2022

RWANDA INTEGRATED BUSINESS ENTERPRISE SURVEY REPORT

December 2023

Foreword

The 2022 Rwanda *Integrated Business Enterprise Survey* (IBES2022) is a comprehensive business enterprise survey undertaken to collect, compile, and analyse data on the level and structure of non-agricultural economic activity in the country for both informal and formal sectors, with the formal sector defined as those businesses registered with the Rwanda Revenue Authority (RRA) and that keep regular business accounts. Data collection has been carried out by the National Institute of Statistics of Rwanda (NISR) from June to September 2023 with the year 2022 being the reference period.

IBES seeks to address the lack of business data and provide inputs vital to the formulation of government economic policy and the monitoring of performance against development goals, as well as providing information for the expansion of the business sector and market research. IBES 2022 has drawn crucial lessons from the previous survey rounds: IBES 2019/2021, IBES 2018, IBES 2017, IBES 2016, IBES 2015, IBES 2014 and the pilot IBES 2013. These lessons have already been used to introduce improvements.

The survey targets all business enterprises classified under Sections B to S of the International Standard Industrial Classification of All Economic Activities, Revision 4 (ISIC-4). In addition, IBES does not cover all activities of public administration and extraterritorial organizations. It gathers detailed business enterprise level data through questions on employment, compensation to workers, fixed assets, and background information such as location, ownership status, and business environment to mention but a few.

Conducting a business enterprise survey constitutes a challenging and enriching experience, significantly improving NISR capacity to accomplish its mandate. NISR Staff were involved in every aspect: from the design, formulation of the questionnaire, implementation, data processing, and report writing. At least two levels of training were conducted: training of trainers and the training for data collection. An instruction manual was also written. NISR has conducted field visits to monitor data collection. Data editing was carried out simultaneously with data collection to ensure timely correction of any mistakes in data collection.

This report presents main results of the survey. Business activities in Rwanda are presented in section one, business environment in section two, and conclusions and areas of research in section three.

MURANGWA Yusuf
Director General

Acknowledgments

The IBES 2022 report is the outcome of many months of cooperative efforts of NISR Staff. The project recognizes the leadership of NISR management at various stages of the survey and spearheading the monitoring of progress of data collection during the actual survey period. Their suggestions and comments on the report are also acknowledged with thanks.

The Department of Economic Statistics coordinated field operations and provided clarifications on technical matters related to the survey. Special thanks are due to the technical committee members, who at all stages of the fieldwork visited enumerators to assess whether data collection guidelines were being followed and suggested remedial measures.

Recognition also goes to primary fieldworkers and their team leaders. Commendations are due to them for their work done of codification and data entry after fieldwork.

Lastly grateful acknowledgments are given to all formal and informal business enterprises which have cooperated and to whom we guarantee maximum confidentiality.

List of Tables

Table 3.1: Distribution of employees by gender and economic activity: formal sector
Table 3.2: Income by enterprise size and the sex of the top manager, value in Billion RWF
Table 3.3: Income by economic activity and the sex of the top manager, value in Billion RWF
Table 3.4: Number of trained Staff by enterprise size and their sex
Table 3.5: Number of trained Staff by economic activity and their sex
Table 3.6: Number of trained Staff by enterprise size and top manager's sex
Table 3.7: Number of trained Staff by economic activity and top manager's sex
Table 3.8: Distribution of employees by gender and enterprise size: formal sector
Table 3.9: Number of formal business enterprises by economic activity and top manager's sex
Table 3.10: Number of formal business enterprises by enterprise size and top manager's sex
Table 3.11: Distribution of employees by gender and economic activity: Informal sector
Table 3.12: Number of informal businesses by income category and top manager's sex
Table 3.13: Number of trained Staff by enterprise size and top manager's sex, informal sector
Table 3.14: Number of trained Staff by economic activity and top manager's sex, informal sector
Table 3.15: Number of trained Staff by enterprise size and their sex
Table 3.16: Number of trained Staff by economic activity and their sex
Table 3.17: Distribution of employees by gender and enterprise size: informal sector
Table 3.18: Number of informal business enterprises by size and top manager's sex
Table 3.19: Number of informal business enterprises by economic activity and top manager's sex

List of Graphs

Graph 1.1. Trend of Business Enterprises in Rwanda
Graph 1.2. Distribution of Formal Business Enterprises per provinces
Graph 1.3: Geographic Distribution of Businesses
Graph 1.4: Number of Business Enterprises by Size
Graph 1.5: Distribution of Business Enterprises by Economic activity
Graph 1.6. Business Enterprises by Economic Activity
Figure 1.7: Correlation between Formality and Number of Business Enterprises
Graph 1.8: Business Enterprises by Ownership Characteristics
Graph 1.9: Legal Status of Business Enterprises
Graph 1.10: Business Enterprises by Age of Business Enterprise
Graph 2.1: Overall Ranking of Perceptions of Business Factors by Difficulty
Graph 2.2: Business Enterprise Exporting Activities by Economic Activity
Graph 2.3: Business Enterprise Exporting Activities by Size
Graph 2.4: Barriers to Business Enterprise Exportation by Sector
Graph 2.5: Barriers to Exportation by size, Informal Business Enterprises (%)
Graph 2.6: Business Enterprise Usage of Rwandan-sourced Raw Materials, % of Business Enterprises
Graph 2.7: Business Enterprise Perception of the Importance Rwanda Raw Materials, % of Business Enterprises
Graph 2.8: Business enterprise ranking of the Quality of Rwandan Supply/Raw, % of Business Enterprises
Graph 2.9: Access to Basic Formal Financing Instruments, % of Business Enterprises
Graph 2.10: Business Enterprise Use of Financial Instruments by Business Enterprise Size, % of Total Business Enterprises
Graph 2.11: Sources of Financing for Business Enterprises by Sector, % of Business Enterprises
Graph 2.12: Sources of Financing for Business Enterprises by Business Enterprise Size, % of Business Enterprises
Graph 2.13: Barriers to Accessing Formal Financing, Formal Business Enterprises (%)
Graph 2.14: Accepted loans by type, Formality and Size of the Business Enterprise
Graph 2.15: Outcome of Loan Applications, % of Business Enterprises
Graph 2.16: Shares of Capacity Underutilization, by Formality, Sectors, and Size (% of Business Enterprises)
Graph 2.17: Main Reasons for Underutilization- Overall
Graph 2.18: Main Reasons for Underutilization, by Business Enterprise Size
Graph 2.19: Main Reasons for Underutilization, by Sector
Graph 2.20: Use of Solar Energy by Sector and Size, % of Business Enterprises
Graph 2.21: Electricity Usage by Business Enterprises (Sector), in Million Kilowatts
Graph 2.22: Electricity Usage by Business Enterprises (Sector), in Million Kilowatts
Graph 2.23: Business Enterprises by the number of monthly power outages (%)
Graph 2.24: Average Duration of Power Outages (Hours), % of Business Enterprises
Graph 2.25: Waste Production by Business Enterprise Size, % of Business Enterprises

Graph 2.26: Waste Production by Sector, % of Business Enterprises
Graph 2.27: Waste Production by Type (Business Enterprise Size), % of Business Enterprises
Graph 2.28: Modes of Waste Disposal, % of Business Enterprises
Graph 2.29: Modes of Waste Disposal by Sector, % of Business Enterprises
Graph 2.30: Modes of Waste Disposal by Business Enterprise Size, % of Business Enterprises
Graph 2.31: Business Enterprise Water Sources by Business Enterprise Size, % of Business Enterprises
Graph 2.32: Perception of Lack of Skills by Employers, % of Business Enterprise Managers
Graph 2.33: Technical and Practical Skills Gaps by Sector, % of Business Enterprise Managers
Graph 2.34: Technical and Practical Skills Gaps by Business Enterprise Size, % of Business Enterprise Managers
Graph 2.35: Interpersonal/Soft Skills Gaps by Sector, % of Business Enterprises
Graph 2.36: Interpersonal/Soft Skills Gaps by Size, % of Business Enterprise Managers
Graph 2.37: Impact of Skill Shortages by Sector, % of Business Enterprise Managers
Graph 2.38: Impact of Skill Shortages by Sector, % of Business Enterprise Managers
Graph 2.39: Major Causes of Skill Gaps by Sector, % of Business Enterprise Managers
Graph 2.40: Major Causes of Skill Gaps by Business Enterprise Size, % of Business Enterprise Managers
Graph 2.41: Business Enterprise Employee Training Activities by Sector and Size, % of Business Enterprises
Graph 2.42: Barriers to Providing Trainings by Sector, % of Business Enterprise Managers
Graph 2.43: Barriers to Providing Trainings by Business Enterprise Size, % of Business Enterprises
Graph 3.1: Impact of Economic Conditions by Decreasing Incomes by (sector), % of Business Enterprises
Graph 3.2: Impact of Economic Conditions by Decreasing Incomes (Business Enterprise Size), % of Business Enterprises
Graph 3.3: Impact of Economic Conditions by Increasing Expenditure (Sector), % of Business Enterprises
Graph 3.4: Impact of Economic Conditions by Increasing Expenditure (Business Enterprise Size), % of Business Enterprises
Graph 3.5: Share of Business Enterprises Receiving Pandemic Relief by Sector, % of Business Enterprises
Graph 3.6: Share of Business Enterprises Receiving Pandemic Relief by Business Enterprise Size, % of Business Enterprises
Graph 3.7: Business Enterprise Income by Sector
Graph 3.8: Income Growth Rates by Sector and Business Enterprise Size
Graph 3.9: Business Enterprise Income by Size
Graph 3.10: Income Growth by Economic Activity
Graph 3.11: Balance Sheet by Sector
Graph 3.12: Balance Sheet by Size
Graph 3.13: Equity and Liability by Sector
Graph 3.14: Equity and Liability by Size
Graph 3.15: Debt-to-Equity Ratio by Sector and Size
Graph 3.16: Number of Business Enterprises by Income Categories (Sector)
Graph 3.17: Number of Business Enterprises by Expenditure Categories (Sector)
Graph 3.18: Number of Business Enterprises by Total Value of Asset Addition Categories (Sector)

Table of Contents

Foreword i
Acknowledgments ii
List of abbreviations vii
SUMMARY OF KEY MESSAGES ..... - 1 -
1. BUSINESS ACTIVITIES IN RWANDA ..... - 4 -
1.1. Introduction - Macroeconomic Conditions ..... - 4 -
1.2. Characteristics of Rwanda's Business enterprises and their activities ..... - 4 -
2. BUSINESS ENVIRONMENT ..... - 11 -
2.1. Business Environment Factors ..... - 11 -
2.1.1. Market Factors ..... - 12 -
2.1.2. Infrastructure and the Environment ..... - 26 -
2.1.3. Labour Market ..... - 33 -
3. BUSINESS PERFORMANCE ..... - 40 -
3.1. Impact of Economic Conditions on Rwandan Business Enterprises ..... - 40 -
3.2. Formal Sector Performance ..... - 44 -
3.2.1. Business Enterprise Income ..... - 44 -
3.2.2. Balance Sheets ..... - 46 -
3.2.3. Employment, income and businesses by top manager's sex ..... - 50 -
3.3. Informal Sector Performance ..... - 55 -
3.3.1. Income ..... - 55 -
3.3.2. Expenditure ..... - 55 -
3.3.3. Asset Accumulation ..... - 56 -
3.3.4. Employment, income and businesses by top manager's sex ..... - 57 -
4. CONCLUSIONS AND FURTHER AREAS OF RESEARCH ..... - 61 -
4.1. Potential Research Questions and Interest Areas ..... - 61 -
APPENDICES ..... - 62 -

List of abbreviations

DES	: Department of Economic Statistics
EC	: Establishment Census
Freq.	: Frequency
IBES	: Integrated Business Enterprise Survey
ISIC	: International Standard Industrial Classification
LFS	: Labour Force Survey
NISR	: National Institute of Statistics of Rwanda
NPISHs	: Non-Profit Institutions Serving Households
PAYE	: Pay as You Earn
RCPA	: Rwanda Classification of Products by Activity
RWF	: Rwandan Franc
TIN	: Taxpayer Identification Number
VAT	: Value Added Tax
VPN	: Virtual Private Network
WASAC	: Water and Sanitation Corporation

.

