolling stock, track fixtures and fittings, signals	0	10
87	Vehicles other than railway or tramway rolling stock	9.87	16.17
88	Aircraft, spacecraft, and parts thereof	0	10
89	Ships, boats, and floating structures	5.56	17.22
90	Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and accessories	3.42	12.2
91	Clocks & watches & parts thereof	25	29.29
92	Musical instruments, parts and accessories	10	30
93	Arms and ammunition, parts and accessories	25	9.41
94	Furniture, bedding, cushions, lamps and lighting fittings , illuminated signs, nameplates and the like, prefabricated buildings	23.46	22.17
95	Toys, games & sports equip, parts & accessories.	25	20.23

Source: WITS.

AppendixTable A6: Planned employment

1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
276	1,423	7,881	3,369	3,901	4,598	2,583	515	482	2,134	3,911	3,187	6,004	3,741	4,981	12,122	3,774	4,329	27,591
	0	11	481	339	263	188	404	210	182	137	785	1,052	449	977	523	1,308	1,043	1,180
	273	1,519	754	3,852	1,820	1,150	421	419	138	3,320	1,228	924	1,263	1,474	4,008	6,196	1,390	3,625
		98	100	107	240	1,590	37	67	114	31	325	459	1,694	1,858	4,982	3,427	2,859	2,386
27	994	2,271	3,179	2,747	2,559	884	686	1,010	3,057	1,449	1,749	1,347	849	4,276	4,860	4,328	6,751	10,890
	3,061	10,939	5,740	4,483	4,446	5,893	3,016	1,498	2,348	6,386	3,557	6,342	4,565	8,748	12,805	16,207	25,039	21,057
		30	264	2,001	1,167	41	213	54	121	520	646	403	351	857	280	1,072	2,371	1,154
			9	1,106	22	0										25	36	
	134	350	1,611	1,225	783	495	742	514	513	1,187	366	413	422	2,144	4,169	17,680	2,834	1,765
124	833	975	1,443	19,761	1,873	679	1,143	694	672	257	730	2,294	1,121	1,019	4,040	3,604	2,521	1,504
Total	427	6,718	24,074	16,950		17,771	13,503	7,177	4,948	9,279	17,198	12,573	19,238	14,455	26,334	47,789	57,621	49,173

Source: UIA database.

AppendixTable A7: Planned investment

	1991	1992	1993	1994	1995	1996	1997	1998	1999
Agriculture and forestry	3,744,000	90,907,000	39,012,000	39,115,000	41,238,000	107,975,000	41,529,000	7,180,000	10,100,000
Community and social		552,000	292,000	7,772,000	3,060,000	4,139,000	4,441,000	10,273,000	4,760,000
Construction		2,778,000	29,015,000	5,914,000	41,039,000	18,538,000	13,100,000	2,816,000	5,850,000
Electricity, gas and water			15,340,000	8,755,000	3,009,000	17,610,000	120,792,780	12,000,000	2,761,000
Financial institutions	1,000,000	44,986,000	71,256,000	67,949,962	90,697,445	78,801,925	68,447,000	6,263,000	18,832,520
Manufacturing		80,218,600	175,374,000	121,831,722	151,686,000	100,366,000	101,543,141	39,180,575	52,828,000
Mining and quarrying			618,000	3,294,000	63,890,000	4,783,000	751,000	12,743,000	2,107,000
Not specified				185,000		111,000	200,000		
Transport and storage		2,890,000	12,646,000	41,327,000	24,411,047	29,191,000	11,077,000	88,702,000	7,142,000
Whole sale and retail	4,488,000	20,606,000	25,866,000	32,235,000	21,311,000	101,303,000	24,209,000	43,997,000	38,169,000
Total	9,232,000	242,937,600	369,419,000	328,378,684	440,341,492	462,817,925	386,089,921	223,154,575	142,549,520

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Agriculture and forestry	17,317,000	41,223,000	62,079,546	30,339,500	80,839,000	105,038,000	110,699,000	71,122,000	195,567,000	203,274,110
Community and social	5,882,000	1,428,000	17,572,000	22,069,000	13,889,000	41,280,000	23,828,000	42,421,000	17,951,000	66,346,000
Construction	1,163,000	19,900,000	26,751,000	9,961,000	20,974,000	27,195,000	139,776,000	96,217,200	60,721,200	175,881,500
Electricity, gas and water	3,653,000	5,705,000	23,418,000	42,864,000	8,453,000	23,721,000	77,222,000	225,903,000	66,811,000	69,933,313
Financial institutions	8,359,615	6,892,000	55,300,000	17,623,000	20,386,000	35,655,000	136,414,968	102,323,000	394,183,000	309,841,240
Manufacturing	91,202,000	103,559,452	90,914,000	49,395,100	49,985,142	148,020,844	188,606,000	306,294,200	473,758,000	580,399,171
Mining and quarrying	474,000	2,550,000	10,933,000	8,226,000	16,943,000	6,235,000	10,476,000	45,065,000	82,737,000	53,266,505
Not specified								466,000	3,000,000	
Transport and storage	31,695,000	10,661,000	40,400,200	16,523,000	11,149,000	45,131,500	106,385,000	96,413,400	571,762,900	127,345,442
Whole sale and retail	11,339,000	8,892,000	18,418,000	40,128,000	58,534,000	25,031,000	136,065,094	477,588,500	108,264,000	30,211,462
Total	171,084,615	200,810,452	345,785,746	237,128,600	281,152,142	457,307,344	929,472,062	146381330	197475510	161649874

Source: UIA database.