PRIVATE SECTOR FOUNDATION UGANDA

Business growth is our business

AN ASSESSMENT OF CAPACITY UTILISATION IN THE MANUFACTURING SECTOR OF UGANDA

Case Study of Uganda Manufactures Association and Uganda Small Scale Industries Association

September 2023

In partnership with

mastercard foundation

Vision:

To be the apex body championing inclusive and sustainable private sector development

Mission:

To catalyze business growth and competitiveness for sustainable wealth creation and shared value.

Values

- Integrity
- Teamwork
- Value our People
- Customer Focus
- Passion for Excellence
- Do Business Sustainably.

PROUDLY UGANDAN

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List of Acronyms and Abbreviations

AfCFTA	Africa Continental Free Trade Area
AGOA	African Growth Opportunities Act
COMESA	Common Market for Eastern and Southern Africa
EAC	East African Community
EACJ	East African Court of Justice
EU	European Union
FGDs	Focus Group Discussion
ICBT	Informal Cross Border Trade
MDAs	Ministries Departments and Agencies
MoFPED	Ministry of Finance Planning and Economic Planning
MSMEs	Micro, Small, and Medium Enterprise
MTIC	Ministry of Trade Industry and Cooperative
NTBs	Non-Tariff Barriers
PPDA	Public Procurement and Disposal of Public Assets
PSD	Private Sector Development
R&D	Research and Development
SMEs	Small Medium Enterprises
SPS	Sanitary and Phyto-sanitary
STR	Simplified Trade Regime
UGX	Uganda Shillings
UMA	Uganda Manufactures Association
UNBS	Uganda National Bureau of Standards
USSIA	Uganda Small Scale Industries Association

Acknowledgement.

This study was a collaborative effort between PSFU through support from Mastercard Foundation, Uganda Manufacturers Association (UMA), Uganda Small Scale Industries Association (USSIA) and Economic Policy Research Center (EPRC), Uganda's leading think tank for economic policy and development as a consultant. The consultant designed the methodology under UMA/USSIA and PSFU's guidance, managed field data collection, analyzed data, and developed some of the recommendations included in this report. This study report was accomplished through engagement of several organisations among the manufacturing sector, Government and development partners who provided invaluable information.

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Foreword

The Private Sector Foundation Uganda (PSFU), the apex body for the private sector in Uganda is mandated to sustain policy dialogue with Government on matters affecting private sector competitiveness for her members. The membership of the PSFU is comprised of 327 associations and corporate companies and associated Government agencies. In fulfillment of this mandate, the PSFU in collaboration with the Mastercard Foundation partnered with two of its members UMA and USSIA to assess the capacity utilization of the manufacturing firms in Uganda. The overall objective of the study is to generate evidence to influence policy development in the manufacturing sector with specific reference to industrialisation and import replacement policies that Uganda has adopted. Specifically, the study seeks to:

i. Establish the actual capacity utilisation of manufacturing firms in Uganda.
ii. Investigate constraints to full capacity utilisation of manufacturing firms; and
iii. Establish the challenges experienced by firms in provision of goods and services and suggest key policy interventions which can be implored to address these challenges.

Data was collected from the manufacturing companies which are members of the UMA, USSIA and PSFU which are recognized as the key business management associations hosting the bulk of the manufacturers. This these firms were located across the entire country.

According to the findings of the study, the capacity utilisation of firms is at 54.4 %. Implying that there is a lot of redundant or unutilised capacity among the manufacturing firms in Uganda where a lot of resources have been invested. MSMEs under USSIA recorded capacity utilization at 66.8 % compared to ones under UMA at 35.4 %. Un effective demand for the manufactured products was reported as the main reason explaining this utilization factor, followed by high levels of competition from imported products, high cost of inputs (42 %), high taxes (41 %), macroeconomic factors among others.

Other identified factors include Competition from imported products, low firm participation in supply contracts with government; low supply of raw materials and/or production inputs; high conversion costs; inadequate access to affordable finance, limited innovation, and use of outdated technology. The key recommendation we note is the need to focus policy to unlock performance and access of both local, regional, and international markets to improve capacity utilization of firms leading to more tax revenue and job creation. We also note the need to harmonize the cost of electricity across manufacturers at $5cents KWH.

The PSFU has used these findings to develop a comprehensive policy position paper geared towards influencing the Government policy on matters relevant to unlocking effective demand within the economy. The paper will be presented to key MDAs for consideration and action.

Sincerely,

Stephen Asiimwe
Chief Executive Officer

The key recommendation we note is the need to focus policy to unlock performance and access of both local, regional, and international markets to improve capacity utilization of firms leading to more tax revenue and job creation.

Executive Summary

Background

The manufacturing sector in Uganda has a high potential to enhance economies of scale and factor productivity among many other things. Achieving this has a strong bearing on improving the sector's contribution to GDP, employment, and generally economic growth. Notwithstanding this potential, the sector is riddled with a lot of challenges that impede their performance and therefore optimal utilisation of existing capacity. The manufacturing firms that survive are characterized by being highly unproductive; with very low-capacity utilisation below 50 %. This has consequently led to the sector contributing inadequately to growth.

Purpose and objectives of the study

The purpose of this study is thus to assess the capacity utilisation of manufacturing firms in Uganda. The overall objective of the study is to generate evidence to influence policy development in the manufacturing sector with specific reference to industrialisation and import replacement policies that Uganda has adopted. Specifically, the study seeks to:

i. Establish the actual capacity utilisation of manufacturing firms in Uganda.

ii. Investigate constraints to full capacity utilisation of manufacturing firms; and

iii. Establish the challenges experienced by firms in provision of goods and services.

Methodology: The study used a mixed methods approach which involved both primary and secondary data sources. The primary sources involved collection of data from 199 manufacturing firms (Uganda Manufacturers Association-UMA and Uganda Small-Scale Industries Association - USSIA) and key stakeholders (government, manufacturers, and development partners) in the manufacturing sector. UMA and USSIA were purposively selected by the Private Sector Foundation Uganda (PSFU) to represent large and medium firms and small firms, respectively. The secondary sources involved desk reviews as well as secondary data sources available (national and external sources).

Findings: The average capacity utilisation stands at 54.4 % for sampled manufacturing firms. This implies that there is a lot of redundant or unutilised capacity among the manufacturing firms in Uganda where a lot of resources have been invested. Considering firm membership, capacity utilisation is much higher for USSIA firms (66.8 %) compared to UMA (35.4 %).

Reasons for the current low-capacity utilisation: The lack of sufficient demand for the manufactured products was the most reported factor by 56 % of the firms followed by competition (44 %), high cost of inputs (42 %), high taxes (41 %), macroeconomic factors among others. There are significant differences among UMA and USSIA firms regarding factors responsible for the current capacity utilisation. Other factors include Competition from imported products, low firm participation in supply contracts with government; low supply of raw materials and/or production inputs; high conversion costs; inadequate access to affordable finance, limited innovation, and use of outdated technology.

Conclusion and Recommendations

There is significant redundant or unutilised capacity among the manufacturing firms in Uganda where a lot of resources have been invested. This is explained by many factors which consequently negatively impact demand for products. There is thus, a need to implement a set of relevant policies and actions to unlock the unutilised production capacity.

i. There is a need for consideration including an Independent Competition Commission in the new Competition Law that is well-resourced to deliver effectively on competition regulation. Expedite the enactment of the counterfeit law to respond to the persistent of counterfeits on the market.

ii. Fast track the issuance of the Local Content Regulation -currently pending at Solicitor General's Office to facilitate enforcement of the Local Content provisions under the PPDA Act. Plan for another round of amendment to the PPDA Act instead of passing Local Content Bill to unnecessarily occasion duplicity that is already barred by Policy, given rationalization of MDAs. There is need to periodically review the reservation guidelines to rhyme with emerging capacities in the interim to ensure that that procurement is ring-fenced where capacity exists.

iii. Government having significantly lowered the power tariffs should now work on transmission, upgrading and distribution of electricity to overcome the intermittent nature supply. Allow for Public Private Partnerships to facilitate works related to network up-grades and transmission infrastructure development given shrinking fiscal space for GOU. Implement the bulk power purchase option for manufacturers and heavy power consumers since the legal and regulatory environment permits it now. There is no need for a "distribution" intermediary.

iv. Although, capitalisation of UDC and UDB is a remedy to credit and finance challenges, nonetheless, it is inadequate. Repurpose UDC/UDB to focus and catalyse industrialization by identifying priority sectors for interventions. Segment and tailor the finance and credit terrain to be inclusive according to the needs of large, medium, and small manufactures.

v. At regional level (EAC, COMESA and AfCFTA), there is a need to increase awareness about the market opportunities and the prerequisites to explore existing opportunities. Develop a comprehensive production and trade database and data portals for all key potential export commodities.

vi. Implement the 2017 EAC Act and strengthen actions that handle the persistent evolution and proliferation of NTBs. In addition, strengthen the dispute resolution mechanism for the EAC to counter the unilateral actions that impede exports; and

vii. There is need to improve the quality standards and standards infrastructure in the country. Support adoption and certification of quality standards of manufacturing products for especially SMEs.

1.0 Introduction

Growing the manufacturing sector is recognized as an essential determinant of economic growth from a historical perspective the world-over. Evidence shows that production and export of manufactures are a leading factor in all successful and catching up developing countries such as India, China, and South Korea among others (Szirmai 2011). Uganda's manufacturing sector has significant potential for harnessing economies of scale and improving factor productivity (MTIC, 2022). This potential can be tapped through leveraging technological advances and the establishment of robust, dynamic linkages — both upstream and downstream- in the production process. These are anticipated to create opportunities for employment creation and income generation and consequently, poverty reduction.

Uganda is richly endowed in natural resources that offer upstream/downstream manufacturing opportunities, including food and mineral processing; production of beverages; textile, clothing, and leather production; packaging material; metal fabrication; fish processing; and chemical and pharmaceutical production (ADB, 2014). Uganda's central location in Eastern and Southern Africa is an advantage in terms of potential markets in bordering countries for its manufactured products. Uganda is a small market (GDP of US$ 45bn)[1], but is a party to several trade, investment, and double taxation treaties. In addition, Uganda is actively engaged in regional economic integration initiatives including the East African Community (EAC) – GDP of US$ 163bn, the Common Market for Eastern and Southern Africa (COMESA) - GDP of US$ 805bn), the Tripartite Free Trade Area (TFTA), and now the Africa Continental Free Trade Areas (AfCFTA). All these present opportunities for the country to leverage the manufacturing sector to achieve a set of development goals including employment creation and poverty reduction.

Notwithstanding this potential, the manufacturing sector is characterised by a lot of challenges that impede their performance and therefore optimal utilisation of existing capacity. The manufacturing firms that survive are highly unproductive; with very low-capacity utilisation below 50 % (UMA, 2017). This has consequently led to the sector contributing inadequately to growth.

Aside challenges experienced in the manufacturing process, there are market and demand related impediments to expansion and growth of the sector. Limited domestic market opportunities negatively affect production and productivity. It is anticipated that identifying and expanding markets will create possibilities to increase production, address productivity challenges, and thus increase investment and job growth across the country. Relatedly, annually, 60 % of the national budget is earmarked to procurement of goods and services across board by government. Unfortunately, according to PSFU (2021) 80-90 % of these resources are absorbed by foreign firms owing to absence of meaningful local content mainstreaming that enable local firms' active participation. The review of the private sector development programme report by the MFPED (2022) places award of contracts to local contractors at 61 % out of which only six % were awarded to nationals and 55 % to residents. This suggests that 39 % of the contracts were awarded to purely foreign firms. This analysis does not however, give the absolute monetary value involved, and proportion are likely to mask a skewness. The need to use government procurement as a tool to drive economic development through requisite affirmative actions is inevitable.

1.1 Purpose and objectives

The purpose of this study is to assess the capacity utilisation of manufacturing firms in Uganda. The study seeks to establish, the reasons that explain the deviation between the potential capacity and actual capacity utilisation among manufacturing firms in Uganda. It thus generates critical information required to influence policy development especially around industrialisation, specifically regarding capacity utilisation of the manufacturing firms in Uganda. Specifically, the study seeks to:

i. Establish the actual capacity utilisation of manufacturing firms in Uganda.

ii. Investigate constraints to full capacity utilisation of manufacturing firms in Uganda; and

iii. Compare the challenges experienced by local and foreign firms in provision of services.

1.2 The manufacturing sector in Uganda

The industry sector activities are categorized into mining and quarrying, manufacturing, water and waste management activities, electricity generation and supply as well as construction activities. Table 1 shows the contribution of the

1 *EAC, facts and Figures: Uganda 2023 population is estimated at 48,582,334 people at mid-year. The EAC is about 283 million and COMESA is about 560 million.*

various sectors of the economy to the total gross domestic product at market prices. Note that the industry sub-sectors are further disaggregated to illustrate the contribution of manufacturing. Uganda's economic growth during the past six years averaged at 4.5 %, driven largely by growth in the industry sector whose average growth was 5.3 %, followed by the service sector (average growth of 4.3 %). Furthermore, Table 1 shows that the contribution (value) of manufacturing increased from UGX 16.3 trillion in 2015/16 to UGX 24.3 trillion in 2020/21. Whereas manufacturing contributes the most significant share (about 60 %) to the industrial sector GDP, it has experienced slower growth in comparison to other sectors. Overall, the manufacturing sector[2] has grown at an average of 3.3 % between 2015/16 and 2020/21, with a reasonably good performance observed during 2019/20 and 2020/21 – a time when challenges due to the COVID-19 pandemic would have led to poor performance.

Table 1: Gross domestic product by economic activity (UGX billion)

	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
Agriculture	22,785	25,457	28,013	30,309	33,426	35,213
Industry	26,310	28,248	31,610	35,163	37,004	40,076
Mining & quarrying	1,081	1,337	1,536	2,267	2,266	2,627
Manufacturing	16,319	16,845	19,012	20,429	22,064	24,373
Electricity	1,222	1,379	1,546	1,743	1,932	2,134
Water	2,308	2,578	2,886	2,985	3,119	3,258
Construction	5,380	6,109	6,630	7,739	7,623	7,685
Services	44,676	47,182	52,217	56,796	59,840	62,051
Tax	6,778	7,631	8,645	9,822	9,419	10,622
GDP at market prices	100,549	108,518	120,485	132,090	139,689	147,962

Source: UBOS (2022)

The largest proportion of the working population are engaged in agriculture, forestry, and fishing (68 %), followed by the domestic trade and manufacturing sectors. Despite its dismal performance compared to other sub-sectors, the proportion of people employed by the manufacturing sub-sector has increased over time. Table 2 shows that the %age of people employed in the manufacturing sector has increased from 3.8 % to 4.3 % with many of the employed persons being male. Furthermore, micro, small, and medium enterprises (MSMEs) collectively constitute about 90 % of private sector production and employ over 2.5 million people, hence need support to achieve their potential and create sustainable and decent jobs (FSDU, 2015).

Table 2: Distribution of the working population by sector (%)

Sector	UNHS 2016/17			UNHS 2019/20		
	Male	Female	Total	Male	Female	Total
Agriculture, forestry, and fishing	58.5	70.5	64.6	63	73.1	68.1
Trade	11.5	12.8	12.1	10	10.9	10.4
Manufacturing	5.1	2.5	3.8	4.1	4.5	4.3
Education	2.8	2.5	2.6	3	2.3	2.6
Transportation and storage	6.5	0	3.2	5.8	0.1	3
Construction	5.2	0	2.6	4.7	0.1	2.4
Hotels, restaurant eating places	0.9	3.3	2.1	0.7	2.7	1.7
Other service activities	0.6	1.9	1.2	2.8	1.7	2.3
Others	9	6.5	7.7	6.1	6.5	5.3
Total	100	100	100	100	100	100

Source: Author's construct using data from UBOS (2022)

2 *Manufacturing activities include the manufacture of food products, beverages, tobacco products, textiles, wearing and apparel products as well as paper and paper products.*

The index of production for the manufacturing sector, a measure of changes in the volume of goods produced by the sector increased over the past five years. It increased by 31 % from 234.67 in 2016 to 309.10 in 2021 (Table 3). Much of the variation in the manufacturing sector index over the period is explained by the improvements in the production of bricks and cement, drinks and tobacco and chemicals, paint, soap and foam products and metal products.