SUMMARY OF KEY MESSAGES

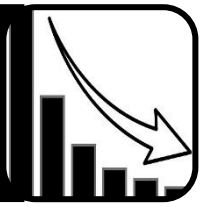
91.9% is the rate of informality of Rwanda's business landscape in 2022.

Insufficient collaterals is cited as the main barrier to the access to finance with 13.6% of formal businesses and 97.7% of informal businesses

27.7% of formal compared to 31.7% of informal businesses used personal resources for financing

4.5% for formal and 0.1% of informal businesses are engaged in exports

The capacity underutilization is 5.2% for formal businesses. Among the reasons for underutilizations include low demand by 57.1%



Both communication in foreign language and advanced or specialized IT skills top the skills gap concerns amongst business enterprise managers.

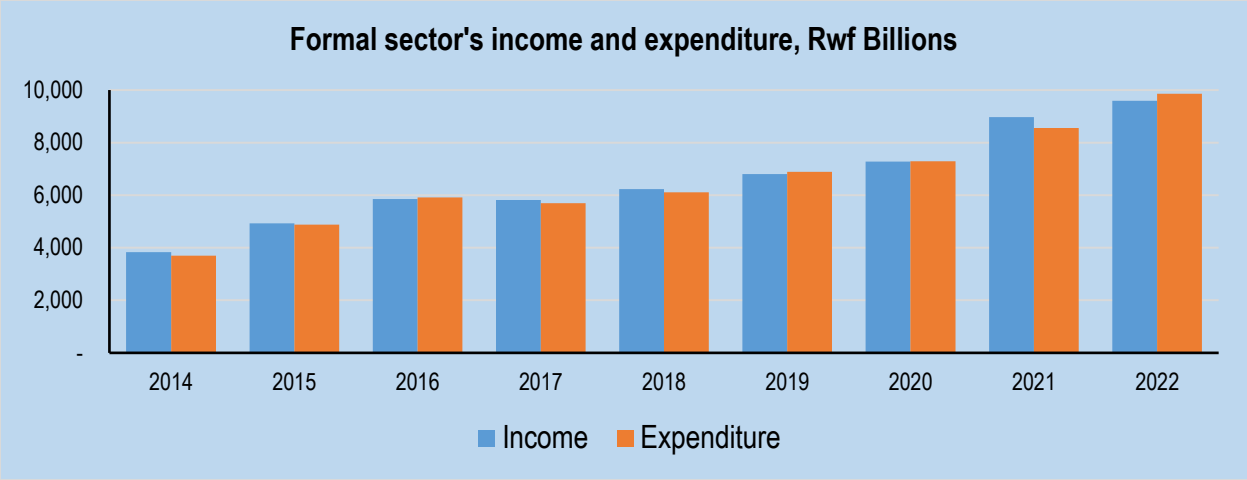
13.1% of business enterprises present lack of fund as the main barrier for Staff trainings

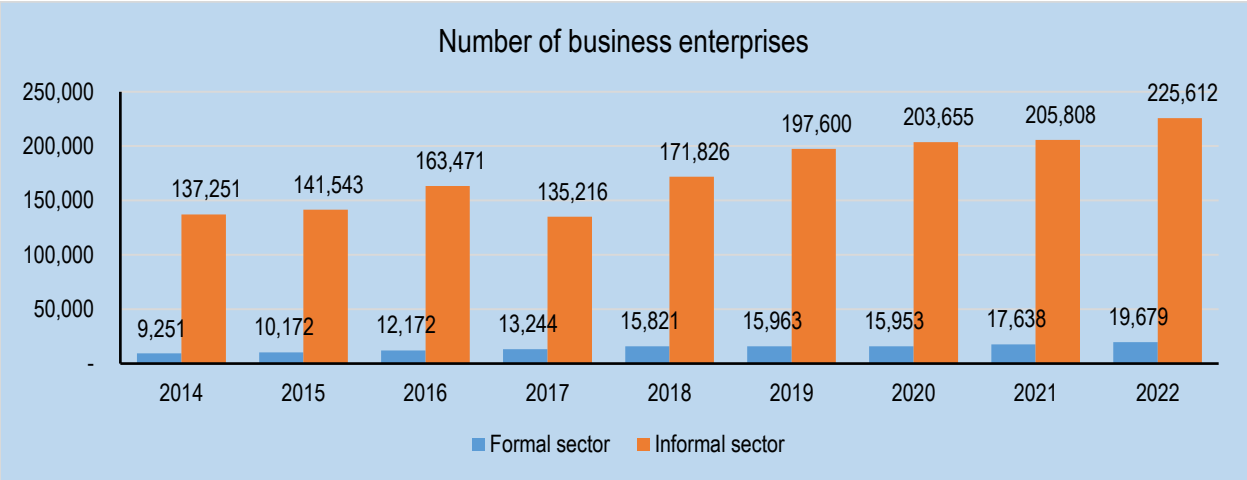
84.7% of formal business enterprises and 63.0% of informal business enterprises pay someone to dispose waste from their enterprises.

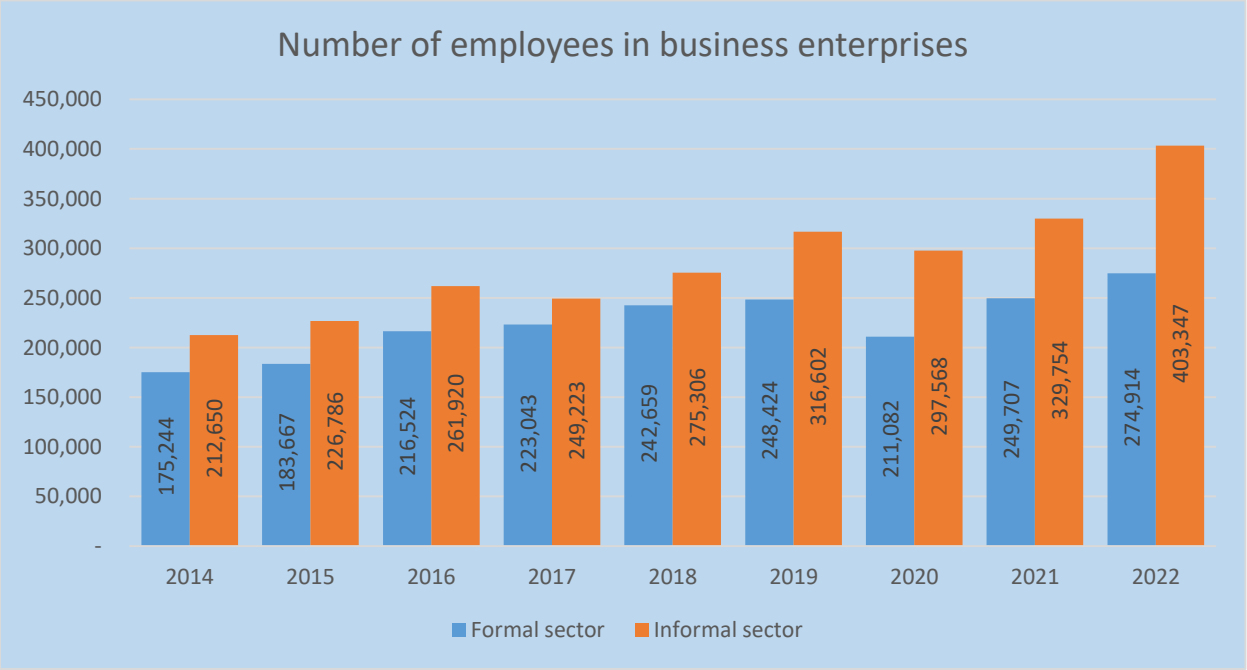
Given the increasing energy demand, the use of solar energy by Rwandan business enterprises is still very low. Results shows that it is used by 3.2% of businesses.

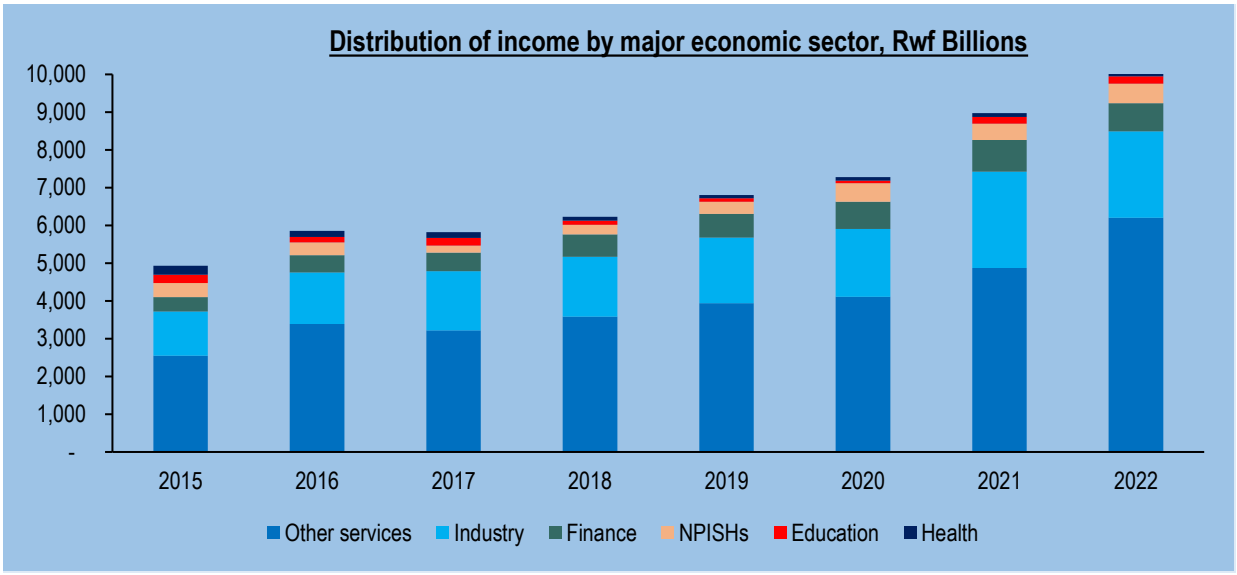
Economic conditions affected income of 76.7% of formal enterprises compared to 95.4% of informal enterprise

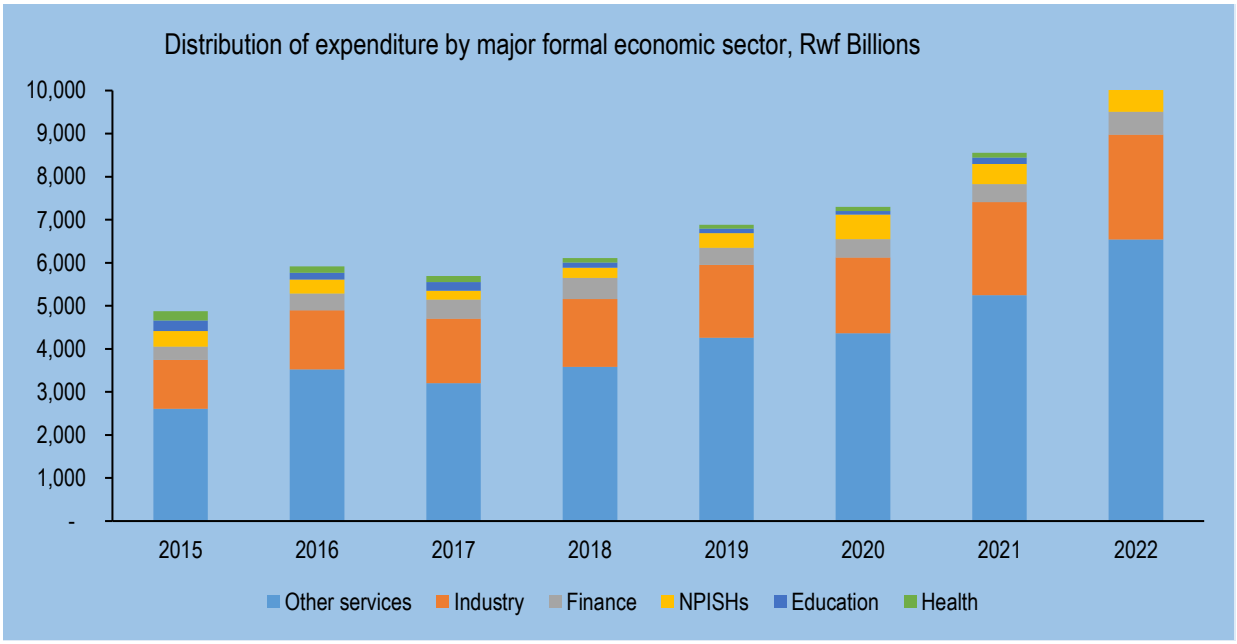
19.2% of business enterprises have received relief or support.


Formal sector's income and expenditure, Rwf Billions
10,000
8,000
6,000
4,000
2,000
-
2014
2015
2016
2017
2018
2019
2020
2021
2022
Income
Expenditure


Number of business enterprises
250,000
200,000
150,000
100,000
50,000
-
9,251
137,251
10,172
141,543
12,172
163,471
13,244
135,216
15,821
171,826
15,963
197,600
15,953
203,655
17,638
205,808
19,679
225,612
2014
2015
2016
2017
2018
2019
2020
2021
2022
Formal sector
Informal sector


Number of employees in business enterprises
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
-
175,244
212,650
183,667
226,786
216,524
261,920
223,043
249,223
242,659
275,306
248,424
316,602
211,082
297,568
249,707
329,754
274,914
403,347
2014
2015
2016
2017
2018
2019
2020
2021
2022
Formal sector
Informal sector


Distribution of income by major economic sector, Rwf Billions
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
-
2015
2016
2017
2018
2019
2020
2021
2022
Other services
Industry
Finance
NPISHs
Education
Health


Distribution of expenditure by major formal economic sector, Rwf Billions
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
-
2015
2016
2017
2018
2019
2020
2021
2022
Other services
Industry
Finance
NPISHs
Education
Health

1. BUSINESS ACTIVITIES IN RWANDA

1.1. Introduction - Macroeconomic Conditions

The Integrated Business Enterprise Report 2022 provides a detailed analysis and description of Rwanda's business enterprise environment. These include market, institutional, behavioural, and infrastructural characteristics in which business enterprises operate. The operations are inextricably linked to the overall macroeconomic conditions in the country. Therefore, this section is a framework of Rwanda's business environment by economic activities, and it explains what the Integrated Business Enterprise Survey (IBES) is all about.

Further, the report presents statistics and data on the nature of business-enterprises, their labour employment patterns, ownership and legal characteristics of the businesses which lay an insight on the businesses-enterprises' operations and perspective of the business environment in Rwanda. Also, the survey covers detailed statistics on business aspects such as access to finance, waste management practices, energy usage and utilisation of information communication technologies. Further, it entails the business performance by sector and size of business-enterprises. However, the report excludes the activities of agriculture.

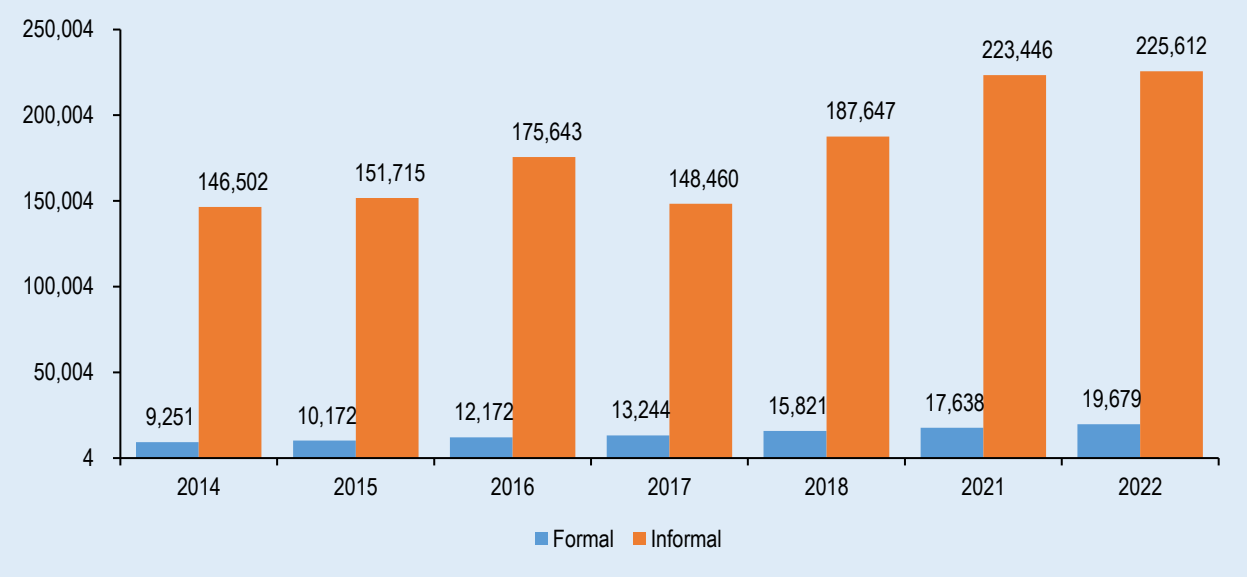
This section details the key characteristics of business enterprises based on geographic location, size, age of the business enterprises, economic activity, among others. It further disaggregates the features by formality.

1.2. Characteristics of Rwanda's Business enterprises and their activities

In 2022, the total number of business enterprises was estimated to be 245,291. The survey results show that, business-enterprise activities in Rwanda are overwhelmingly informal, with informal business enterprises accounting for 91.9% of total business-enterprises. The number of formal businesses grew by 49% between 2017 and 2022, while the number of informal businesses increased by 67 percent. In 2022, the number of formal businesses expanded by 12% year on year, while informal businesses increased by 10%. [1]

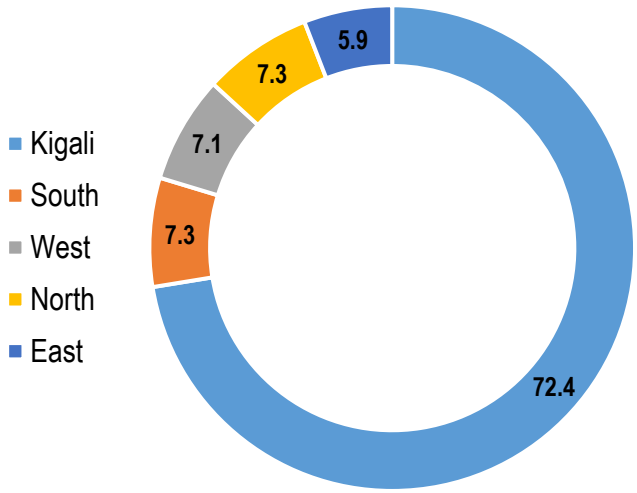
[1] These are population estimates based on the sample.

Graph 1.1. Trend of Business Enterprises in Rwanda



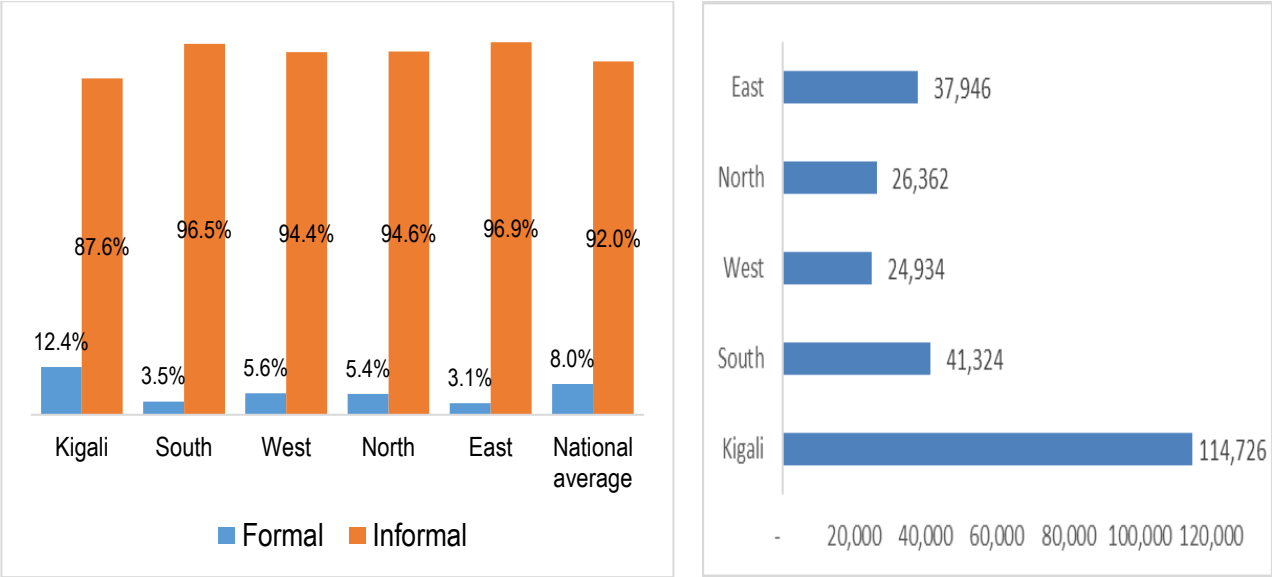
Based on Graph 1.1, business formality rates have been dropping since their peak in 2017, when 8.9% percent of business enterprises were formal. In 2022, the rate of business formality keeps rising from the lowest level of 7.3% in 2020 to 8.0%.