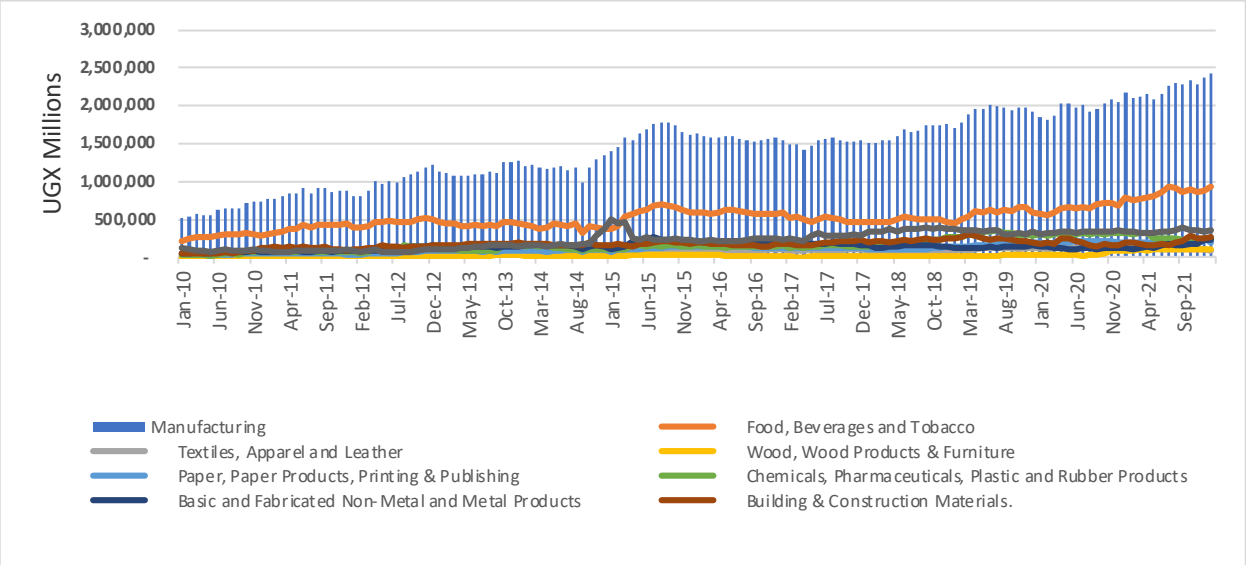
Table 3: Index of production, annual production levels (2002=100), 2016-2022

Sector	2016	2017	2018	2019	2020	2021
Food processing	211.57	204.14	264.04	251.64	239.79	318.79
Drinks and tobacco	282.89	313.34	324.91	363.34	346.13	288.37
Textiles, clothing, and footwear	153.37	166.97	170.48	204.08	252.78	391.33
Sawmilling, paper, and printing	250.56	295.68	324.51	296.62	273.35	186.86
Chemicals, paint, soap & foam products	292.25	346.41	261.21	316.73	363.47	286.57
Bricks & cement	290.01	295.26	336.88	345.66	463.40	409.06
Metal products	162.94	168.53	154.13	149.5	162.78	514.51
Miscellaneous	214.24	202.25	230.61	238.02	248.84	167.88
Total Manufacturing	**234.67**	**245.29**	**268.34**	**277.69**	**285.91**	**309.10**

Source: UBOS 2022.

The total credit (commercial banks credit) to the manufacturing sector has been increasing over the review period. It increased from UGX 516 billion in January 2010 to UGX 2.422 trillion in January 2022. Figure 1 shows that much of the lending to the sector has been absorbed by the food, beverages and tobacco subsectors, followed by other manufacturing industries and chemicals, pharmaceuticals, plastic and rubber products subsectors.

Figure 1. Total lending to the manufacturing sector (UGX millions)



Source: BoU (2022)

Whereas access to commercial bank credit has been improving over time, much of these loans have been utilised by large-scale enterprises, compared to the MSMEs (MTIC, 2022). The limited availability of credit to MSMEs is because of; low formal savings that can translate into long term investments, underdeveloped capital markets which only extend credit to a small number of large firms and lack of financial resources by financial institutions to expand their operations. The MSMEs and many local firms cannot access finance on international markets.

1.3 Structure of the report

The rest of the paper is structured as follows. Section 2 provides a theoretical background to the concept of capacity utilisation and then delves into business environment literature, specifically the challenges the manufacturing sector faces and the legal and policy frameworks to address them. Sections 3 details the methodology adopted for the study including the sampling, data collection and analysis approaches. Sections 4 provides the results of the study, specifically the status of capacity utilisation in the manufacturing sector in Uganda and the factors that explain such status. Finally, section five provides the conclusion of the main findings and the accompanying recommendations.

2.0 Concept of capacity utilisation and the business environment for the manufacturing sector

2.1 Concept of capacity utilisation in manufacturing

In manufacturing, capacity utilisation refers to the extent to which an enterprise uses its installed productive capacity. It is the relationship between actual output produced and potential output that could be produced with installed equipment if capacity was fully used. It is thus "the level of utilisation of an industry's installed productive capacity" (Adeyemi and Olufemi 2016). The industrial capacity utilisation rate can be defined as the ratio of actual production output to the maximum or potential capacity output (Lai 2015). An industry is therefore said to be performing optimally when its installed production capacity is fully utilized. However, in practice, it is not possible to attain the 100 % capacity utilisation over time due factors such as, operational challenges, demand fluctuations, company strategic challenges, quality control, workforce availability, and external factors among others.

Some authors have further attempted to distinguish between the technical-based definition and the economic-based definition of capacity utilisation. Johansen (1968) defines technical capacity utilisation as the maximum output that can be produced from a specific bundle of the quasi-fixed inputs even where variable input availability is not restricted. Consequently, the technical potential output represents the maximum amount of output that can be produced in the short run, with the existent stock of capital (Nelson, 1989). Thus, technical based capacity utilisation is one or less than one. On the other hand, the economic based definition relies on the measurement of the potential output. Economically, the potential output is the optimum level of output at which short-run average total cost is minimized (Färe *et al.* 1989). This study adopts technical based definition of the capacity utilisation.

Determinants of the capacity utilisation influence positively or negatively the actual output and not the potential output and these are either internal or external business environment of the firm. Internal factors can be from the corporate governance mechanisms like quality of leadership and organisation of the company. External factors can be the market structure and competition, availability and quality of inputs, market demand and prices, public and private infrastructures, business rules and regulations, and etc (Adeyemi and Olufemi 2016).

2.2 The business environment of the manufacturing sector

Uganda's manufacturing sub-sector consists predominantly of MSMEs, which make up over 90 % of firms operating in the sub-sector. Several reports analyse the challenges faced by the sector, such as PSFU (2020; & 2021), the NDPIII (Republic of Uganda, 2020); MFPED (2022). Specifically, the sector situational analysis included in the NDPIII present a long list of issues that should be addressed. However, these are best summarised by MTIC (2022) which points out that Uganda's manufacturing sub-sector is small, uses basic technology, produces products oriented towards import substitution and creates low quality and quantity of gainful jobs. This, accordingly, is a result of the following challenges: (i) inadequate requisite manufacturing support infrastructure; (ii) High costs of inputs including electricity, (iii) limited access to long-term development financing (iv) competition from substandard and or counterfeits imported manufactured products on the market; (v) high cost of doing business, (vi) weak institutional, human resource and financial capacity of MDAs and (vii) use of low and outdated technology. All these factors explicitly and implicitly determine the capacity utilisation of firms in Uganda.

To increase the growth and competitiveness of the manufacturing sector and consequently capacity utilisation, the NDPIII identifies intervention areas and the requisite government ministries, departments, and agencies to address them. Basically, the plan points out support infrastructure, import substitution, access to regional markets and strengthening of legal and institutional frameworks to support manufacturing as the main areas to address. On the other hand MTIC (2022) which leans towards trade more than the manufacturing process itself identifies the following areas for intervention: i) Fast track enactment and implementation of the anti-counterfeits bill and the local content bill; ii) further lower electricity tariffs; iii) support manufacturing firms to acquire quality product standards certification; iv) support manufacturing plants to access, acquire and or update manufacturing technology and equipment; v) ensure access to long term credit; vi) strengthen

Government agencies to support industrialisation; and vii) Provide institutional support to develop and implement a" Competition Policy and Law" to enhance fair competition in the Ugandan market. Overall, the interventions target manufacturing and trading aspects as areas to address to increase capacity utilization.

2.2.1 Regional integration and capacity utilisation

Uganda benefits from several preferential treatment initiatives with duty-free, quota-free access to foreign market. The MTIC (2022); PSFU (2020 &2021); and the NDPIII (Republic of Uganda, 2020) identify challenges to Uganda optimally benefiting from these arrangements which must be addressed for the country to benefit from any new regional trading block: low awareness about the market opportunities, climate change impacts on agriculture, inadequate soft and hard infrastructure challenges that constraint the smooth flow of goods across the continent, high cost of doing business (electricity tariffs and tax structure) that renders Ugandan products uncompetitive, and low capacity to meet quality standards of goods and services.

Multilateral trade rules, policies and regulations are key in determining trade performance through increasing cooperation and market access and facilitating the creation of the basic linkages necessary to achieve effective capacity utilisation and hence industrialisation. This implies that initiatives towards enhancing export growth must be interlinked with policies to increase market access by actively pursuing reciprocal trade agreements (Lammer Sen & Hynes (2016). The EAC compels Partner States to not only ratify but also incorporate the treaty provisions within their national laws.[3] However, the downside to this treaty provision is that states lack the enthusiasm to relinquish authority to supranational entities in the region in case of trade disputes. It is also important to note that Under Article 54(2) of the Common Market Protocol, national courts have authority over resolution of disputes and the East Africa Court of Justice (EACJ) plays a minimal role. The national courts can also resolve grievances by businesses and citizens under EAC guidelines. Still, challenge here is the lack of uniformity in regional jurisprudence in as far as resolving disputes is concerned (Ruhangisa, 2017). Most importantly, the court has significant challenges related to enforcement of judgments and decision, rendering its outcomes useless. This has created gaps in ensuring free flow of goods and resolution of disputes and hence increase capacity utilisation of manufacturing firms.

Another challenge lies in the EAC Competition Act that mandates the EAC Competition Authority to resolve abuses to the Act. Accordingly, the national competition authorities in the Partner States are not obliged to make resolves based on this Act but rather carry out enforcement hinged on their national laws and decisions passed by the EAC Competition Authority. In this regard, Partner States have endorsed national competition laws though implementing them differently based on their capabilities except for Uganda. Uganda does not have a competition law in place, although a draft Competition Bill of 2004 was passed in 2022 awaiting Presidential assent. Nevertheless, there are competition regulatory authorities that oversee sectors,[4] and the policies set the standard for competition practices in Uganda. Therefore, there needs to be more standardisation in the resolution of conflicts, as each partner state adopts a different approach based in the provisions of their national laws and capacity to enforce them.

2.2.2 NTBs impact on capacity utilisation of manufacturing firms

The EAC has provisions to address and eliminate Non-Tariff Barriers under the NTBs Act, 2017 that is in the process of becoming operationalized. This is yet to be achieved fully. Notwithstanding the existing trade agreements, trade barriers remain a hindrance to the free flow of goods and services amongst EAC Partner States (Calabrese and Eberhard-Ruiz, 2016). Almost one-third of exporters' difficulties are due to regulations imposed by members of the EAC, which is also Uganda's top export market. Conformity assessment and rules of origin are the toughest NTBs applied by EAC countries. Specifically, Rwanda and Kenya imposed the greatest %age of these regulations. The NTB challenges are not unique to the EAC. Other destination markets apply about two-thirds of the NTBs reported by Ugandan exporters (ITC, 2018). The European Union (EU), impose the most NTBs to the country. EU countries impose a proportionally higher share of NTBs than their share of Ugandan exports. Although the EU countries import about 21 % of Ugandan exports, they apply more than 27 % of the reported NTBs.

NTBs related costs often directly affect firm productivity and market access and capacity utilisation. Other factors such as distance, logistics, connectivity and border controls majorly determine trade costs. As earlier mentioned, SMEs are inclined to have limited resources or inadequate information about such NTBs, and much as they invest resources to address them, they still incur fixed costs thus, making NTBs more costly for SMEs in general terms. This limits their participation in international trade and hence capacity utilisation. As a remedy therefore, the costs of compliance to NTBs should be addressed in such a manner that enhances the productive capacity of the private sector and the standard of exports.

3 *Section 3 (1) of East African Community Act, 2002 (Uganda)*
4 *Such as, telecommunications, pharmaceuticals, capital markets, electricity, financial services and banking, and insurance sector.*

2.2.3 Trade facilitation

According to Olubandwa, (2022) the WTO drafted the Trade Facilitation Agreement (TFA) to address this problem and projected its full implementation would reduce African trade costs by 14.3%. Uganda signed and ratified the WTO Trade Facilitation agreement in 2017. The country went further to develop the National Trade Facilitation Plan 2020/21-2023/24 and constituted the National Trade Facilitation committee (NTFC) tasked to monitor the implementation of the Trade Facilitation Agreement. However, the committee's inability to meet regularly due to limited facilitation has impeded its capacity to deliver, implying that facilitation of trade is not as envisaged. The committee is also not able to monitor investment in the different measures that are making positive changes in trade facilitation. The NTFC and its subcommittee should be institutionalized so that a budget is allocated to fund its activities. In the interim period, MTIC should be supported to establish a secretariat that will support NTFC and the thematic sub-committees.

The Trade Facilitation agenda in Uganda is guided by the four key pillars of; simplification, standardization, harmonization and Transparency. The main initiatives include automation of customs processes with ASYCUDA world; the authorised economic operator; program; regional electronic cargo tracking system; one stop border posts, single customs territory; the document processing centre; non-intrusive inspection, online licensing of customs agents and customs warehouses and Uganda electronic single window (URA). At the regional level, the EAC developed and launched a Trade Information Portal (TIP) [5] to facilitate trade and increase transparency**.** The TIP gives access to step-by-step guidance on licenses, pre-clearance permits and clearance formalities for the most traded goods within, to and from the EAC. The TIP is linked to national trade portals that present step-by-step the national import and export procedures in each EAC partner state. The Portal guides traders where to go, who to see, what documents to bring, what forms to fill, what costs to pay, what law justifies the step, and where to lodge a complaint in case of a problem.

Notwithstanding, these efforts and partial success, trade facilitation in East African countries is still limited and ineffective as compared to that in other regional integrations and thus, this has limited effectiveness of trade in the region (Gahigi, 2012) There is prevalence of NTBs, which impact on the regional trade negatively by increasing business costs, risks and uncertainties, congestions and delays, promotion of cases of bribes and corruption and among others. The implementation and the application of Community Customs Management Act is not yet consistent and coherent in all the customs of the Member States. Due to poor customs Infrastructure doing business within East African Community is high. Relatedly, expediting customs clearance may not amount to much if not matched by reliable and efficient infrastructure, particularly rails and roads along the Central and Northern Corridors.

2.2.4 Quality Assurance and Infrastructure:

Although commendable efforts have been made, Uganda's national quality infrastructure is underdeveloped and still faces challenges. The 2019/20 UNBS annual report[6] estimated the national quality infrastructure capacity to be at 40 % suggesting that the private sector is inadequately supported in terms of laboratory testing capacity and quality certification of the products. This increases the prevalence of substandard goods on the market. The main challenges faced are: low laboratory capacity, human resource capacity gaps, inadequate funding of the UNBS, absence of accreditation body and legislation and weak framework for coordination and collaboration among quality infrastructure organisations and regulatory agencies. Relatedly, the EAC partner states reluctance to fully harmonise quality standards across the EAC and move to ensure mutual recognition of these standards makes implementation difficult.

2.2.5 Sanitary and Phytosanitary (SPS) and traceability

Uganda's exports are dominated by agricultural products, which are prone to SPS-related interceptions/ border rejections in the regional and European Union (EU) markets. In 2021, Kenya banned Ugandan maize exports due to high levels of aflatoxins, although the ban was lifted later. In 2019, the EU had threatened to ban Uganda's Agro exports to Europe for non-compliance with EU Phytosanitary (plant health) standards (MTIC, 2022). Between 2013-2020, Uganda registered 1,339 interceptions of agricultural export consignments to the EU, which accounted for 2.31% of the total interceptions by the EU over the same period. From May to December 2020, interceptions of commodities imported into the EU or Switzerland with harmful organism(s) with plants and produce related problems demonstrate the challenge that Uganda faces in the EU. Whereas Uganda had 39 interceptions, Kenya's was 20, Tanzania's was 4, Rwanda's was 12 and South Africa, a major exporter to the EU was 23[7]. In the recent past South Sudan government was holding maize imported from

5 *https://www.google.com/search?q=+Trade+Information+Portal+%28TIP%29&sca_esv=559959589&rlz=1C1GCEU_enUG1018UG1018&ei=TFjoZMw2r_mR1Q--*

6 *UNBS ANNUAL PERFORMANCE REPORT FOR FY 2019/2020: https://www.google.com/search?q=2019%2F20+UNBS+annual&rlz=1C1GCEU_enUG1018UG1018&oq=2019%2F20+UNBS+annual+&aqs=chrome..69i57.1844j0j15&sourceid=chrome&ie=UTF-8*

7 *https://food.ec.europa.eu/plants/plant-health-and-biosecurity/europhyt/interceptions_en#2023_intercept*

Uganda on account of alleged presence of unacceptable levels of aflatoxins and this stalemate is yet to be resolved. These play a significant role in reducing exports and hence the capacity utilisation at production capacities in Uganda.

2.2.6 Financing

According to Lashitew (2017) credit constraints has an impact of on a firm's performance and operational decisions, such as exporting propensity, investment decisions, and the choice of production technologies accessed. Therefore, credit constraints may act through capacity utilisation to impact a firm's operations and investment decisions. For example, given capital stock and productivity levels, firms with a high rate of capacity utilisation are more likely to enter into the global market (Tian 2016). Credit markets are normally underdeveloped in developing countries where firms are typically constrained by limited financial resources, which prevents them from undertaking value-enhancing investments and upgrading their existing facilities to enhance productivity (Hua and Boateng, 2017).

The government of Uganda opted to introduce non-commercial lending instruments as a short-term intervention targeting manufacturing, among key growth sectors (MoFPED 2022). This entailed among others capitalizing Uganda Development Bank and Uganda Development Corporation. Notwithstanding this effort, there are credit and financing gaps still given the composition of the manufacturing firms which are predominantly MSMEs who may not meet the lending terms and conditions. The Private Sector Development (PSD) Programme of the NDP III targets to sustainably lower the cost of doing business through, increasing access to affordable credit largely targeting MSMEs; increasing access to long-term finance; mobilising alternative financing sources to finance private investment; and addressing non-financial factors (power, transport, business processes, credit risk etc.) leading to high costs of doing business. These initiatives have produced commendable results; however, they are inadequate to meet the credit needs of manufacturing firms in Uganda. Consequently, expansion and acquisition of the needed technologies and purchase of related inputs remains a challenge.

2.2.7 Local content in public programmes

Policies and legislation regarding local content exist in Uganda, especially in the oil and gas sector to support local content development. Furthermore, the Build Uganda Buy Uganda Policy has elements and components of promoting the local enterprises to benefit from several civil works and other services in the country. These are, however, inadequate given that they do not provide a comprehensive local content to effectively boost the local private sector to harness the multitude of opportunities available (MoFPED, 2022). Although there is Bill passed by government to partly address these shortcomings, the President has not accented to it had had sent it back to parliament for further considerations.

A study by PPDA (2019) to establish factors that hinder local participation in procurement further sheds light on the problem. Accordingly, 54 % of respondents cited delays in payments, 53 % cited corruption, 46 % reported high cost of bidding, 41 % reported ambiguous/unclear specifications, 36 % reported inadequate knowledge of the available opportunities, and 35 % reported lack of finances and 14 % reported lack of technical capacity to meet procurement demands. Other challenges faced by potential bidders, include; acquiring the URA tax clearance certificates especially in the upcountry districts; delays in the procurement processes; complex bidding requirements; poor working relationship between the procurement officers and the providers, leading to negative attitudes towards participation in bidding for government tenders; sometimes intimidation by the procurement officers or their fellow competitors and insufficient time allocated for the bidding process

The recognition of this inadequacy is what prompted the PSD to propose invoking three NDP III broad interventions to support increasing local firms' participation in public investment programmes across sectors, namely: developing and implementing a holistic local content policy, legal and institutional framework; building the capacity of local firms to benefit from public investments; and developing and publicizing a transparent incentive framework that supports local investors. If this is achieved, then there are increased chances of increasing capacity utilisation of local firms.

An effective local content policy will increase participation of local indigenous firms and enhance procurement of locally produced input materials (Ihua *et al.* 2011; Esteves and Barclay 2011). This is because there is a significant direct relationship between local policies and local content development (Kazzazi and Nouri 2012). Given such scenarios, countries that adopt local content as a development strategy for their selected sectors usually start by developing local content frameworks (policies and laws). While a well-designed local content framework is a valuable starting point, there are other factors that can shape their successful implementation (Aoun and Mathieu 2015).

Table 4 a synthesis of the existing challenges experienced by the manufacturing sector in specific areas and gives some possible solutions. The list is not exclusive but a pointer to the existing policy areas that need interventions.

Table 4: A synthesis of the existing challenges experienced by the manufacturing sector

	Area	Nature of problem	Possible solutions
	Macroeconomic Stability		
1	Energy supply	- The current tariff rate US$ 0.08 /KWH rate is high and reduces firms' competitiveness. - Connectivity and Intermittent presence of electricity	- Tariff should be reduced to US$ 0.05 / KWH for both high end and low-end industrial users. - Improve connectivity and address erratic presence
2	Transport and logistics	- Transport still accounts for up to 45 % of the total production and distribution costs (PSFU, 2022)	- Should not be more than 10% - improve handling at border points Activate alternative forms of transport like rail and water
3	Water for Production:	- Rainfed agriculture cannot be relied on	Investment in infrastructure for water for production
4	Skills, Education & Health for Enhanced Labour Productivity:	- Shortage of requisite skills and absence of soft skills	- Develop BTVET to build skills - Revamp the internship and apprentice program. - Promote research partnerships between academic institutions and the private sector
5	Finance and credit	- Commercial rates for borrowing are high - limited long term development finance	- Improve access and affordability to development finance for manufacturing - Increase non-commercial lending Continue capitalising UDB and UDC
6	Legal & Regulatory Frameworks:	- Regulatory burden - Limited support for local content - Lack of a competition law in Uganda - Lack of accreditation law and body	- Reduce the regulatory burden on businesses to reduce the cost of doing business. - Promote the BUBU and Local Content interventions: - Pass the 2004 competition law
7	Tax Policy:	- High tax burden - Aggressive tax policy	- Ensure tax predictability and optimisation - Broaden the tax base to reduce tax burden - Address illicit trade issues - Address tax leakage occasioned by evasion and collusion.
8	SME's Development Issues:	- SME's development Issues: (quality and standards, finance, certification)	- Improve access to affordable credit, - Support to participate in the public procurement - Strengthen and streamline support for SMEs by public institutions (UNBS, Enterprise Uganda, UEPB)

9	Regional Integration Issues	- Trade volumes RECS are low - Prevalence of NTBs - Unilateral actions by partner states - Weak streamlining of RECs treaty provisions - Weak mechanisms for trade dispute resolution - Counterfeit products	- Address supply side constraints - Address NTB - Address Standards and quality - Strengthen the appeal systems of RECs - Strengthen the trade dispute mechanisms in RECs - Pass and implement anti-counterfeits bill - Implement the trade facilitation provisions - Establish the trade remedies committees envisioned in the EAC treaty
10	Local content	Low (30 %) proportion of public contracts and sub-contracts awarded to local firms	-Increase the proportion of public contracts and sub-contracts awarded to local firms -Develop standards of goods that support local content
11	Quality infrastructure	- Uganda's national quality infrastructure is underdeveloped and still faces challenges - low Laboratory capacity, human resource capacity gaps, inadequate funding of the UNBS, absence of accreditation body and legislation and weak framework for coordination and collaboration among Quality Infrastructure organisations and regulatory agencies.	- President ascent to the accreditation bill - Create an accreditation body - Increase the budget of UNBS - improve coordination of quality infrastructure organisations - Harmonise standards at the EAC level
12	Trade facilitation	- Non-functional National Trade Facilitation committee (NTFC)	- The NTFC and its subcommittee should be institutionalized and allocated a budget to fund its activities. - MTIC should be supported to establish a secretariat that will support NTFC and the thematic sub-committees.
13	Sanitary and Phytosanitary	- SPS-related interceptions/ border rejections	- Strengthen SPS standards systems - Ensure enforcement - Sensitise the entire values chain on standards

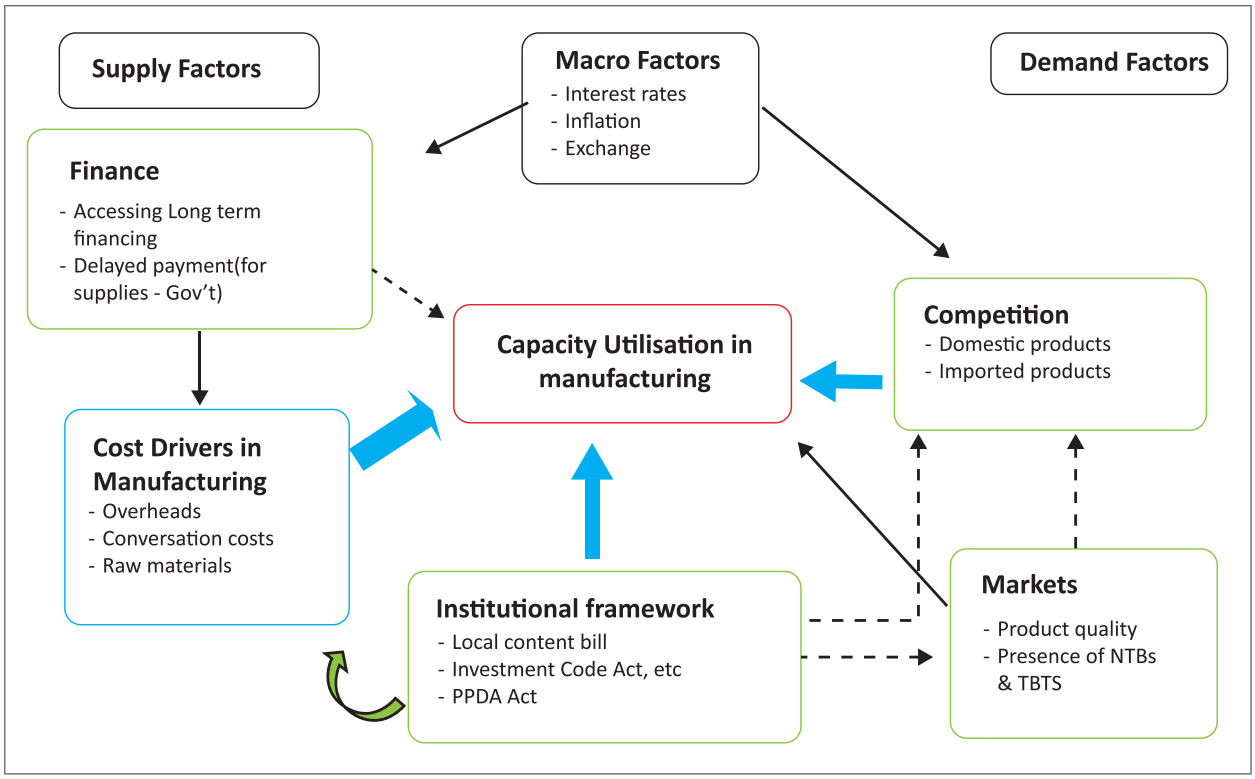
3.0 Methodology

This section describes the actions that were undertaken to investigate capacity utilisation of manufacturing firms in Uganda and the reasons for the current capacity utilization. The section starts by presenting the analytical framework upon which the study is premised followed by a description of the study design, data sources, sample selection and size, data collection tools, data analysis and risks/challenges encountered during the study.

3.1 Analytical framework

To accomplish the study's goals, we used the analytical framework in Figure 2 to guide the study. The framework depicts factors that determine capacity utilisation in the manufacturing sector. The factors can be classified as demand- and supply-side determinants of capacity utilization. The direct relationship between the factors and capacity utilisation is mapped using bold arrows and while indirect relationship(s) are shown with dotted arrows.

Figure 2. Analytical framework



Author Construct. EPRC, 2022

On the supply side, cost drivers have a direct effect on capacity utilization. For example, cost of raw materials determines how much a firm has at its disposal to convert into a finished product. Similarly, conversion costs (the costs that a firm incurs to convert the raw materials into a final product) influence a firm's capacity to transform raw materials into a finished product. Financing, particularly access to long-term financing is another supply-side factor with a direct influence on capacity utilization. Firms that lack access to the financing are likely to be constrained with working capital that can enable them to scale-up daily operations that have the potential of increasing capacity utilization. Inaccessibility is attributable to the fact that most firms lack collateral security (given that majority are MSMEs). Relatedly, firms that supply goods and services to government complain of delayed payment which exacerbates the problem.

On the demand side, the relationship between the factors and capacity utilisation is uni-directional with some factors exerting a direct effect and others an indirect effect on capacity utilisation and these include competition, markets, Institutional frameworks and macro factors. In detail, the market entails factors such as: product quality, the presence of Non-Tariff Barriers and Technical Barriers to Trade. For instance, a significant number of local firms produce below standard products, which negatively affects their demand, hence a disincentive to produce more (sub-optimal capacity utilisation). Similarly, the low-quality products hinder competitiveness in both domestic and regional markets. Low product quality could be attributable to the low capacity of the Uganda National Bureau of Standards (UNBS) to certify the multitude of manufactured products. Another factor affecting capacity utilisation is limited access to finance which is attributable to high interest rates. Consequently, firms have no sufficient capital to invest to expand business operations and increase working capital.

The framework in another way shows that the existing institutional framework (policy, legal and regulatory) has a direct effect on both capacity utilization and cost drivers of firms. As an example, the local content bill seeks to promote meaningful local content mainstreaming to enable local firms' active participation in manufacturing. Similarly, the PPDA act in particular, section 59A and 59B respectively, emphasize preference and reservations with an aim of promoting locally based manufacturers. These and other frameworks ultimately aim at increasing competitiveness of the local firms to boost capacity utilization of the manufacturing sector.

3.2 Study design

The study adopted a mixed methods survey approach to understand capacity utilisation in Uganda's manufacturing sector. The survey approach facilitated the usage of insights generated from interviews with manufacturing firms regarding current and established manufacturing capacities in Uganda. Emphasis was put on the existing records, observation and how the current firms work to maximise capacity utilisation of manufacturing. Relatedly, secondary information/data sources were used to fill information gaps that could be obtained from the surveys.

3.2.1 Primary data sources

This involved conducting a firm survey focusing on the manufacturing sector to collect both quantitative and qualitative primary data. Quantitative data was collected from manufacturing firms across the country. Qualitative data was needed because there are issues regarding the manufacturing sector that needed further probing, mainly institutional and policy issues. This type of data was collected through Focus Group Discussions (FGDs) with key informants representing manufacturers, and the government agencies.

3.2.2 Secondary sources

The research process involved a desk-based review of secondary sources to understand, capacity utilisation in manufacturing in Uganda. In addition, we reviewed the national enabling laws and frameworks which provided a synthesis of existing literature on the appropriate indicators. In the review of the secondary sources, the research sought to understand existing documentation to explain how efforts made by policy actors in manufacturing motivates and improves the realisation of the local content initiatives in Uganda. The aim of undergoing this process was to identify critical information to provide advice to policy actors in the manufacturing sector.

3.2.3 Sample design

The ***target population*** was all the formally registered manufacturing firms under the association membership of the Private Sector Foundation Uganda (PSFU) such as the Small-Scale Industries Association *(*USSIA*)* and Uganda manufacturers association (UMA). A full list of all the firms from the institutions was generated to form the sampling frame. While listing the firms, information about firm size (number of employees), sector and location was collected to aid sampling.

According to the sampling frame obtained in above, 2,879 manufacturing firms were listed under USSIA and 1,126 firms under UMA. Based a sampling formula (see Appendix 1), a sample of 205 manufacturing firms was required and subsequently drawn from the sampling frame. Sampling was done taking cognisance of the sectors to ensure representation (see appendix 1 for detailed sampling procedure).

Sampling procedure: Obtaining the sample was done through a two-stage stratified random sampling design. The first stage was the USSIA and UMA firm stratification. At this stage, proportions were used to obtain the required sample size for each stratum. The proportions were computed as the %age of the total number of employees in the stratum to the total number of the employees in the sampling frame. The proportions were applied on the sample size computed in the previous sector to obtain stratum sample size. In the second stage, the firms within each stratum were categorized by sector. Again, proportions were used

to obtain a sample size for each sector. The proportions were computed as the %age number of employees in the sector to total number of employees in the stratum. The proportions were applied on the stratum sample size obtained in the first stage to obtain a sample size for each sector. A simple random sampling was used to select firms within each sector. The diagrammatic presentation of the sampling procedure is shown in Figure 14 in the appendix section. Table 18 in the appendix also shows the sample distribution across the country.