Graph 1.2. Distribution of Formal Business Enterprises per provinces



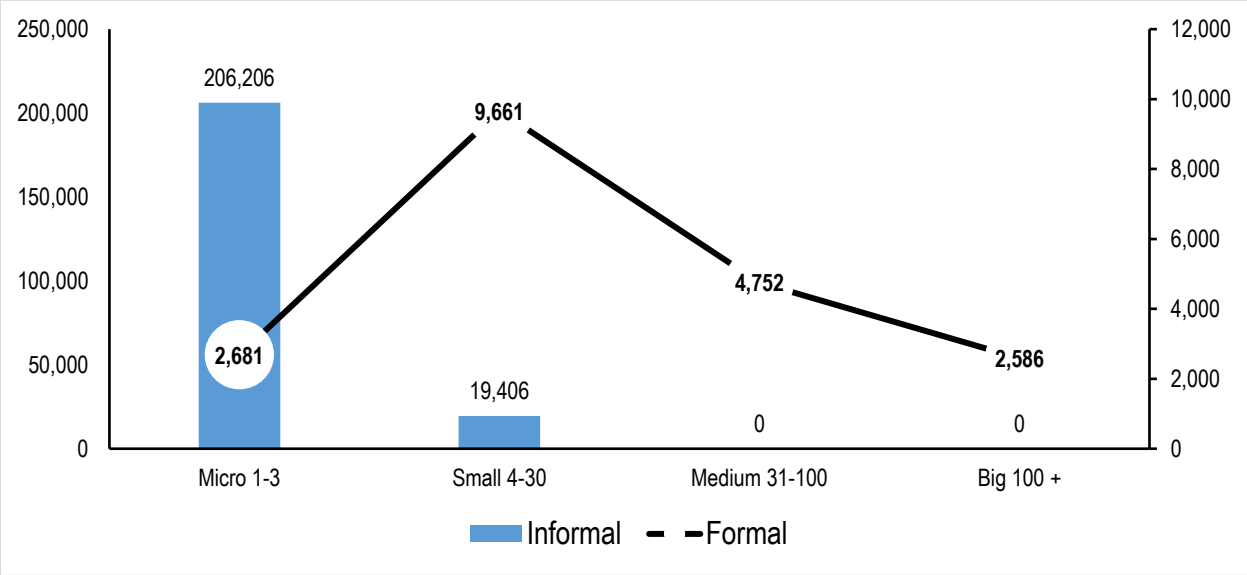
The Kigali of City accounts for the highest concentration of formal business enterprises with 72.4% of total formal businesses. The Northern and Southern have each 7.3%; while Western and Eastern provinces have 7.1%, and 5.9% of total formal businesses respectively.

*Graph 1.3: **Geographic** Distribution of Businesses, 2022*



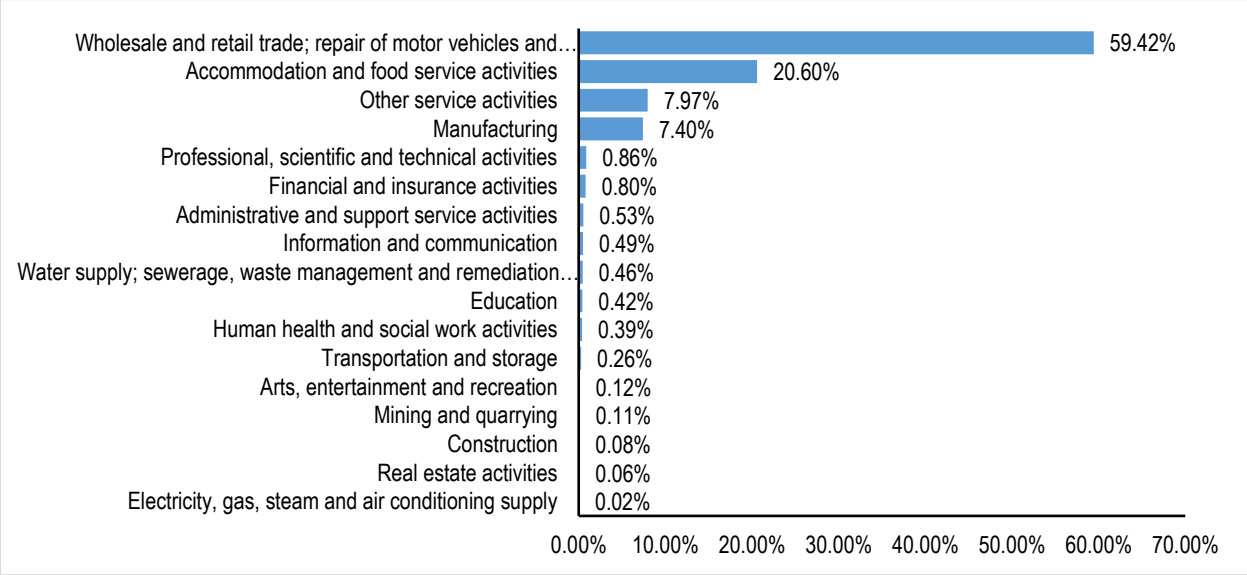
Micro business enterprises are backbone of business enterprise activities in Rwanda (Graph 1.4). Micro business enterprises, which employ 1 to 3 people, account for 85.2% of business activities in Rwanda. They are largely informal accounting for 91.4% of all informal businesses and around 84.1% of total business activities in Rwanda.

Graph 1.4: Number of Business Enterprises by Size, 2022



Formal business enterprises are mainly characterised by small business enterprises which employ 4 to 30 people. Formal small business enterprises account for almost half of total formal business enterprises (49%) and about 33% of total small business enterprises.

Graph 1.5: Distribution of Business Enterprises by Economic activity, 2022



Wholesale and retail trade activities dominate the economic activity landscape with 59% of all business enterprises in Rwanda, followed by accommodation and food services with 21%.

Formality by economic activity declines as the number of business enterprises per category increases (Figure 1.6). While the wholesale and retail sub-sector generally dominates the economic activity landscape, the sub-sector is only 7.0% formal.

Graph 1.6. Business Enterprises by Economic Activity, 2022

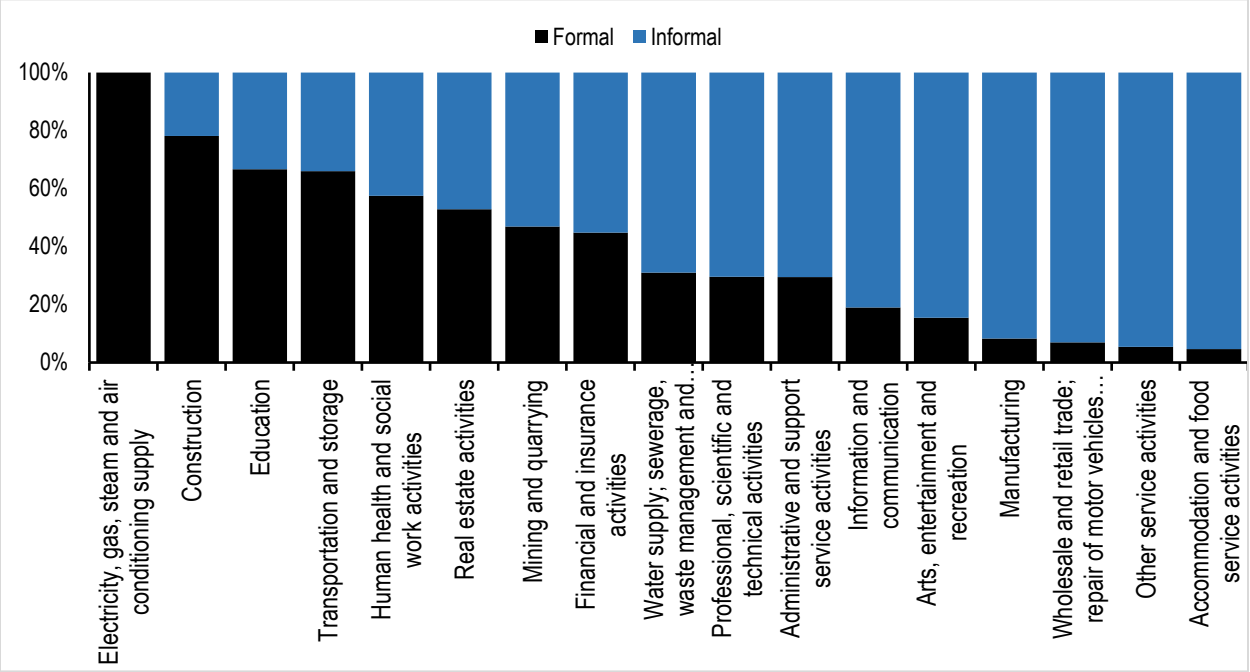
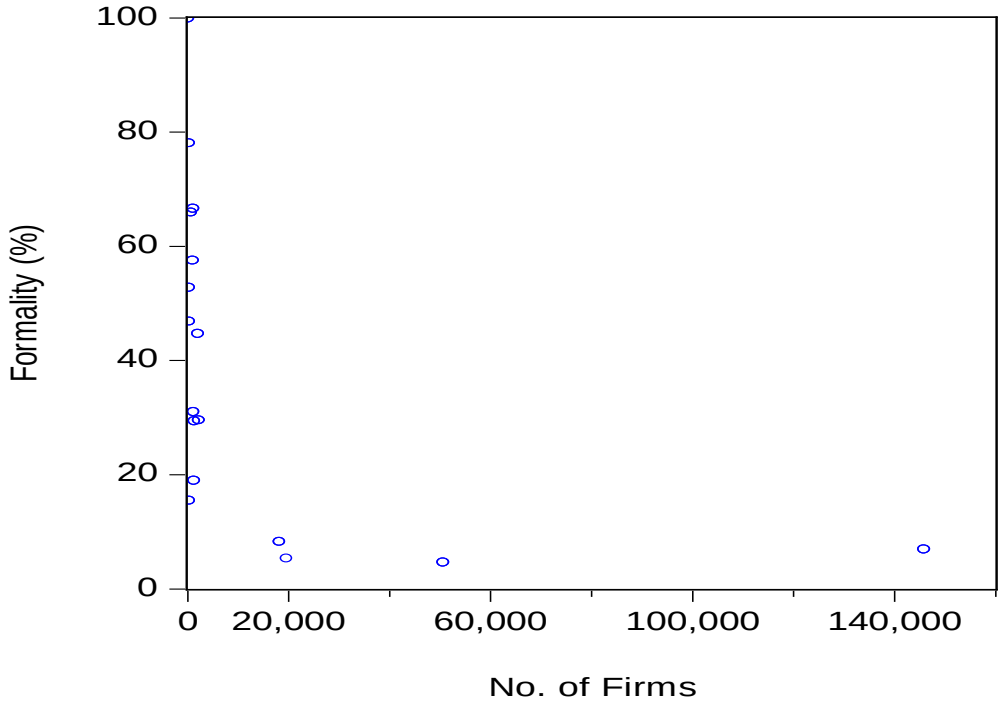
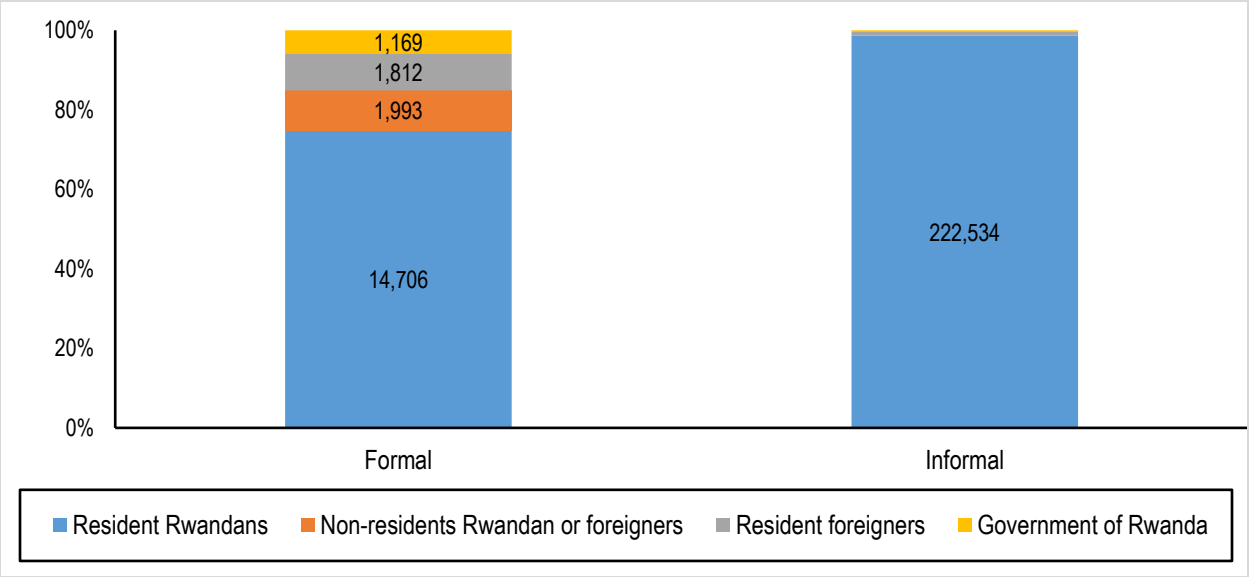