3.3 Development of data collection instruments

A standard structured questionnaire was used to collect quantitative data from the sampled manufacturing firms. We modified the standard World Bank Enterprise Survey questionnaire to tailor it to Uganda's context. The questionnaire was programmed on the tablets using the Open Data Kit to enable timely data collection, reduce data collection errors and data losses in the field. The tool was pretested and refined before commencement of the actual fieldwork.

Relatedly, separate interview guides for Focus Group Discussion (FGDs) were designed to collect qualitative data. The focus of this tool was to solicit qualitative information on capacity utilisation of manufacturing firms in Uganda.

3.4 Data analysis

Data analysis started with a design of a data analysis plan for both qualitative and quantitative data. The research plan was designed in such a way that the findings from FGDs and the industry-wide surveys complemented each other. Quantitative data analysis entailed use of descriptive statistics and several statistical tests on key indicators of cost drivers. On the other hand, qualitative data involved adoption of themes through coding, categorization as well as development of extracts. Finally, both qualitative and quantitative resulted were integrated by triangulating the statistics and themes generated to explain drivers of costs among manufacturing in Uganda.

3.5 Challenges experienced during the study.

One of the biggest challenges was failure to locate some firms due to change of physical address. Much as a provision was made to replace such firms by having a large sample, it took time because significant time was put in to locate a firm before a decision was taken to replace it. There were also some non-responses and/or incomplete responses from some firms that were not willing to disclose some information. Lastly, the sampling was of a spatial nature and widespread across the country implying high cost of collecting data.

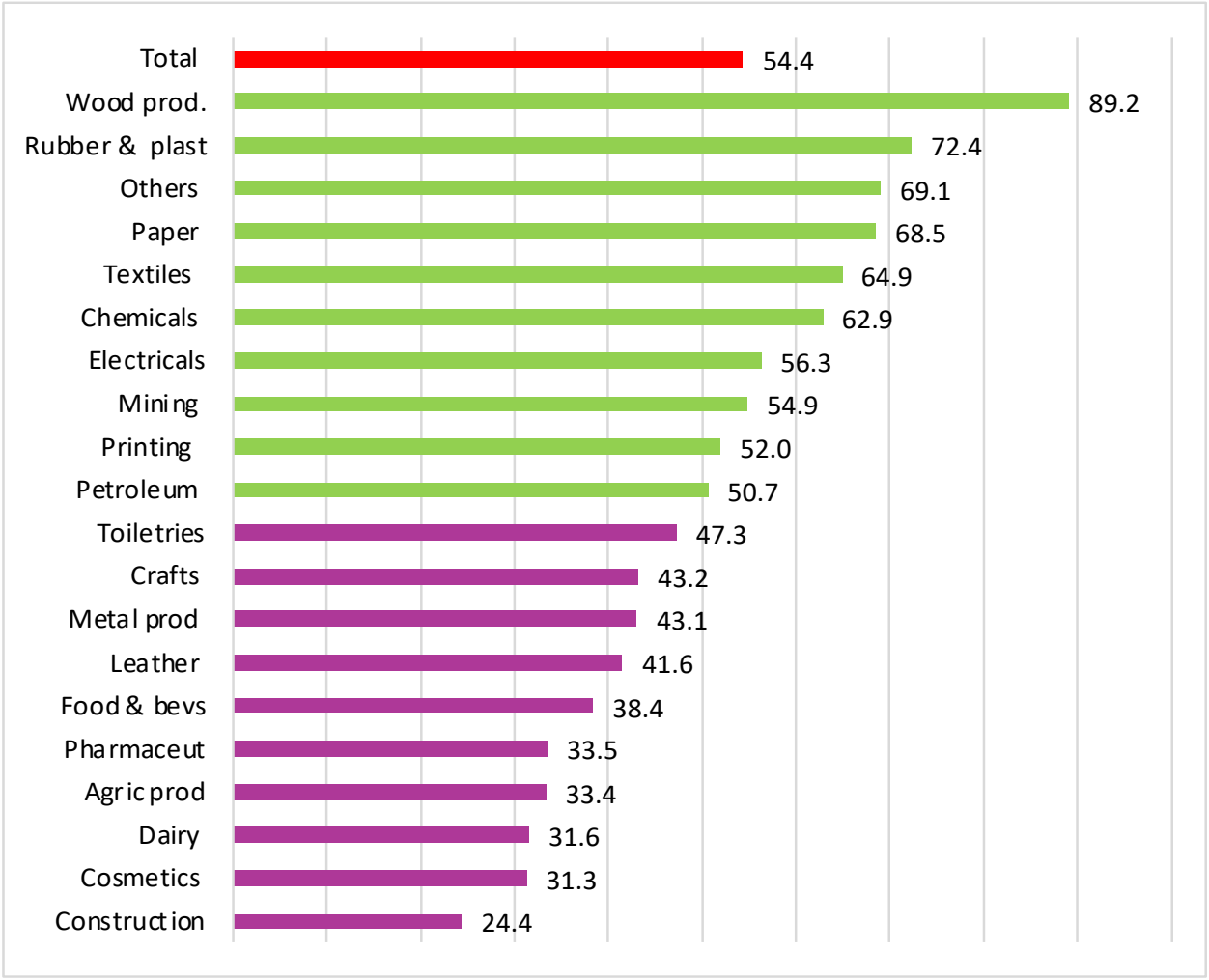
4.0 Findings from the study

In this section we present the status of capacity utilisation disaggregated by membership (UMA and USSIA) and sector to see whether capacity utilisation differs across firms under different memberships and sectors. This is followed by an in-depth analysis of factors that explain the status of the capacity utilisation.

4.1 Capacity utilisation of manufacturing firms in Uganda

Figure 3 shows that the average capacity utilisation stands at 54.4 %. It is however, observed that, 10 out of 22 sectors operate above 50 % while the rest operate below. This implies that the firms operating at a high capacity like those of wood and wood products drive the national average above 50 %. At the bottom of the capacity utilisation ranking is construction with only (24 %) followed by cosmetics, (31.3 %) and agricultural products (33.4 %). This suggests that there is a lot of redundant or unutilised capacity among the manufacturing firms in Uganda where a lot of resources have been invested. There is thus a need to implement a relevant set of policies to unlock the unutilised production capacity. This could be a mix of both demand and supply side policies as explained in the analytical framework.

Figure 3. Capacity utilisation by sector (%)



Source: EPRC construction from Manufacturers survey 2023

Considering firm membership, capacity utilisation is much higher for USSIA firms (67.2 %) (Table 5). Nonetheless, seven sectors of the firms still operate below 50 %. Capacity utilisation for UMA sectors is relatively low with only six sectors operating above 50 %.

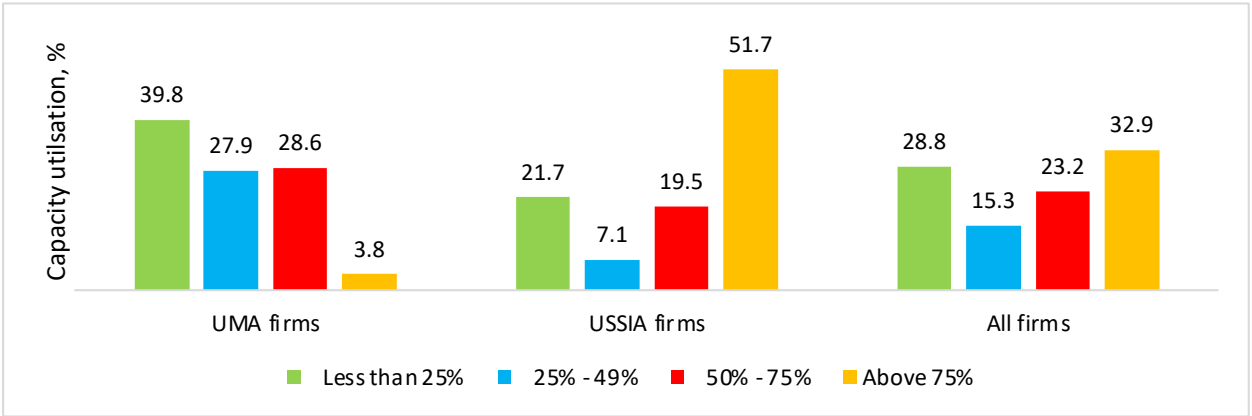
Table 5: Capacity utilisation by sector, %

	UMA firms	USSIA firms	Total
Agric Produce	47.0	3.0	33.4
Building Materials	24.4		24.4
Chemicals & Allied Products	62.9		62.9
Cosmetics & Personal Care	12.9	42.1	31.3
Crafts & Gifts	28.9	46.4	43.2
Dairy	31.6		31.6
Electricals	53.1	60.0	56.3
Food & Beverages	38.0	38.6	38.4
Pharmaceuticals	32.3	34.0	33.5
Leather Products		41.6	41.6
Metal Products & Aluminium	63.1	40.6	43.1
Mining	20.0	60.0	54.9
Petroleum & Oil Processing	50.7		50.7
Others	22.2	86.2	69.1
Paper & Paper Products	40.6	78.3	68.5
Printing & Graphics		52.0	52.0
Rubber & Plastics	72.4		72.4
Textiles & Foam Products	41.6	96.0	64.9
Toiletries & Cleaning Products	28.2	60.8	47.3
Wood Products & Furniture	51.6	99.6	89.2
Total	**35.9**	**67.2**	**54.4**

Source: EPRC construction from Manufacturers survey 2023

We disaggregated capacity utilisation into four quarters to examine the distribution of firms (Figure 4). Only 33 % of the firms operate at above 75 % while about 29 % operate at less than a quarter of their capacity. USSIA firms operate at a relatively higher capacity utilisation as more than half of the firms operate above 75 %. Conversely, about 68 % UMA firms operate at less than 50 %.

Figure 4. Most firms operate between 25 - 50 % Capacity.



Disaggregating further to sectors, firms engaged in wood products and furniture have the highest capacity utilisation with about 78 % of them operating above 75 % (Table 6). Similarly, more than 50 % firms engaged in alcohol and wines, and paper products also operate above 75 %. Conversely, firms engaged in edible oil, and construction and building materials operate at the least capacity with more than three quarters of the firms operating at less than 25 %.

Table 6: Capacity utilisation levels by sector

	Less than 25%	25% - 49%	50% - 75%	Above 75%
Agric Produce	43.7	1.4	52.1	2.8
Building Materials	75.3	25.0	0.0	0.0
Chemicals & Allied Products	0.0	0.0	100.0	0.0
Cosmetics & Personal Care	60.8	3.9	13.9	21.5
Crafts & Gifts	9.1	75.8	3.0	12.1
Dairy	33.3	66.7	0.0	0.0
Electricals	0.0	8.3	88.9	2.8
Food & Beverages	25.7	41.9	28.1	4.3
Pharmaceuticals	43.7	21.1	35.3	0.0
Leather Products	66.7	0.0	0.0	33.3
Metal Products & Aluminium	33.8	1.5	60.5	4.2
Mining	12.8	0.0	87.2	0.0
Others	21.5	9.7	1.7	67.1
Paper & Paper Products	18.5	25.3	0.7	55.5
Printing & Graphics	50.0	0.0	0.0	50.0
Rubber & Plastics	0.0	2.7	84.9	12.3
Textiles & Foam Products	3.6	32.1	17.9	46.4
Toiletries & Cleaning Products	31.5	19.2	24.6	24.6
Edible Oil	89.9	10.1	0.0	0.0
Wood Products & Furniture	0.3	0.3	21.5	77.9
Total	**28.8**	**15.3**	**23.1**	**32.9**

4.2 Constraints to full capacity utilization

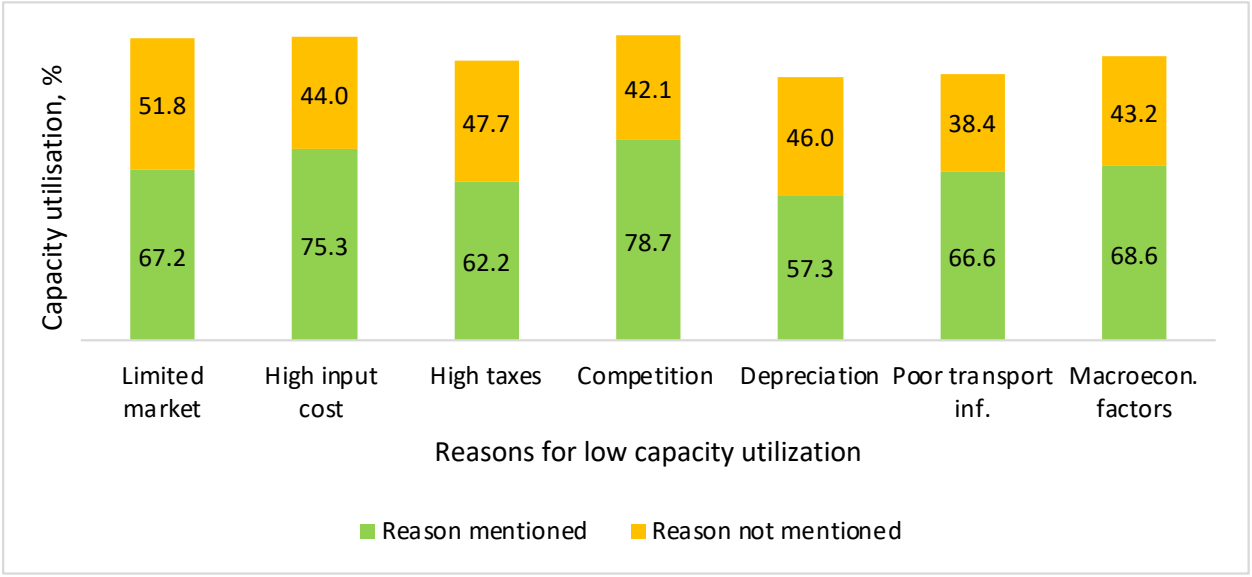
Manufacturing firms' respondents were asked to mention the reasons why they operate below their installed capacities. Overall, lack of sufficient demand for the manufactured products was the most reported factor by 56 % of the firms followed by competition (44 %) (Table 7). There is significant difference among UMA and USSIA firms regarding these two factors given that the %ages are higher for UMA firms, implying the limited demand and competition affects capacity utilisation of UMA firms that their USSIA counterparts. In addition to the insufficient demand and competition, UMA firms also reported high taxes as a hinderance to full capacity utilisation. During the FGD with UMA members, it was reported that the firms cannot produce more than what is needed on the market because it would go to waste, and this is made worse by the taxes (stamp duty) levied during storage.

Table 7: Reasons for operating below capacity.

Reason	UMA	USSIA	Total
Limited market/insufficient demand	72.0	47.0	55.9
High cost of production inputs	47.1	39.6	42.3
Low supply of some raw materials/inputs	17.7	14.7	15.8
High taxes	57.0	32.0	40.9
Competition from similar products	62.0	33.7	43.8
Depreciation of machinery	4.0	3.9	3.9
Outdated technology	7.3	2.6	4.3
Poor transport infrastructure	38.2	13.0	22.0
Unstable/no internet	1.4	1.0	1.2
Macroeconomic factors	40.3	29.2	33.1
Inadequately skilled employees	13.0	22.8	19.3
Climate related factors	9.8	14.0	12.5
Other reasons	25.6	25.1	25.3

An analysis to examine capacity utilisation of firms that mentioned the reasons in Table 7 above vis-à-vis that firms that don't mention was done and the findings are reported in Figure 5. The figure shows that the reasons mentioned indeed affect capacity utilization. For example, firms that reported limited demand/insufficient market for their products operate at 51.8 % while their counterparts that do not report the same problem operate at 67.2 % – a difference of 15.4 %age points. Similarly, firms that reported competition operate at 42.1 % while their counterparts that do not report the same problem operate at 78.7 % – a difference of 36.6 %age points. These findings show a gap in capacity utilisation that is created by the presence various constraints.

Figure 5. Capacity utilisation by reason



Source: EPRC construction from Manufacturers survey 2023

4.2.1 Lack of sufficient demand for locally manufactured goods

As noted, interaction with the manufacturers' representatives further suggested that demand for locally manufactured products is low and this negatively impacts their firms' capacity utilization. Consequently, firms are hesitant to produce a lot that cannot be consumed by the existing market. Given that only 10 % of the firms can export (Survey data, 2023), the rest only have the domestic market to consume their products. According to the findings of the study, lack of sufficient demand for the firms' manufactured products is attributable to three main factors, namely: firms' low engagement in public procurement; lack of local supply contracts with high-end markets like supermarkets; competition; and limited engagement in cross border or international trade.

4.2.1.1 Business-government relations

One of the avenues available for firms to sell their products in large quantities is by participating in the government's procurement process. The government has gone further to foster private sector engagement in procurement by introducing the Local Content bill and the Reservation Scheme to enhance participation of the local firms in the procurement activities. Despite the initiative, many firms are still unable to participate in government procurement. Indeed, the study revealed that only 16.2 % of the firms (Survey data, 2023) have ever attempted to supply products to any government ministry or agency (MDA), of which 76.2 % (Survey data, 2023) were successful.

Table 8: Reasons for low firm participation in supply contracts with government (%)

	Low Awareness	Restrictive Requirements	Delayed Payment	Others
UMA	30.7	23.0	17.8	28.5
USSIA	30.9	45.0	3.7	18.8
Agric Produce	62.5	0.0	16.7	20.8
Building Materials	83.5	0.0	0.0	16.5
Cosmetics & Personal Care	31.1	0.0	19.2	49.7
Crafts & Gifts	52.6	0.0	21.1	26.3
Electricals	91.8	0.0	0.0	8.2
Food & Beverages	55.7	14.8	23.6	5.9
Leather Products	0.0	33.8	48.7	17.6
Metal Products & Aluminium	72.8	0.0	5.1	22.1
Paper & Paper Products	0.0	98.8	1.2	0.0
Printing & Graphics	0.0	50.0	50.0	0.0
Rubber & Plastics	40.2	45.8	4.4	9.6
Textiles & Foam Products	84.3	6.7	0.0	9.0
Toiletries & Cleaning Products	40.9	6.8	11.4	40.9
Edible Oil	0.0	0.0	37.5	62.5
Wood Products & Furniture	98.5	1.5	0.0	0.0
Total	**30.8**	**37.5**	**8.5**	**21.7**

Source: EPRC construction from Manufacturers survey 2023

Reasons for low engagement in government procurement vary across sectors and firm membership, but overall, the main reasons are the restrictive requirements in the bidding process (reported by 37.5 % of the firms) and low awareness about the incentives in the local content procurement 30.8 %) Table 8). More UMA firms reported low awareness as their biggest bottleneck (30.7 %) than restrictive requirements in the bidding process (23.0 %). Conversely, more USSIA firms reported restrictive requirements (45 %) than low awareness (30.9 %).

Considering individual sectors/firms, most firms reported low awareness about the incentives in the local content procurement as their most impediment. Notably, over 70 % of firms engaged in construction and building materials; electricals; metal products; textile and fabrics; and wood products reported low awareness (Table 8). The restrictive bidding process also hampers firms manufacturing paper and paper products (98.8 %); and printing and graphics firms most (55 %).

a) Low awareness

Awareness pertains to having knowledge or information about the incentives for local manufacturers enshrined in the PPDA Act (henceforth, the Act). Low awareness is the biggest hinderance to firms' participation in government procurement. Further exploration on awareness reveals that 54.4 % of the firms are aware of the privileges in the Act that gives preference to local manufacturers (Figure 6). The %age is much less for UMA firms with only about 46.1 % awareness compared to USSIA with 59 %. Among those who are aware, some do not know the full details of the Reservation and Preference Scheme that benefits

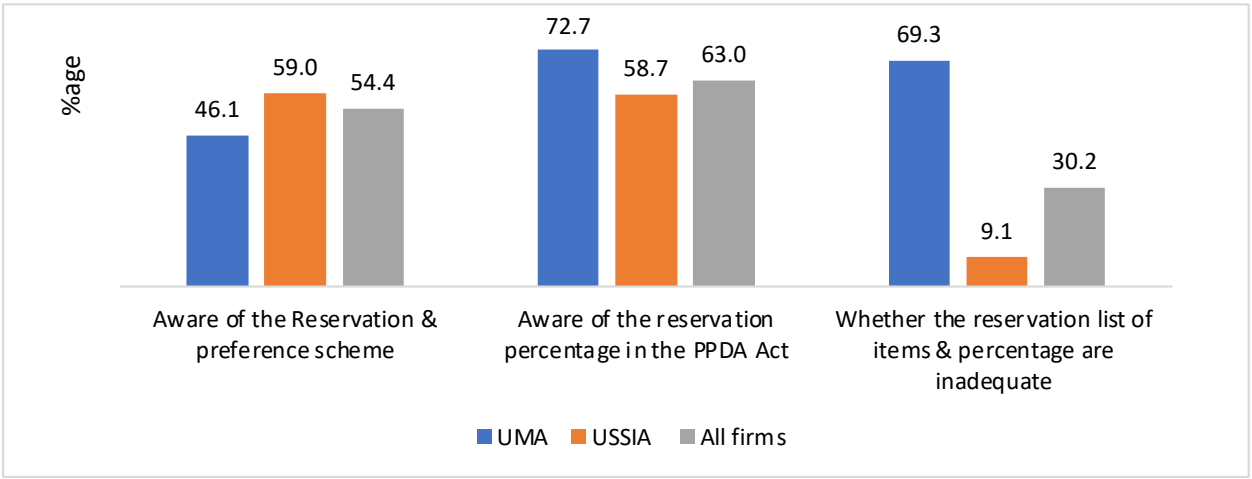
them. For example, 63 % of the firms do know that there is a certain %age (the Reservation & Preference Scheme) that is reserved for local manufacturers in government procurement (Figure 6). The awareness of the reservation %age is low among USSIA firms at 58.7 %. The Reservation and Preference scheme is an initiative by the government to reserve a certain %age of selected items to be supplied by the local manufacturers. According to the discussion with policy implementers (2023), most firms do not know the items that the Act has reserved to be supplied by them, neither do they know the %age of the reserved items that they are supposed to supply. On the other hand, participants in FGDs representing firms say that "*Some products that can be resourced locally such as uniforms and medicines are not listed in the local content procurement incentive (Policy implementers, 2023)".* Indeed, for the firms that are aware of the content of the Reservation and Preference scheme, only 30.2 % think that the scheme is adequate enough to allow the local manufacturers to engage in business with government. What this means is that the range of the items listed in the Reservation and Preference scheme is narrow, hence excluding many local manufacturers. Instead, the items listed in the scheme are beyond the capacity of most local manufacturers. A case in point is construction and manufacturing of building materials. This was further expressed by manufacturers during FGDs thus:

"We don't have the capacity to respond to the construction services as for big projects like dams and airports, therefore capacity itself is an issue" (UMA FGD, 2023).

"We are not able to participate in big projects that require a lot of money, instead we are sub-contracted by the bigger firms (UMA FGD, 2023).

Consequentially, evidence in Figure 6 supports this assertion where over 69 % of the firms think that the Reservation and Preference scheme is inadequate.

Figure 6. Awareness & perception about the reservation scheme, %



Besides being inadequate to accommodate local manufacturers, some firms believe that even in its current state, the reservation scheme is not effective. For example, over 34.9 % of the firms say there is no transparency in the scheme while another 44 % think that the scheme's implementation guidelines are poor (Table 19 in appendix II). Transparency is partly attributed to the lack of clarity in the procurement processes that lead to some firms being favoured over the others during the bidding process. There is also a lack of clarity on who a local manufacturer is. About 18 % of UMA firms reported that some foreign firms register as domestic firms and it is this type of firms that dominate and exhaust the preference and reservation quota that is meant for typical local firms.

b) Delayed payment by the government

Delayed payment was the second most factor that hinders firms from participating in government procurement. Delayed payment is critical because it holds firms' financial resources that would otherwise be used for re-investment to increase capacity. Some firms are operating on loans that must be financed and any delays in payments implies that financial resources must be identified from some other sources. FGD with manufacturers express difficulty in accessing payment as reflected in the quote below:

"Manufacturers supply goods to government but the payments are usually delayed and take forever to get paid limiting availability to investment capital", (UMA manufacturers, 2023).

Even when the MDAs in need of supplies approached the manufacturers to supply some items, the firms were hesitant to accept to do business with government. This is what some representatives from the government said.

"When we tried to engage some of the firms to participate in the bidding process, they said they cannot manage the delays in payments from the government", (Policy implementers, 2023).

Given that government is the leading market for some manufacturers, this significantly impinges in the affected firms to the extent that they are forced to reduce their ability to fully utilize their established capacity. If not addressed at a time when government wishes to grow the manufacturing sector, this is likely stifling the sector's growth and contribution to the economy.

c) Restrictive requirements in the bidding process

During the bidding process, there are several documents that firms must submit to show proof of compliance to some policies, government regulations and procedures. For example, it is a requirement that firms have Tax Identification Numbers (registered with URA), register with Uganda Registration Services Bureau and National Social Security Fund, among others, if they are to transact with the government. Note that these requirements are a must not only to benefit from government tenders, but if firms must grow and export to the national and international markets. However, given that 70 % of the firms in Uganda are informal, there is a high likelihood that some registered firms still struggle regarding documents compliance. Consequentially, they are technically excluded from the bidding process. Though not explicitly mentioned, the restrictive requirements alluded to could be associated with the formalisation and compliance processes.

Relatedly, informality is hindering participation in the bidding process. Indeed, when asked to rate their experiences with the formalisation and compliance processes including tax administration, business licensing and permits, the manufacturers in various sectors reported that the processes were a major or very severe obstacle. Although the responsible institutions to issue these documents have put in place systems to make the process friendly, respondents voiced loopholes exploited by officials to extort money. Relatedly, about 34 % of UMA firms consider high tax rates as a major or very severe obstacle to formalisation (Table 9). The %age is much smaller for USSIA firms (26.9 %). The manufacturers said that if they attempted to comply with tax regulations, they would *'expose'* themselves to the tax man.

The linkage between taxes and its influence on capacity utilisation was expressed by the KIs as follows:

"Taxation and compliance to VAT are very expensive and both limit us from producing to capacity because the more we produce, the higher the tax we would be expected to pay (USSIA Key Informants", 2023).

Table 9: Firms' assessment of formalisation and compliance processes

	Effect of Tax Rates			Effect of Tax Administration on firm operations			Effect of Business Licensing & Permits on firm operations		
	UMA	USSIA	Total	UMA	USSIA	Total	UMA	USSIA	Total
Minor Obstacle	12.4	10.5	11.1	22.1	15.2	17.7	27.6	10.1	16.4
Moderate Obstacle	24.6	29.9	28.0	22.3	21.1	21.5	14.2	37.0	28.8
Major Obstacle	31.8	13.1	19.8	13.2	12.2	12.6	6.2	23.4	17.3
Very Severe Obstacle	2.3	13.8	9.7	1.2	11.5	7.8	0.7	0.4	0.5

The manufacturers further mentioned that taxes are not only high, but its administration is also problematic. About 42% of the firms reported that tax administration as either a moderate, major or very severe obstacle to their operations (Table 9). The %age is higher for USSIA firms (45%) that report tax administration as being problematic. The burden of complying with tax regulations was collaborated with manufacturers' expressions thus:

"The system for filling tax returns monthly is cumbersome even if there is an option of doing it online due to network frustrations and we go to URA offices physically, we are asked to pay some money" (USSIA Key Informant, 2023).

"Some of our firms don't know how to file returns, so we involve lawyers which involves with a cost" (USSIA Key Informant, 2023).

On the upside, licensing and obtaining permits are not perceived as major obstacles. Over 53 % firms regard it as either a no or minor obstacle. However, licensing and obtaining permits is still a considerable obstacle for USSIA firms with about 61 % reporting as moderate or worse. The key informants from USSIA attest to the hurdles that exist in licensing and obtaining permits thus:

"The process is cumbersome in terms of requirements needed and time taken to do it. FGD participants indicated the difficulty in certification as reflected in the quotes below:

"Certification and accreditation processes are lengthy; we can't take our products to the supermarkets when they are not certified" (USSIA Key Informants, 2023).

"Although all products must be first certified to be on market, we don't have enough money to invest" (USSIA Key Informant, 2023).

4.2.1.2 Competition from other firms

Competition was another reason that firms gave for lack of demand for their products. The competition is from both locally manufactured products and imported cheap ones. Considering the total sample, most of the competition is from domestic firms (82.7 %) (Firm survey, 2023). Nonetheless, competition arising from imported products is also significant for both UMA and USSIA firms given that more than 50 % of the firms reported it (ibid).

Competition from domestic products is mainly for products manufactured by the big firms. Such firms have been in production for a long time and their products are well known in the market. This is what key Informants in FGDs said about competition of products produced domestically by established/big firms:

"You can try to sell your product and people say, 'we are used to Mukwano, we are reluctant to expand our scale of operation due to lack of market and many of us end up closing the business", (USSIA Key Informants, 2023).

"We fear the competition to produce beyond what our market can take as small-scale firms (USSIA Key Informants, 2023).

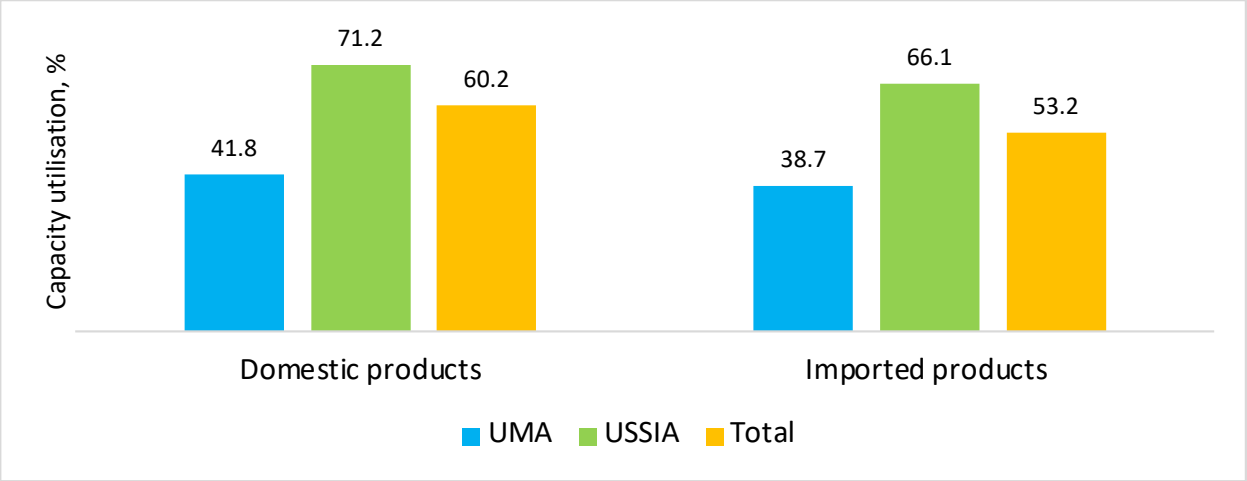
Concerning competition from imported products, the participants in a FGD mentioned that:

"Large scale importers of similar product end up selling cheaply and crowd out the products of local manufacturer in the market due to no protection to the local manufacturers" (UMA Key Informant, 2023).

When asked to rate the extent to which competition is an obstacle to their operations, about 42 % of the firms reported that it is a major or severe obstacle (Figure 11 in appendix II). The competition is a relatively much bigger obstacle in USSIA firms (45.4 %) compared to UMA firms (35.5 %). Notwithstanding the slight difference competition remains a challenge among manufactures and is perceived to negatively affect the capacity utilisation of firms' established production capacity.

An analysis to examine capacity utilisation of firms reporting either internal or external competition revealed that competition affects capacity utilisation of UMA firms more than it does for USSIA firms. Notably, capacity utilisation of UMA firms facing domestic competition is 41.8 % while that of the USSIA counterparts is 71.2 % (Figure 7). Similarly, capacity utilisation of UMA firms facing competition from imported products is 38.7 % while that of their USSIA counterparts is 66.1 %. An additional observation is that competition from imported products lowers capacity utilisation. Specifically, firms expressing concerns about competition reported a capacity utilisation of 60 % for domestic products and 53.2 % for imported ones, regardless of their membership status.