Figure 1.7: Correlation between Formality and Number of Business Enterprises, 2022

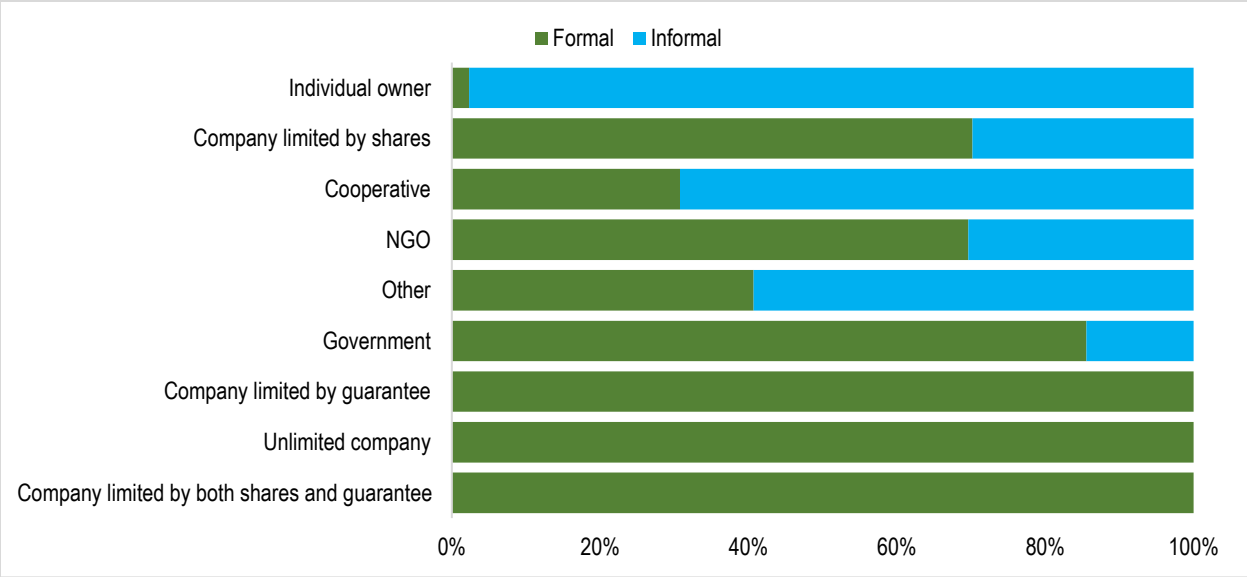


Resident Rwandans dominate the ownership of business enterprises in Rwanda, accounting for 96.7% of ownership (Graph 1.8). In the informal sector, resident Rwandans own almost all business enterprises, 98.6%; while they account for 74.7% of ownership in the formal sector. Furthermore, around 90.9% of business enterprises are sole proprietorships, that is, owned by a single individual (Graph 1.9), and largely operate as informal entities.

Graph 1.8: Business Enterprises by Ownership Characteristics, 2022



Graph 1.9: Legal Status of Business Enterprises, 2022



Business enterprises in Rwanda are young entities, 55.7% of the current operating businesses have started operations between 2016 and 2020. Most of the business enterprises formed (97%) are informal. It is also evident that the share of new formal business enterprises has been drastically decreasing, falling from around 21% in 2000 to around 2.6% in 2021.

Graph 1.10: Business Enterprises by Age of Business Enterprise, formality shares and number of enterprises

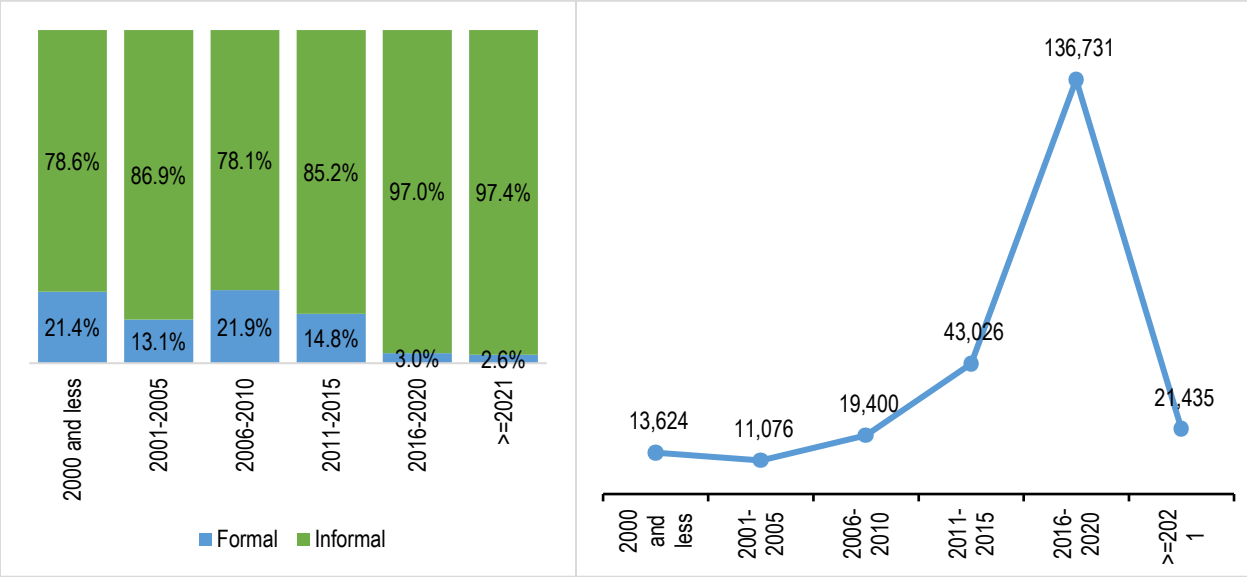


Table 1.1. Summary of Business Distribution in Rwanda

	Formal					Informal				
Descriptive	**Kigali**	**South**	**West**	**North**	**East**	**Kigali**	**South**	**West**	**North**	**East**
Main Sector										
Industry	1,509	185	124	154	204	7,837	3,143	1,487	2,994	2,154
Finance	465	72	131	125	85	316	316	181	-	271
Education	101	177	102	121	181	93	62	-	62	125
Health	147	128	103	59	113	108	108	-	54	135
Other services	12,033	863	942	977	576	92,116	36,269	21,864	21,815	34,102
Business Enterprise Size										
Micro 1-3	2,107	201	165	76	132	92,543	36,295	19,576	22,745	35,047
Small 4-30	7,119	630	669	749	496	7,928	3,603	3,954	2,181	1,740
Medium 31-100	2,997	454	446	438	417	-	-	-	-	-
Big 100+	2,033	142	124	172	115	-	-	-	-	-
Economic Activity										
Mining & quarrying	57	19	33	14	5	73	-	-	-	73
Manufacturing	988	162	89	81	186	7,433	2,676	1,487	2,973	2,081
Electricity & Power	34	-	-	-	8					
Water supply & waste management	292	-	-	58	-	311	467	-	-	-
Construction	139	4	2	-	4	21	-	-	21	-
Wholesale & retail trade	8,592	314	407	591	277	66,179	21,316	14,872	12,641	20,572
Transportation & storage	417	-	-	6	-	218	-	-	-	-
Accommodation & food service	1,305	245	381	299	136	15,569	11,190	4,865	7,298	9,244
Information & communication	205	-	13	-	13	327	327	-	-	327
Finance & Insurance	465	72	131	125	85	316	316	181	-	271
Real estate	73	7	4	-	-	75	-	-	-	-
Professional, scientific & technical	611	-	-	14	-	343	572	343	229	-
Administrative & support	319	12	12	25	12	304	152	152	152	152
Education	101	177	102	121	181	93	62	-	62	125
Human health and social work	147	129	103	59	113	108	108	-	54	135
Arts, entertainment & recreation	47	-	-	-	-	128	128	-	-	-
Other service activities	464	285	127	42	137	8,972	2,583	1,631	1,495	3,807
Business Enterprise Formation										
>=2021	448	54	19	19	8	9,315	3,183	2,233	1,607	4,549
2016-2020	3,313	111	192	323	193	60,569	23,854	10,117	13,936	24,124
2011-2015	5,005	401	336	353	280	16,795	7,168	4,692	2,685	5,310
2006-2010	2,975	348	270	390	265	5,821	3,463	1,819	2,515	1,533
2001-2005	1,004	87	172	117	76	3,270	991	2,646	1,443	1,270
2000 and less	1,510	426	414	235	337	4,701	1,239	2,023	2,739	-

2. BUSINESS ENVIRONMENT

Business performance is inextricably linked to a country's business environment, which consists of a range of structural, institutional, and behavioural variables. The key variables used as indicators for the business environment include access to finance, information communication technology, trade and exports, labour market structures, energy use, environmental and infrastructural factors, among others. A favourable business environment will spur economic activity and positively affect business performance. It will further spur confidence in the markets and, thus, improve both domestic and foreign investments, capital increments, employment growth, and export-oriented activities.

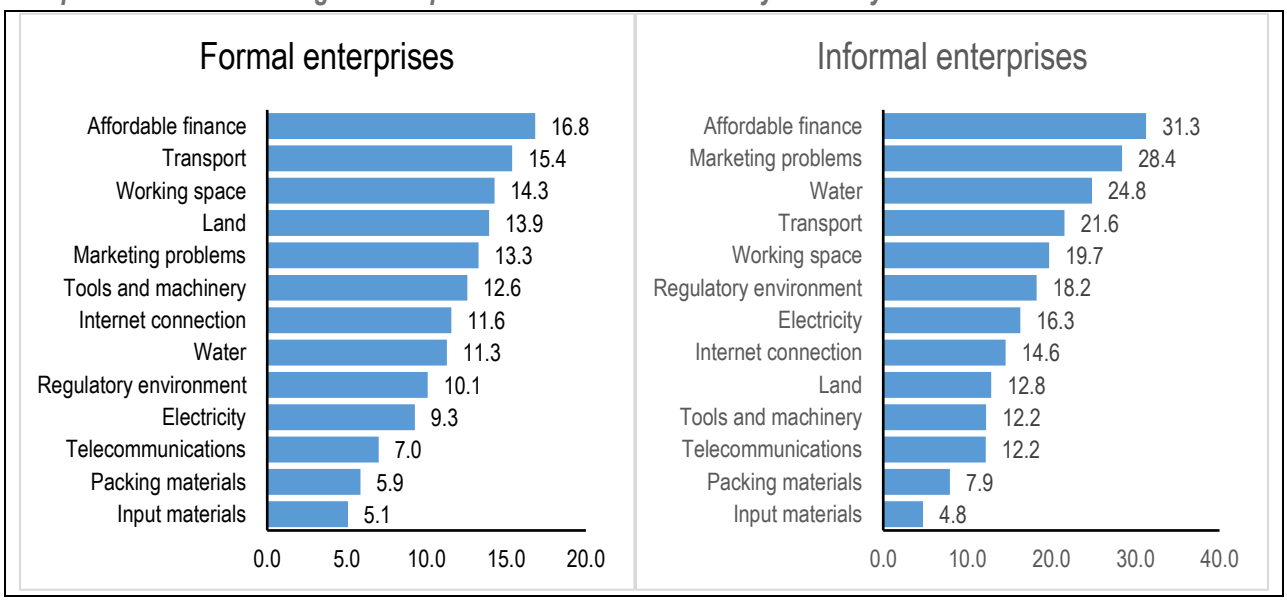
A weak environment on the other hand, will not only lead to divestment but also to probable counterproductive and/or costly actions by business enterprises to cushion themselves from the weaknesses. For instance, unreliable power will result in business enterprises investing in alternative power generators; insecurity will lead to higher security and insurance costs; and a lack of credit will lead to fewer investments, just to describe a few. A weak business environment will most likely result in productivity losses and employment stagnation.

This section will report on the different aspects of the business environment (indicators as mentioned above), for both formal and informal business enterprises. Business environment factors are differentiated into two categories: market factors, infrastructure & the environment, and labour characteristics. Further disaggregation of the analysis will be done based on the main economic sectors and size of the business enterprises. It is worth noting that there are stark differences in the top three most pressing challenges based on formality. It is worth noting that the data presented in this section are solely for the year 2022.

2.1. Business Environment Factors

In general, formal and informal business enterprises face different challenges regarding the nature of the business environment (Graph 2.1). Formal business enterprises rank problems in affordability of finance (16.8%), transport cost (15.4%), unavailable working space (14.3 %), and limited land (13.9%) as their most pressing challenges. On the other hand, informal business enterprises rank access to finance, marketing problems, water, and transport costs, as their primary concerns. Almost a third (31.3%) of informal business enterprises report difficulties in accessing loans and credit

Graph 2.1: Overall Ranking of Perceptions of Business Factors by Difficulty



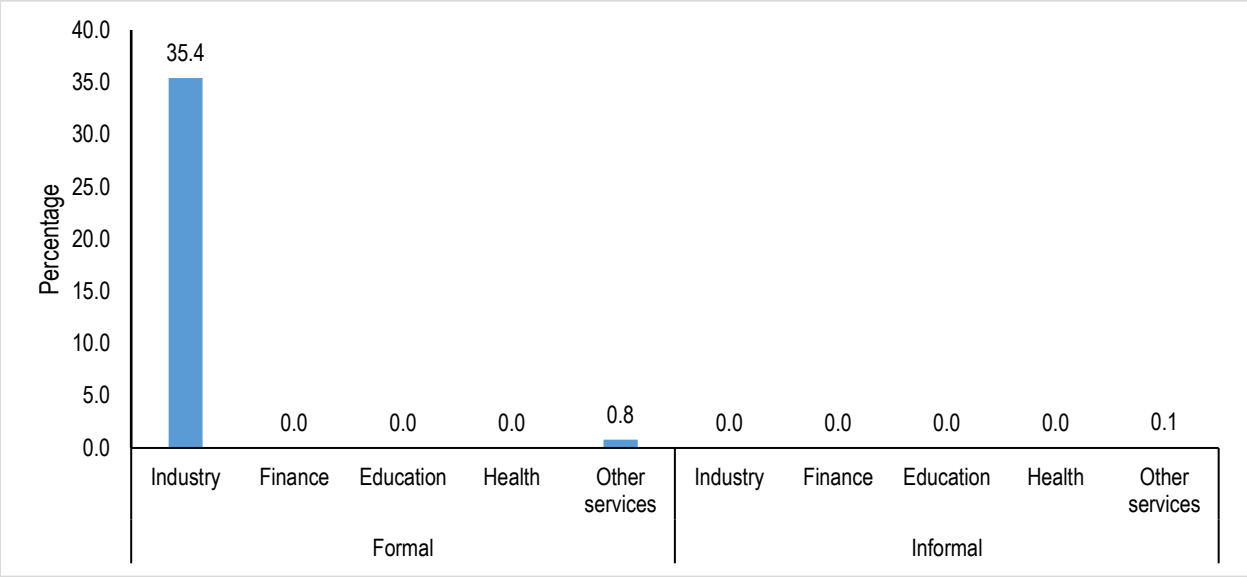
2.1.1. Market Factors

2.1.1.1. International Trade (Exports)

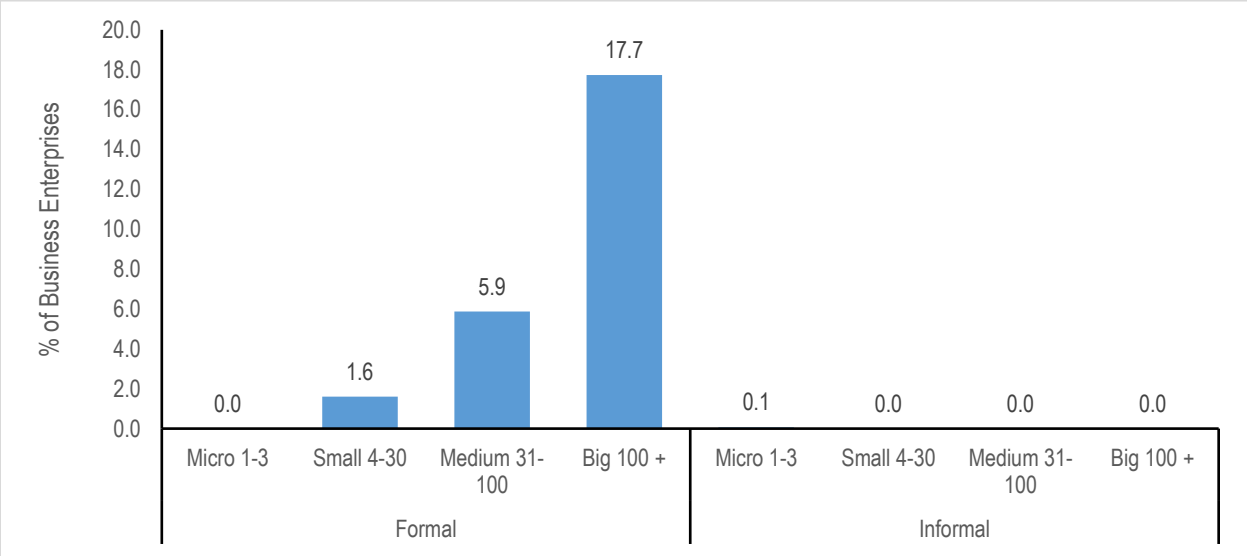
The linkage between trade participation and business enterprise growth has long been an important policy consideration for Rwanda. Various strategies and policy documents (such as the National Export Strategy I &II) have been created to encourage and grow the export capacity of business enterprises in the country. There are several merits of increased participation in export activities by business enterprises. First, exporting improves business enterprise productivity through exploring new foreign markets and diversifying demand for products. Secondly, exporting can improve a business enterprise's long-term production efficiency through "learning-by-doing" from international best practices and from economies of scale effects.

Graphs 2.2 and 2.3 below summarise exporting activities in Rwanda. Overall, only about 4.5% of formal business enterprises and a miniscule 0.1% of informal business enterprises are engaged in exporting activities. The industry sector exhibits the highest shares of participation in exporting activities with about 35.4 of business enterprises. Informal business enterprises barely do not engage in exporting activities. In addition, the report also finds that larger formal business enterprises are more likely to participate in foreign trading than smaller ones. The big business enterprises lead in export activities, with 17.7% of formal business enterprises engaged in international trade, as compared to 5.9% of medium and 1.6% of small business enterprises (Graph 2.3).