Figure 7: Association between competition and capacity utilisation



Source: EPRC construction from Manufacturers survey 2023

4.2.2 Low supply of raw materials and/or production inputs

4.2.2.1 Inadequate raw materials

Raw materials are the core input in manufacturing, hence a critical determinant of capacity utilisation. Manufacturing firms in Uganda source raw materials both internally and internationally with ramifications, respectively. This study revealed that there are many challenges associated with access to raw materials, including poor quality, unavailability, and insufficiency among others. Consequently, firms that have capacity to import, do so and this is associated with import challenges. The findings revealed that over 80 % of the firms import the raw materials because they are not locally available (Table 10). Unavailability notwithstanding, some firms (15.9 %) opt to import raw materials when the local ones are of poor quality. Some other firms (21.1 %) opt to import when local supply is unreliable (in terms of required quantities). For UMA firms, about 15.6 % opt to import raw materials because the local ones are expensive. Overall, the emerging picture is that firms import raw materials because they are not available in the country.

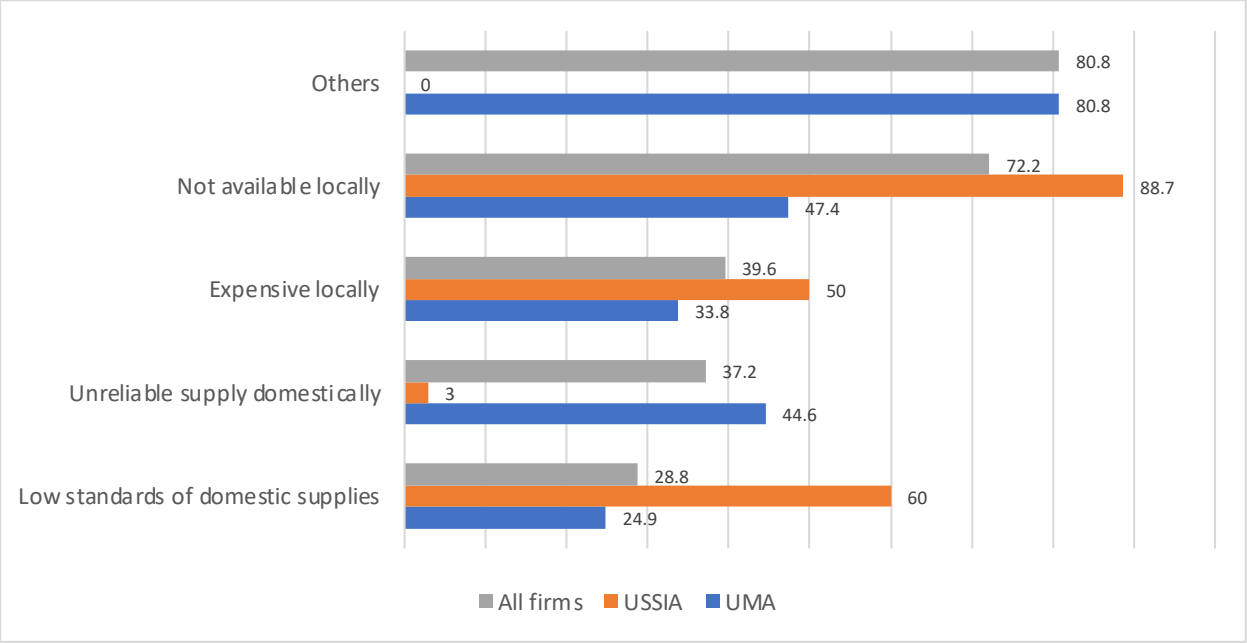
The implication of relying more on imported inputs is that firms do not have enough financial muscle to acquire the required quantities, hence limiting their capacity utilisation. In addition, importation increases the cost of raw materials which in turn leads to high pricing of finished products, which eventually become uncompetitive compared to those imported outside the EAC regions.

Table 10: Reasons for importing raw materials/production inputs.

	UMA		USSIA		All firms	
	Frequency	%	Frequency	%	Frequency	%
Low standards of domestic supplies	184	28.8	17	2.7	201	15.9
Unreliable supply domestically	206	32.2	61	9.7	267	21.1
Expensive locally	100	15.6	60	9.6	160	12.6
Not available locally	445	69.5	584	93.1	1,029	81.2
Others	1	0.2	0	0.0	1	0.1

Of all the reasons mentioned for importing, low standards of domestic supplies and unreliable supply of raw materials domestically have the greatest impact on capacity utilisation, at 28.8 % and 37.2 % respectively as shown in Figure 8. Unreliable supply is critical for USSIA firms making them produce at only 3 %.

Figure 8:. Reasons for importing raw materials and capacity utilisation



A deeper analysis of the imported raw materials reveals that most of them are sourced from outside the EAC region. This implies that they face the full impact of the external common tariffs, although this is at 10 % compared to finished products at 25 %. In addition, currency value disparity puts Uganda's manufacturers at a disadvantage compared to her peers in the EAC region because its currency is the lowest. In this regard, manufacturers opined thus:

"Currency value disparity has limited our manufacturers importation capacity of raw materials in the region...for example, the Uganda shilling in Kericho is nothing", (UMA Respondent, 2023).

The implication of high-cost raw materials is that it hinders firms from making big purchases that match their installed capacity utilisation. In addition, high-cost of raw materials make the final product expensive and hence uncompetitive. This could partly explain why some of Uganda's products do not feature in the regional markets because they are relatively expensive.

4.2.2.2 Irregular/insufficient conversion inputs

Besides raw materials, there are other inputs (referred to as conversion inputs and/or services) that firms use along with the raw materials to convert the raw materials into final products. For example, electricity is a key input that firms use to produce, implying that its availability directly determines how much is produced. In this study, about 70 % of the firms reported that they experienced power outages that affected production (Table 11). The incidence of power outages reported was higher in UMA firms (84 %) compared to USSIA (62 %) and this is explained by the fact that a significant number of firms among the latter do not rely on electricity during the production process. About 52 % of those affected said that the outages were either high or severe. Consequently, 41 % of the firms consider power outage as a major or very severe obstacle to their production operations. The effect of power outages was more pronounced in the UMA firms, where about 72.8 % consider it as either a high or severe obstacle and 56 % perceive it as a major or very severe obstacle to their operations. Although Uganda has sufficient electric power to run the manufacturing sector, the challenges associated with the preceding analysis arises from transmission and distribution characterized by old infrastructure which breaks down from time to time.

Table 11: Electricity and water challenges by firm membership

	UMA	USSIA	Total
Firm Experience Power Outages	83.5	62.3	69.9
Extent of the impact of outages			
Moderate	27.3	64.0	48.3
High	62.7	23.2	40.1
Severe	10.1	12.8	11.6
Degree of electricity Outages obstacle			
None	3.1	2.5	2.8
Minor	13.6	34.8	25.8
Moderate	27.3	33.2	30.7
Major	41.3	19.1	28.6
Very Severe	14.7	10.4	12.2
Experience Insufficient Water			
Firm does not use water for production	5.8	28.3	20.3
Yes	19.3	19.6	19.5

Besides power outages, most firms are in areas gazetted as residential. The effect of poor location is two-fold. First, the factories themselves cause a power outage because they demand a lot of power more than what is supplied in the (residential) area. Sometimes this has resulted into blowing of transformers. Second, firms located in residential areas do not benefit from the privilege of relatively low electricity tariffs and steady supply that is given to industries. These constraints were expressed by participants in the FGD as follows:

"Some factories are in an area where power is being connected for domestic use or residential use and is not suitable for manufacturing" (Policy implementers, 2023).

"Some of our maize millers have closed their operations because they are more powerful than the installed transformers. As a result, they cause electricity to go off often (UMA manufacturers, 2023).

Due to the insufficient power supply resulting from poor location, most manufacturers opt to operate in the night when power demand is low, consequently affecting their capacity utilisation.

Water is also another critical conversion input that is directly used in the production process especially for firms manufacturing foods and beverages. Although few firms (19.5 %) reported insufficient water as a constraint, it is still a challenge worth mentioning. Nonetheless, insufficient water does not emerge as a serious production constraint in the manufacturing sector.

4.2.2.3 Limited financing options

The growth of any firm is largely determined by the sources of finance at its disposal, which may be equity, retained earnings, loans or grants and this consequently has a strong bearing on the capacity utilisation. The results suggest that capacity utilisation among the manufacturing firms is constrained by over reliance retained earnings both for working capital and asset purchasing. Notably, 71 % and 93 % of the firms rely on retained earnings to finance their working capital and asset purchasing respectively (Table 12).

Table 12: Sources of financing for working capital and asset purchasing, %

	Working capital			Asset purchasing		
	UMA	USSIA	Total	UMA	USSIA	Total
Internal funds or retained earnings	75.2	68.2	70.7	97.7	90.8	93.0
Borrowed from banks	4.8	8.9	7.5	64.4	77.0	72.0
Borrowed from non-bank financial institutions	0.5	3.4	2.4	44.4	22.6	23.7
Purchases on credit and advances from customers	3.3	6.0	5.1	17.0	44.2	41.9
Money lenders	0.6	4.5	3.1	-		-
Owner's/issued equity	-	-	-	77.1	57.9	60.8
Others	15.4	9.0	11.3	-	-	-

Only 9.9 % of the firms rely on either commercial banks or non-bank institutions (like cooperatives, credit unions or microfinance institutions) for working capital. For purchasing assets, borrowing from commercial banks is the second highest source of financing (72 %). A relatively small %age of firms use commercial banks (15.1 %) to obtain funding for asset purchasing yet this source should be the prominent one for funding asset purchases. The implication of relying more on retained earnings is that firms may not be accessing sufficient capital to enable them to increase their capacity utilisation. The lack of capital to invest in manufacturing and meet capacity utilisation was described by participants in the FGDs thus:

"We have limited access to capital, our source of finance is from family members, personal savings, saccos limiting investment to invest in production" (USSIA respondents, 2023).

An analysis of the correlation between capacity utilisation and source of funds reveals a significant relation between the two. Notably, the findings reveal a negative and significant correlation between capacity utilisation and internal source of funding for working capital (Table 13). On the contrary, a positive and significant correlation exists between capacity utilisation and internal source of funding for purchasing assets. Bank borrowing for working capital has a positive and significant correlation with capacity utilisation. These findings imply that firms that obtain funding of working capital from internal sources are likely to have low-capacity utilisation while their counterparts that borrow from banks are likely to have a higher capacity utilisation. The correlation between capacity utilisation and borrowing from non-bank institutions was negative and significant, implying that borrowing from non-banks either for working capital or asset purchase increases likelihood of low-capacity utilization.

Table 13: Correlation between capacity utilisation and sources of financing

	Working capital	Asset financing
Internal funds or retained earnings	-0.1181*	0.3169*
Borrowed from banks	0.4232*	0.1250
Borrowed from non-bank financial institutions	-0.1577*	-0.7494*
Purchases on credit and advances from customers	0.3124*	-0.8968*
Money lenders	0.1959*	
Owner's/issued equity		0.4059*

* - Significance at 1%

Regarding applying and obtaining a loan from a commercial bank, the findings reveal that only 35.5 % of the firms applied for a loan (either short-, medium- or long-term) (Table 14) in the one year preceding the survey suggesting that the majority are left out on this source of finance. Out of this proportion who applied for the loans, 82 % reported that collateral was required. This explains why most firms do not acquire loans from commercial banks, but instead go to money lenders whose interest charges are relatively higher with almost no grace period and the repayments are tagged on very short payment intervals. The manufacturers in FGDs had this to say:

"We lack security to access capital and use loans from money lenders who don't need security (USSIA FGD, 2023).

Indeed, when asked to ascertain the difficulty of accessing financing, 47.3 % of the firms said that financing is a major/very severe obstacle to the current operations (Table 14). The difficulty of accessing financing is more pronounced among USSIA firms where 64.5 % of them say that access to financing is a major/very severe obstacle compared to only 16.4 % UMA firms. This collaborates well with what manufacturers of USSIA firms said: *"There is much more procedures to get a loan from the bank" (USSIA FGD, 2023).*

Table 14: Loan application and easiness of accessing financing, %

	UMA	USSIA	Total
Loan acquisition			
Short-Term Loan (Up to 6 months)	18.4	3.4	8.8
Medium- or long-term loan (above 1 year)	19.5	39.4	32.3
Short or medium/long term Loan	22.3	42.8	35.5
Require Collateral	91.5	79.4	82.0
Easiness of access To Finance			
No Obstacle	45.1	23.8	31.4
Minor Obstacle	34.1	6.8	16.5
Moderate Obstacle	4.5	4.9	4.8
Major Obstacle	9.6	18.5	15.3
Very Severe Obstacle	6.8	46.0	32.0

Credit/loan acquisition has implications on capacity utilisation. Findings revealed that capacity utilisation for firms that obtained a loan is almost twice as much as those that did not (Firm survey, 2003). This suggest that firms are likely to improve capacity utilisation of their production units when they are able and can access credit from lending institutions.

4.2.2.4 Low human resource capacity

Low human resource capacity, especially regarding skill levels has been a complaint raised by manufacturers for years. However, this study shows otherwise. First and foremost, the core workers (production workers) account for more than three quarters of the employees (Table 15). Secondly, only 7.4 % of the firms reported that their production workers are low-skilled (Table 15). A vast majority of the production workers are high-skilled (73 %).

Production workers are critical in a firm because they are directly involved in the core 'businesses of the firm. Table 15 shows that there is a very significant positive correlation between the proportion of production workers in the firm with capacity utilisation. The positive and significant correlation between the proportion of high-skilled production workers and capacity utilisation further shows the importance of skilled workers in capacity utilisation.

Table 15: Proportions of workers and correlation with capacity utilisation

	UMA	USSIA	Total	Correlations(1%)
Production workers	59.5	84.5	76.4	0.2214*
Non-production workers	39.9	14.7	22.9	-0.2598*
High-skilled production workers	59.2	79.2	72.7	0.2221*
Semi-skilled production workers	25.9	14.8	18.4	-0.1775*
Low-skilled production workers	10.4	6.0	7.4	-0.1823*
Workers with secondary education	55.0	61.9	59.4	0.0038*

* Significance at 1%

On the other hand, semi- and low-skilled workers have a negative correlation with capacity utilisation, meaning that the more this category of workers, the lower the capacity utilisation. The findings on education level correspond well with findings of skill levels. The findings reveal that 59.4 % of the workers completed secondary education (Table 15). Secondary education also has a very significant and positive correlation with capacity utilisation. A further analysis of firms' perception about the education and skill adequacy of their employees, suggests that the two factors are no obstacles or are minimal obstacles (Table 20 in appendix II).

While low education and low skills are not major obstacles for most firms generally, there are some sectors that consider them as major/severe obstacles. For example, about 56 %, 40 %, and 35 % of the firms in the sector of electricals; printing and graphics; and construction and building materials respectively, consider inadequate education of their workforce as a major/severe obstacle (Table 16). Similarly, about 56 %; 40 % and 39.4 % of the firms in the sector of electricals; printing and graphics; and crafts respectively, consider inadequate skilled workforce as a major/severe obstacle (Table 16). Workers particularly in the sector of construction and building materials require some level of skills because their work involves use of machines. The firms had this to say:

"Technical expertise in operating some machines is lacking, the education institutions are producing labour that doesn't meet the manufacturing need" *(UMA Respondents, 2023).*

"Relying on less skilled labour and continued lack of specialized employees to run some equipment limits our capacity utilisation potential" (UMA Respondents, 2023).

"Our education system and training institutions offers broad skillsets that are a mismatch to our auto engineering needs, for example in furniture works, training is made for someone to use the hand tools and not the modern equipment", (UMA Respondent, 2023)

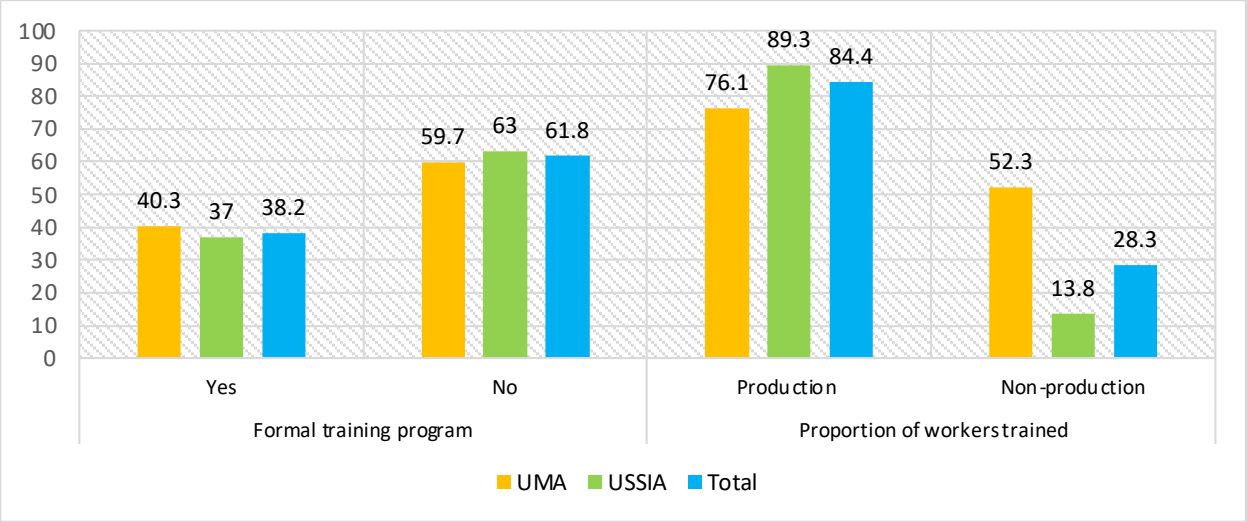
"It is hard to get the right people to place in the different areas in our production system but mainly because of the gap between what is trending in the education institutions and what we produce" (UMA Respondent, 2023).