Graph 2.2: Business Enterprise Exporting Activities by Economic Activity

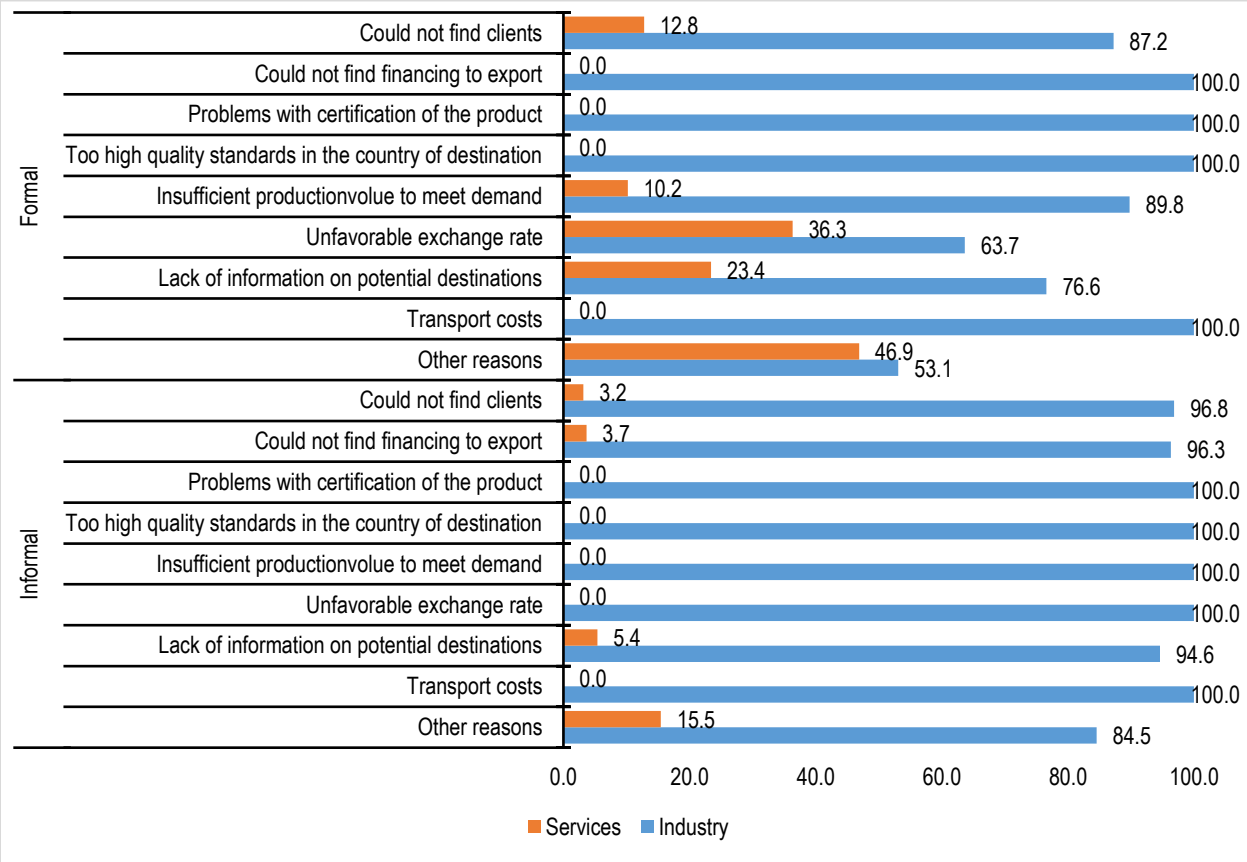


Graph 2.3: Business Enterprise Exporting Activities by Size



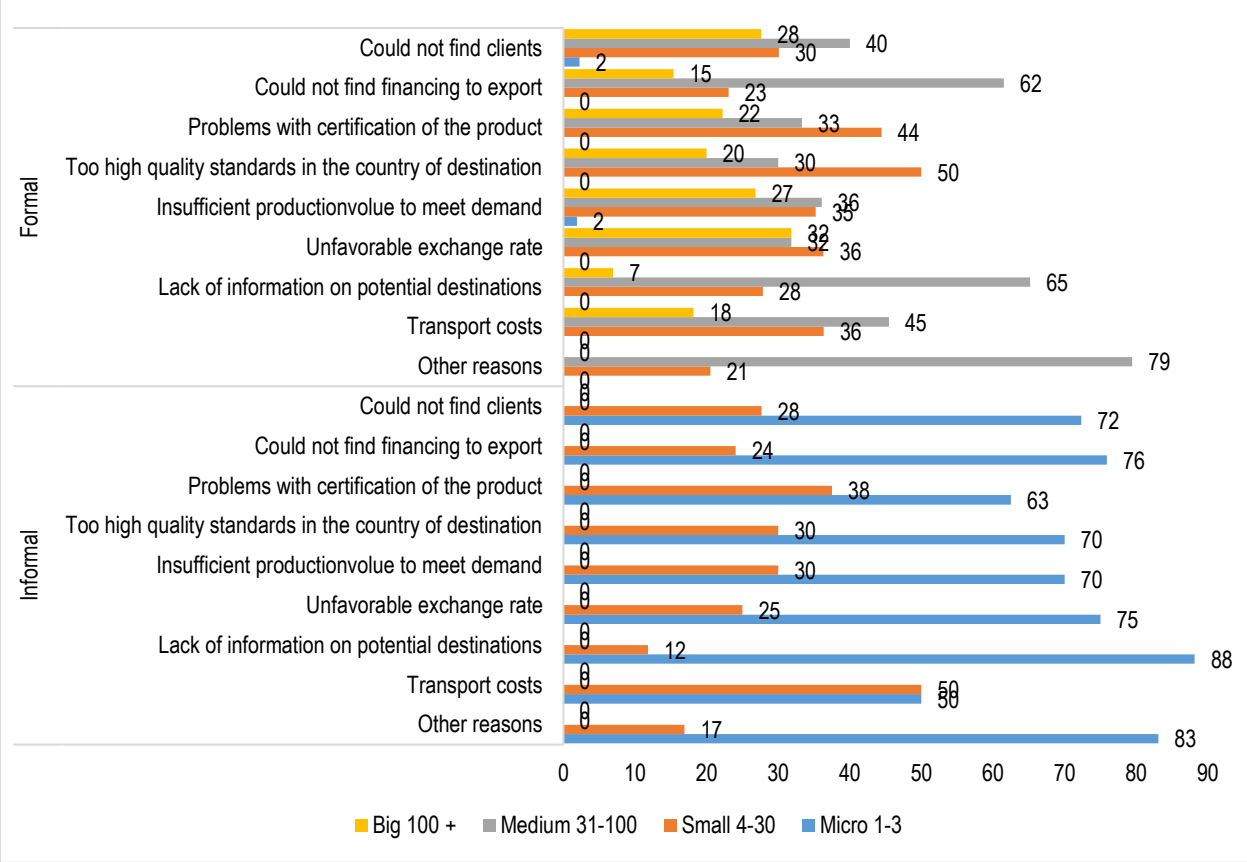
The export participation is limited by varying factors for sector and business enterprise formality as shown in the graph below. *T*he barriers to participating in exporting activities for formal business enterprises in the industry sector are mainly as a result of not find financing to export (100%), problems with certification of the product (100%), too high quality standards in the country of destination (100%), and high transport costs (100%).Similarly for informal businesses, the barriers to participating in exporting activities for formal business enterprises in the industry sector are mainly as a result of problems with certification of the product (100%), too high quality standards in the country of destination (100%), insufficient production volume to meet demand (100%) and high transport costs (100%). Unlike the industry sector, for the services sector, the main barriers for businesses to export are the unfavourable exchange rate (36.3%), lack of information on potential destinations (23.4%) and hardship to find clients (12.8%). Similarly, unavailable financing, lack of clients, and unfavourable exchange rates are significant barriers to both sectors.

Graph 2.4: Barriers to Business Enterprise Exportation by Sector



Also, the export participation is limited by varying factors for business enterprise formality by size as shown in the below graph. For the informal enterprises, micro businesses mainly face challenges of lack of information on potential destinations (88%) and unable to find finances to export (76%). While small businesses mainly encounter a challenge of transport costs (50%). Meanwhile for the formal enterprises, medium enterprises encounter challenges of lack of information on potential destinations (65%), could not find financing to export (62%) while big enterprises face challenges of mainly unfavourable exchange rates (32%) and unable to find clients (28%). Overall, all formal business-enterprises of all sizes suffer from insufficient production volume to meet demand.

Graph 2.5: Barriers to Exportation by size, Informal Business Enterprises (%)

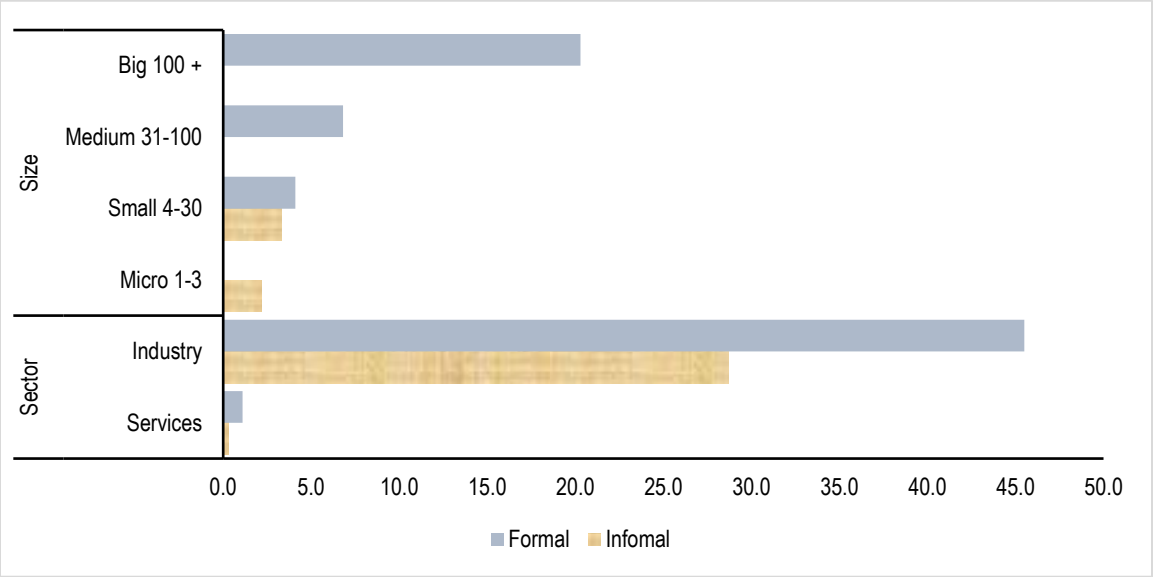


2.1.1.2. Access to Rwandan Produced Raw Materials

Raw materials and their sourcing are one of the most important supply chain management decisions for business enterprises. The quality of raw materials directly impacts the output quality and hence price points and profits. Further, decisions on whether business enterprises source their raw materials locally or from abroad influence the cost of production. There could also be differences in cost, quality, and supply depending on input sources. Raw materials sourced from abroad may incur certain costs that locally sourced products may not. Sourcing decisions are not obvious as some business enterprises just produce one product and hence require one or few raw materials, while others produce multiple products and may require inputs from different sources. Thus, sourcing decisions and constraints could have a direct effect on business enterprises' production and productivity outcomes.