Table 16 The extent to which inadequate education of workers is an obstacle to firms.

	Inadequate educated workforce				Inadequate skilled workforce			
	No	Minor	Moderate	Major/Very Severe	No	Minor	Moderate	Major/Very Severe
Building	11.3	54.2	0.0	34.5	11.3	54.2	25.6	8.9
Cosmetics	7.7	11.8	61.0	19.5	12.4	24.9	42.6	20.1
Crafts	24.2	75.8	0.0	0.0	18.2	42.4	0.0	39.4
Electricals	18.5	1.2	24.7	55.6	17.3	4.9	22.2	55.6
Pharmaceuticals	48.4	24.5	2.6	24.5	48.4	24.5	27.1	0.0
Metal	61.4	12.3	19.0	7.2	61.1	7.2	8.9	22.8
Printing	40.0	20.0	0.0	40.0	40.0	20.0	0.0	40.0
Toiletries	32.2	24.9	17.5	25.4	51.4	11.3	0.0	37.3

This suggest that education and skill inadequacy are not obstacles in firms' operations, and this is explained by actions taken by the firms. On-job trainings are one of the avenues that firms can bridge the skill gap of their employees. Findings indicate that a substantial proportion of firms (38.2 %) conduct formal trainings for their workers (Figure 9).

Figure 9: Enhancing skill levels through formal training

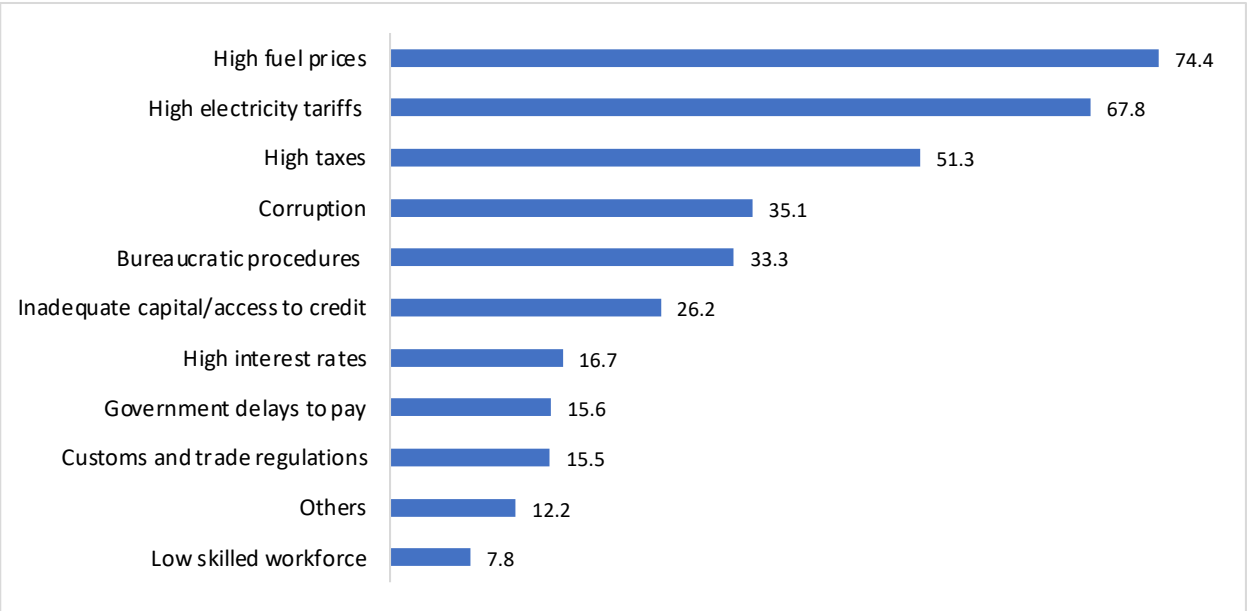


The Figure further shows that for firms that conducted the trainings, 84.4 % of the production staff received the training. The high %age of production who received trainings explains why skill and education inadequacies are not major obstacles to firms' capacity utilisation. The firms have devised means to address both education and skills gaps that are identified among their workers.

4.2.2.5 Peculiar challenges faced by multinational manufacturing firms in Uganda.

We purposively collected information regarding challenges that multinational firms face in Uganda that are not prevalent in other countries within the East African Community region. This information gives a glimpse of Uganda's manufacturing environment relative to other countries in the region. The findings revealed that there are five major challenges encountered that are unique for Uganda (Figure 10).

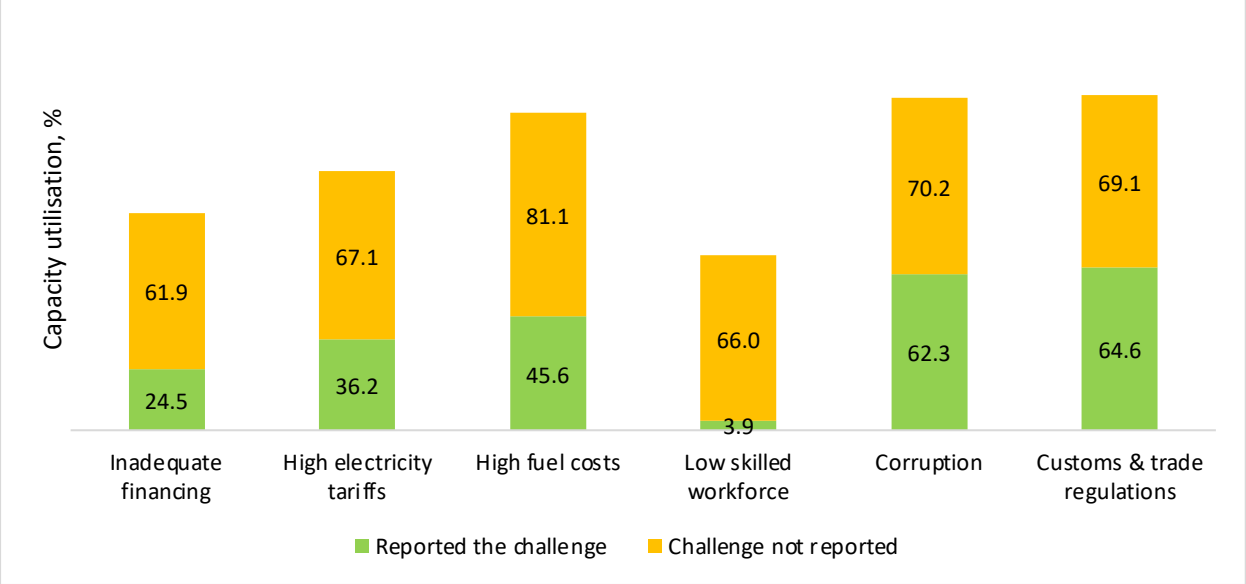
Figure 10: Challenges faced by multinational firms in Uganda in comparison to other countries.



These include high fuel prices (74.4 %), high electricity tariffs (67.8 %), high taxes (51.3), corruption (35.1 %), bureaucratic procedures involved during registration during licensing and obtaining permits (33.3 %), and difficulty obtaining credit financing (26.2 %) as shown in (Figure 10). Other obstacles with a substantial effect include government delays to pay. Customs and trade regulations and low skilled workforce.

Some of these obstacles have a direct impact on capacity utilisation as shown by the difference in capacity utilisation between the firms experiencing the obstacles and those that do not. For example, firms that reported high fuel cost have 45.6 % capacity utilisation while their counterparts that did not experience the same have 81.1 % (Figure 11), a difference of 35.5% % points. Similarly, firms that reported high electricity tariffs have 36.2 % capacity utilisation while their counterparts that did not experience the same have 67.1 %. Inadequate financing also affects capacity utilisation creating a gap of 37.4 % in capacity utilisation between firms reporting it and those that do not.

Figure 11: Impact of obstacles on capacity utilisation



4.3 Other constraints to full capacity utilisation of manufacturing firms in Uganda

4.3.1. Low investment in Research and Development

Research and development (R&D) are critical if manufacturing firms are to overcome operational obstacles, resolve uncertainty and advance technologically. R&D has high potential to lead to innovations in manufacturing. These may be in terms of new products and services, improved processes, and new ways to interact with customers. These innovations can consequently result into higher capacity utilisation of firm production capacity and therefore greater profits. Therefore, innovation is a useful way to grow a business and enhance the competitive capability of a firm. This study shows that only 49.6 % of the firms spent on R&D related to methods of manufacturing products (Firm survey, 2023). According to the survey, about 61 % firms that did not invest in R&D said that they did not see the need for it, while about 35 % know the need for R&D but have no money to do it.

4.3.2 Type of firm ownership and Manager's experience

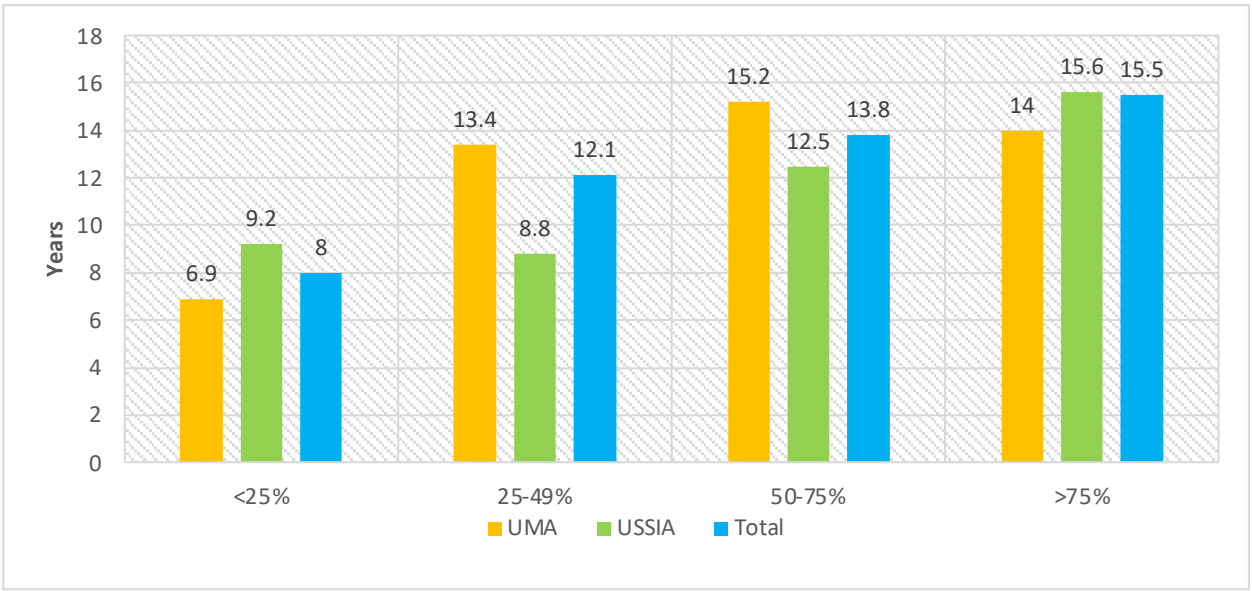
During the survey, firms were asked to state the firm ownership status from among the three status options (local, joint, and foreign). About 84 % of the firms were owned by Ugandan nationals, 11 % by foreign nationals while 5 % were owned jointly by Ugandan and foreign nationals (Table 17). Findings of this study revealed that ownership status has an impact on capacity utilisation. Notably, firms that have joint ownership have the highest capacity utilisation (66.7 %) compared to either local or foreign-owned firms (Table 17). It is plausible for firms of joint ownership to have more capacity utilisation because they blend both local and foreign experiences that enhance their capacity.

Table 17: Ownership status and capacity utilisation

	Ownership status			Capacity utilisation by ownership status		
	UMA	USSIA	Total	UMA	USSIA	Total
Local	59.3	98.0	84.2	29.1	66.7	55.2
Joint	10.7	1.5	4.8	64.6	79.8	66.7
Foreign	30.0	0.5	11.1	42.9	-	42.9

Relatedly, the top manager's years of experience is likely to have a significant impact on capacity utilisation. Looking at Figure 13, there is an association between years of experience and capacity utilisation. Firms that operate at capacity utilisation of 75% and above have managers with at least 15 years of experience while those with capacity utilisation of 25 % have 8 years of experience.

Figure 12: Top manager's years of experience by level of capacity utilisation (years)

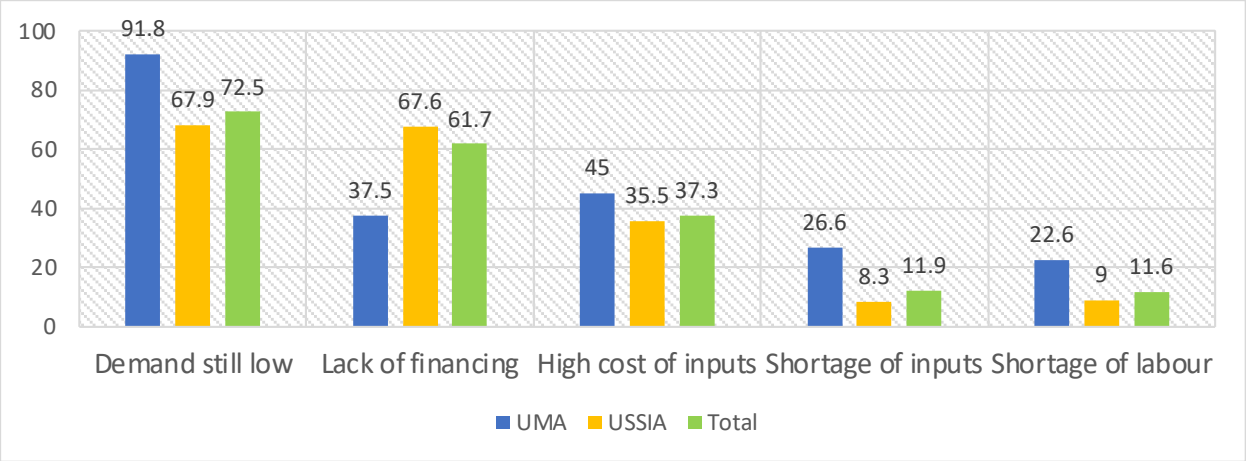


4.3.3. Effect of Covid-19 on capacity utilisation

The findings of this study show that about 91 % of the firms were affected by Covid-19, which subsequently changed their capacity utilisation (Firm survey, 2023. The effect was bigger on USSIA firms than UMA firms. This is so because most of the USSIA firms are household enterprises which were affected by lockdowns in addition to other challenges faced by all firms. Although the effect of Covid-19 was perceived to be negative generally, there are firms (about 14 %) that took advantage and increased their capacity utilisation.

Regarding recovery from the effects of Covid-19, less than half of the firms (46 %) have recovered. Some of the factors that have delayed the recovery include lack of financing, low demand for manufactured products, disruption of supply chains that has led to shortage and high cost of inputs among others. About 73 % of the firms attribute the slow recovery to low demand while 62 % of the firms mentioned lack of financing to support their recovery (Figure 14). It also emerged that some inputs supply chains have not normalized to pre-Covid period, affecting 45 % of the UMA firms.

Figure 13: Reasons for slow recovery from Covid-19



Conclusion

The study aimed at assessing the capacity utilisation of manufacturing firms in Uganda and to establish the factors that determine the deviation between the potential capacity and actual capacity utilisation. The results reveal that the average capacity utilisation stands at 54.4 % for the sampled manufacturing firms. Capacity utilisation is much higher for USSIA firms (66.8 %) compared to UMA (35.4 %). This implies that there is a lot of redundant or unutilised capacity among the manufacturing firms in Uganda where a lot of resources have been invested.

The factors that determine the current capacity utilisation are identified and discussed in detail. Accordingly, there is insufficient demand for the manufactured products reported by firms at 56 %, followed by competition (44 %), high cost of inputs (42 %), high taxes (41 %), macroeconomic factors among others. Differences among UMA and USSIA firms regarding these factors are observed. It is concluded that the manufacturing sector is characterized by the following challenges:(i) inadequate requisite manufacturing support infrastructure; (ii) High costs of inputs including electricity, (iii) limited access to long-term development financing (iv) competition from substandard and or counterfeits and imported manufactured products on the market; (v) high cost of doing business, and (vi) use of low and outdated technology. All these factors explicitly and implicitly determine the capacity utilisation of firms in Uganda. Of importance to note is the fact that a significant association exists between capacity utilisation of firms and the associated reasons for low-capacity utilisation. To that extent, the firms that reported various reasons responsible for low-capacity utilisation operate lower than their counterparts that did not significantly report such factors. The following are recommendations that can address these emerging challenges to increase capacity utilisation among manufacturing firms in Uganda.

5.1 Recommendations

There is thus a need to implement a set of relevant policies to unlock the unutilised production capacity. This could be a mix of both demand and supply side policies as explained in the analytical framework. To increase the growth and competitiveness of the manufacturing sector and consequently capacity utilisation the following in (Table 18) should be done:

Table 18: Action Oriented Policy Recommendations

No	Challenge	Action Required	Justification
1	No mechanism in place to regulate competition and to counter counterfeits	There is need for consideration of including an Independent Competition Commission in the new **Competition Law** that is well resourced to deliver effectively on competition regulation. Expedite the **enactment of the counterfeit law** to respond to the persistent of counterfeits on the market.	MTIC is very poorly resourced to be able to manage the market regulation mandate. Above all, composition of the Technical Team on adhoc basis as proposed in the competition bill is unlikely to be efficient to manage the current cut-throat competition issues in the market. The creation of the Commission will not occasion any duplicity since none exits which makes it relevant even under the rationalization of GOU The market is flooded with counterfeit products which creates unfair competition for genuine products

2.	Inadequate Local Content to boost BUBU implementation	Fast track the issuance of the Local Content Regulation -currently pending at Solicitor General's Office to facilitate enforcement of the Local Content provisions under the PPDA Act; Plan for another round of amendment to the PPDA Act instead of passing Local Content Bill to unnecessarily occasion duplicity that is already barred by Policy, given rationalization of MDAs.	The two interventions are sufficient to resolve the legislative needs for local content mainstreaming since the innovations under the ill-fated Bill can in fact be accommodated under the PPDA Act new round of amendment. This amendment renders the local content bill useless
3	Power cost, quality, and reliability issues	Implement the bulk power purchase option for manufacturers and heavy power consumers since the legal and regulatory environment permits it now. There is no need for a "distribution" intermediary. Allow for PPPs to facilitate works related to network up-grades and transmission infrastructure development given shrinking fiscal space for GOU	This automatically eliminate middlemen/distribution to result into power cost reduction. The PPP Law and Policy allows this. Most of sub-Saharan Africa is taking this route in light of shrinking fiscal space post COVID 19 and in the midst of global economic uncertainties.
4	High cost and limited access to long term finance	Ensure that industrialization drive is intentional as envisaged in NDPIII by easing processes of on-boarding especially priority sectors as enshrined in NDPIII. Repurpose UDC/UDB to focus and catalyse industrialization by identifying priority sectors for interventions Segment and tailor the finance and credit terrain to be inclusive according to the needs of large, medium and small manufactures	No nation has ever industrialized without Government being intentional to facilitate industrialization. Different manufactures require different financing models and approaches which should be exploited
5	Difficulty in accessing EAC Market on account of NTBs and or trade embargoes	Review and rationalization of EAC Duty Remission/Exemption Regime to enable free goods flow in EAC Enforce existing NTB counter measures framework (Monitoring committees and the EAC 2017 NTB law) Strengthen the trade dispute resolution mechanism by reviewing the relevant protocols and including punitive actions for perpetuators	The EAC Duty Remission/Exemption Regime was established way back in 2005. Thereafter, so much industrial capacity has emerged to warrant reviewing and rationalising. Examples: Industrial Sugar, PPEs etc NTBs Frameworks exist but are inadequately enforced

6	Limited access to regional (e.g., AfCFTA) markets due to weak strategies to penetrate them especially SME	Uganda Export Promotion Board (UEPB) should be optimally resourced to operationalize its strategic plan duly aligned to NDPIII. Ad hoc efforts in regional market development like under the auspices of Presidential Advisory Committee on Industrialisation and Export Development (PACIED) should mainstream AfCFTA given its huge potential. Task Uganda Insurance Authority to establish Export Guarantee Insurance to de-risk exports into volatile destinations	Export development is always a well purposed undertaking by countries including the most advanced ones like USA/China. SMEs constitute at least 70 % of the manufacturing sector, meriting attention. With Export Guarantee insurance, Uganda's export of manufactured goods can soar without any new investment since limited exports is a function of risk. These initiatives can generate valuable trade information
7	Weak quality standards to penetrate international markets,	Resource UNBS to facilitate ease of standardization for especially SMEs as opposed to now when user fees are a source of UNBS financing -resulting into proliferation of export of sub-standard goods, Certification and licensing of private laboratories to undertake some roles of quality standards, Strengthen the ties and coordination between UNBS and its international counterparts to improve the accreditation process of Uganda's products in markets where the country has market access opportunities.	Standardization of goods is the gateway for International Trade.

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Appendix I

A.1 Sample size determination and sampling procedure

The *sample size* for a particular survey is determined by the accuracy required for the survey estimates, as well as by the resource and operational constraints. The accuracy of the survey results depends on both the sampling error, which can be measured through variance estimation, and the non-sampling error from all other sources, such as response and other measurement errors, coding and data entry errors. The sampling error is inversely proportional to the square root of the sample size, implying the higher the sample size, the small the sampling error. On the other hand, the non-sampling error may increase with the sample size, since it is more difficult to control the quality of a larger operation. Based on the total number of firms from the sub-population, the research team employed a statistical formula to determine the appropriate sample size for the study. The formula is given by;

$$n = \frac{N}{(1 + N * e^2)}$$

Where; is the sample size in each association population, is the total number manufacturing firms in each association population, is the margin of error (the preferred being 5%). Based on the formula above, a sample of 205 manufacturing firms was required.

Sampling procedure: According to the sampling frame obtained in above, 2,879 manufacturing firms were listed under USSIA with a total of 18,587 employees. For UMA, 1,126 firms were listed with a total of 107,962 employees as shown in Table 5.

Obtaining the sample was done through a two-stage stratified sampling design as shown in Figure 3. The first stage had the firms stratified into two (USSIA and UMA firms). Proportions of total number of employees in USSIA and UMA as a total of the employees in both groups were computed and the proportions used to determine the sample size required for each stratum. In the second stage, the firms within each stratum were categorized by sector. Again, proportions of number of employees in each sector to total number of employees in the stratum were computed. The proportions were used to obtain a sample of firms from each sector. Using number of employees, proportional sampling was used within the strata (UMA and USSIA) to obtain a sample for each stratum. This sampling procedure generated a sample of 101 firms from the USSIA stratum and 223 firms from the UMA stratum, giving a total sample of 324 firms.

Figure 14: Summary of the sampling procedure

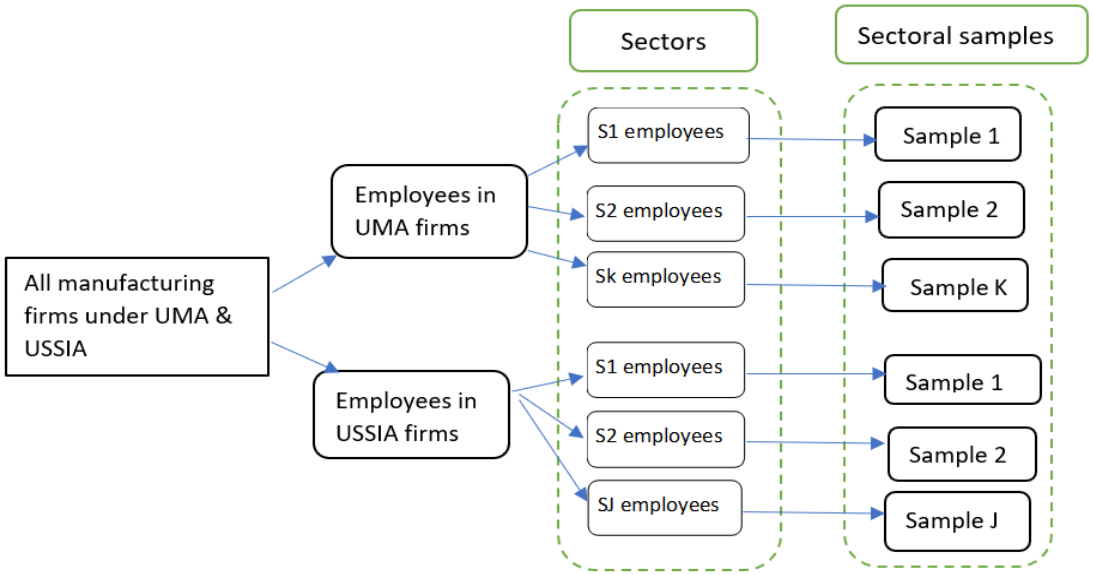


Table 19: Structure of the study sample and geographical location of the firms.

Category	USSIA sample	UMA sample
Number of manufacturing firms	2,879	1,126
Number of employees	18,587	107,962
Number of sectors	20	43
Region		
Kampala Metropolitan	65	189
Mid-Eastern	16	21
Mid-Western	4	-
Northern	4	5
South-Western	6	6
Western	6	-
Eastern	-	2
Total of sampled firms	**101**	**223**

Appendix II

Table 20 Reasons for ineffectiveness of the reservation policy

Reason	UMA	USSIA	Overall
Lack of Transparency	40.8	33.8	34.9
Poor implementation of some guidelines	16.2	49.0	44.0
Foreign firms registered as local	18.4	1.1	3.8
Interferes with market competitiveness	24.0	0.0	3.7
Not clear about benefiting Sectors	0.6	0.0	0.1
Others	0.0	16.1	13.7

Figure 15: Extent of competition as an obstacle to the firms' operations

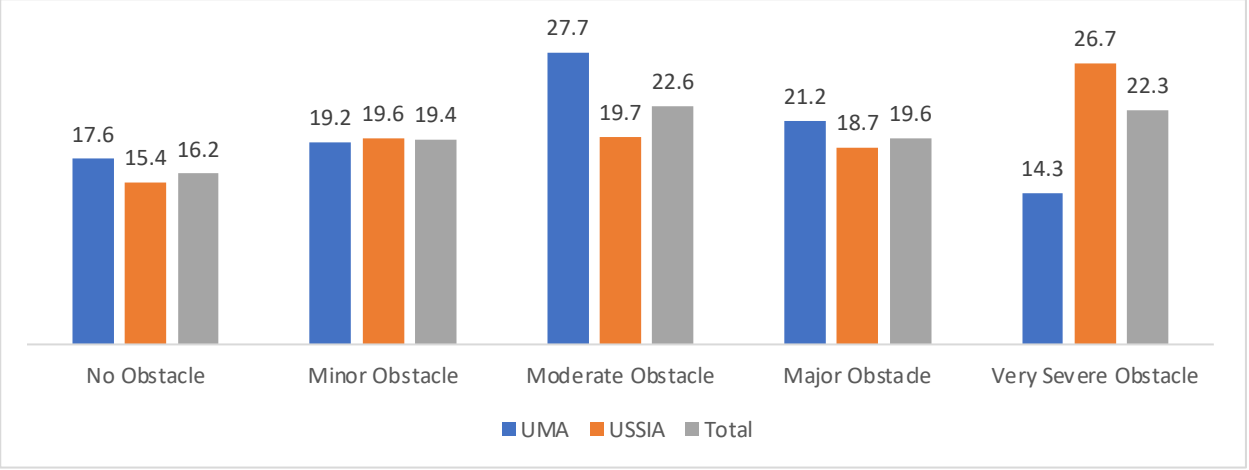


Table 21: Perception of firms about labour-related factors

	Labour regulations			Inadequate educated workforce			Inadequate skilled workforce		
	UMA	USSIA	Total	UMA	USSIA	Total	UMA	USSIA	Total
No Obstacle	71.4	82.5	78.5	59.8	52.9	55.4	64.6	39.7	48.6
Minor Obstacle	19.3	7.1	11.4	28.3	22.1	24.3	15.3	37.4	29.5
Moderate Obstacle	5.2	7.4	6.6	6.7	18.0	14.0	9.0	15.7	13.3
Major Obstacle	0.4	0.8	0.7	4.2	6.5	5.7	5.2	3.6	4.2
Very Severe Obstacle	1.3	0.0	0.5	0.9	0.0	0.4	5.9	3.3	4.2

An initiative of:

psfu PRIVATE SECTOR FOUNDATION UGANDA
Business growth is our business

In partnership with

mastercard foundation

LEAD FIRM STRUCTURE PROJECT

PROJECT FACT SHEET

The Private Sector Foundation Uganda (PSFU), Uganda's apex body for the private sector in Uganda, is collaborating with the Mastercard Foundation's Young Africa Works to implement the Enhancing the Lead Firm Structure for Youth Employment Project.

As the Anchor partner, PSFU will coordinate with the Government as the Secretariat of the Steering Committee on one hand and facilitate all partners under Young Africa Works Uganda to deliver their interventions successfully while implementing its specific interventions.

Intervention Title:

Enhancing the lead firm structure for youth empl oyment.

A Lead Firm can either be an organisation driven by private interests such as profit or one whose purpose is furthering shared prosperity through the promotion of private enterprise/business.

Intervention Goal:

The in terventions in this p roject are aimed at holistically add ressing different growth challen ges of Lead Firms in high value-chain products and the MSMEs and grassroots producers engaged in their respective value chains.

Project Budget:

$41 **million**

Duration:

5 **years**

Project Objectives

- Increase production and growth at household, MSME and Lead Firm levels.
- Increase incomes of the population which will stimulate greater demand for goods and services
- **Secure direct dignified and fulfilling work** for 281,960 for young people

Expected Project Outcomes

70%
young women in dignified and fullfilling work

$1,040
in youth annual income

281,960
direct work opportunities for young women and men.

Project **Implementation Strategy**

Implement the Lead Firm Structure (LFS) Model

Promote market Lead and production linked value chains that enable youths to gradually have four revenue sources and increase their income.

Build Capacity of Enterprise/Firm Level growth enablers.

By improving the competences of leaders and entrepreneurs through specially designed workshops, mentoring and coaching interventions.

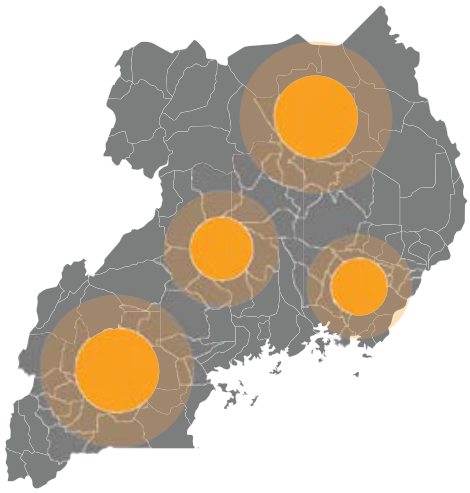
Create a conducive ecosystem for new and existing businesses to grow.

Work with Young Africa Works Uganda partners to identify challenges, conduct analysis and research, build consensus and seek dialogue with policy makers aimed at creating a conducive and sustainable business environment.

Establish a Private Sector Catalytic Fund which will provide entrepreneurs and SMEs with affordable, appropriately structured capital financing accompanied by technical assistance.

Districts Of **Operation**

The intervention intends to cover all major regions of the country



Focus **Sectors**

- Agriculture
- Manufacturing
- Tourism
- Trade & Allied Services
- Construction

Actors In **Route To Market**

Provide a market and determine quality and standards that enable the value chain strive.

Lead Firms

These support Lead Firms and MSMEs in reaching, mobilising and sustaining young women and men in their transformation.

CBOs / MBOs /Support Associations

MSMEs

Provide goods and services that facilitate production of input or distribution of output for the Lead Firms.

Households

Households are empowered to produce or distribute individually or collectively according to the quality and standards set by the Lead Firm.

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