.

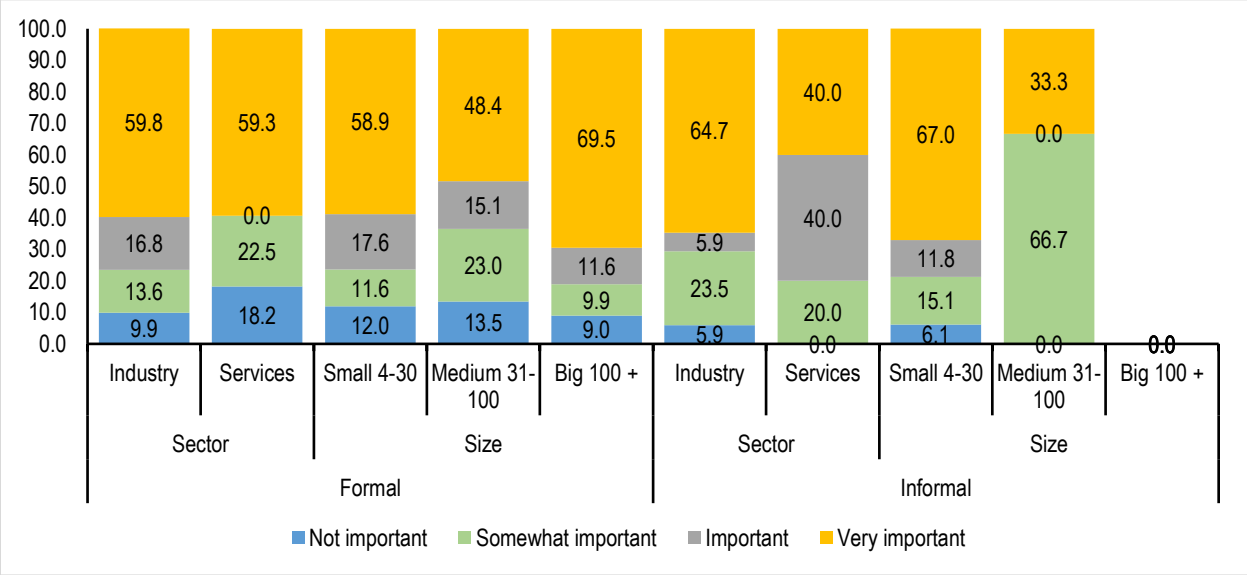
Graph 2.6: Business Enterprise Usage of Rwandan-sourced Raw Materials, % of Business Enterprises



On average, business enterprises utilise locally produced raw materials, albeit in varying levels. Graph 2.6 above illustrates the share of business enterprises by formality and size that use Rwandan raw materials. About 45.5% of formal and 28.7% of informal business enterprises in the industry sector utilise Rwandan-produced raw materials. By size, the big enterprises utilise most raw materials by 20.3% followed by medium enterprises at 6.8%. For the informal businesses, the small enterprises use most locally produced raw materials at 3.3%.

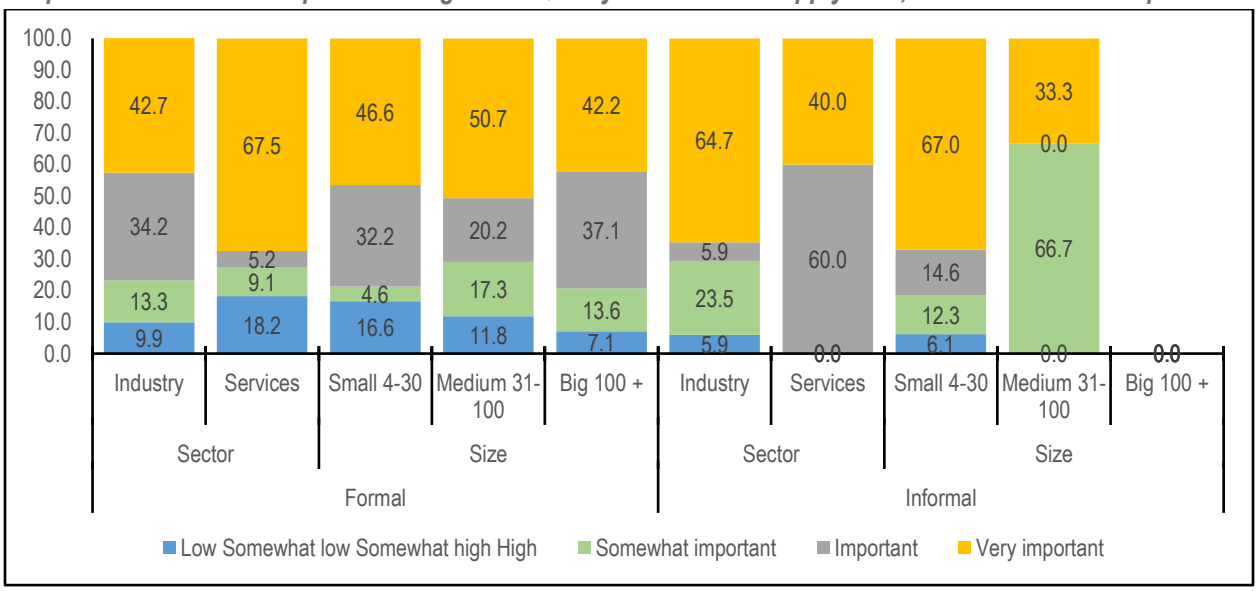
Business enterprises that use locally produced inputs (both formal and informal) on average regard Rwandan-produced raw materials as important for their activities, due to satisfactory quality (Graph 2.7 & graph 2.8). 59.8% of formal business enterprises in the industry sector describe locally sourced inputs as very important, as do over 59.3% of business enterprises in the service sector. In the informal sector 64.7% and 40% of business enterprises in the industry and service sectors respectively regard local inputs as very important. Further, on average 58.9% formal SMEs, and big business enterprises hold local inputs in high importance, as do informal business enterprises in all size categories at 33.5%.

Graph 2.7: Business Enterprise Perception of the Importance of Rwandan Raw Materials, % of Business Enterprises



This graph illustrates the perception of the quality of Rwandan-produced raw materials by business enterprises. Quality perception of inputs may reflect market demand of Rwandan raw materials by business enterprises. Just as Rwandan business enterprises view local inputs as important; they also perceive them to be of satisfactory quality. Over 57.4% of formal business enterprises in the industry and service sectors view Rwandan raw materials as at least of somewhat high quality. Most informal business enterprises rank Rwandan raw material mostly as somewhat high quality. Further, over 97.2% of formal SMEs using Rwandan inputs perceive them to be of satisfactory quality, as do over 100.4% of those in the informal sector. 42.2% of formal big business enterprises also rank local inputs as of high quality.

Graph 2.8: Business enterprise ranking of the Quality of Rwandan Supply/Raw, % of Business Enterprises



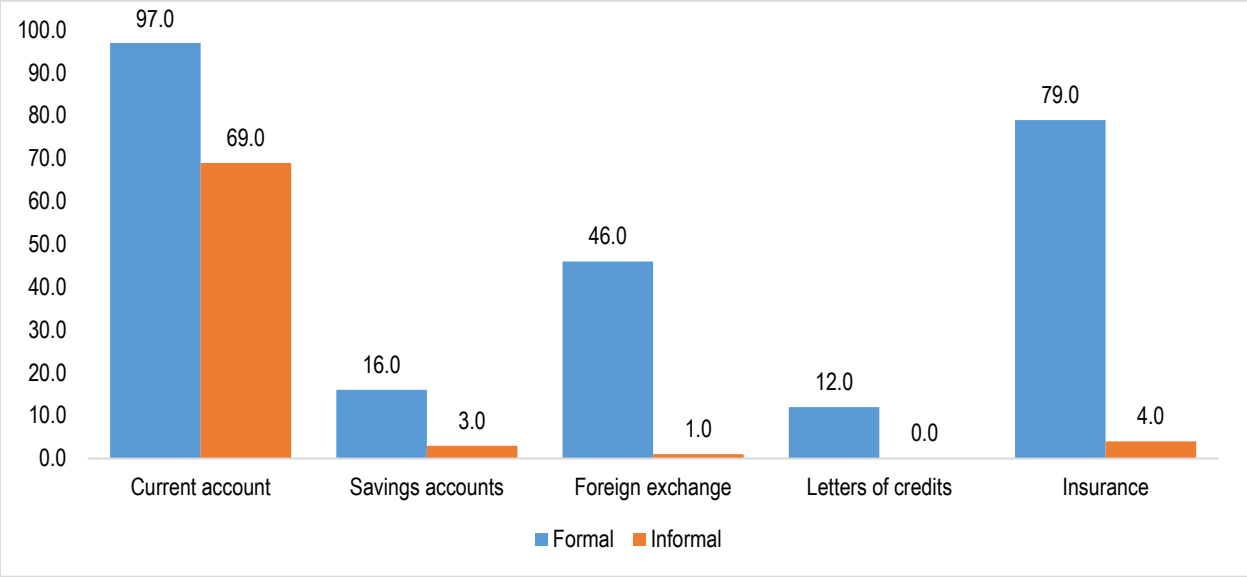
2.1.1.3. Access to Finance

Access to finance is a key ingredient to business enterprise growth. There are several potential links between access to financial loans and credit by business enterprises and productivity. The first is the direct availability of resources for business enterprise expansion and sustainability. Financially-constrained business enterprises face increased difficulties in raising resources for both operational and investment purposes. Innovative capacity as well as research and development for new products, services, and technologies for instance is an important factor for business enterprise growth. Business enterprises require adequate financing to offset the cost of innovation activities, and those that readily access this financing are able to leverage innovation to spur business enterprise growth. Financing has also been linked to the increased survival of business enterprises during economic shocks and resilience to cope with other risks attached to the business environment. Access to finance also provides added security in the form of continued working capital.

Graph 2.9 below shows the accessibility of basic financial instruments to formal and informal business enterprises in Rwanda. The survey differentiates between three types of instruments. The first are deposit-oriented that enable business enterprises to manage their liquidity (current and savings accounts); the second are credit-oriented instruments through which business enterprises can borrow funds; and the third are other types of instruments available to business enterprises. Current accounts are used for short-term operational banking activities such as paying bills, making rent payments, and cash deposits. Letters of credit are a form of export finance given to buyers/importers and offer secure payment agreements to suppliers. A savings account allows users to deposit cash and accrue interest over time.

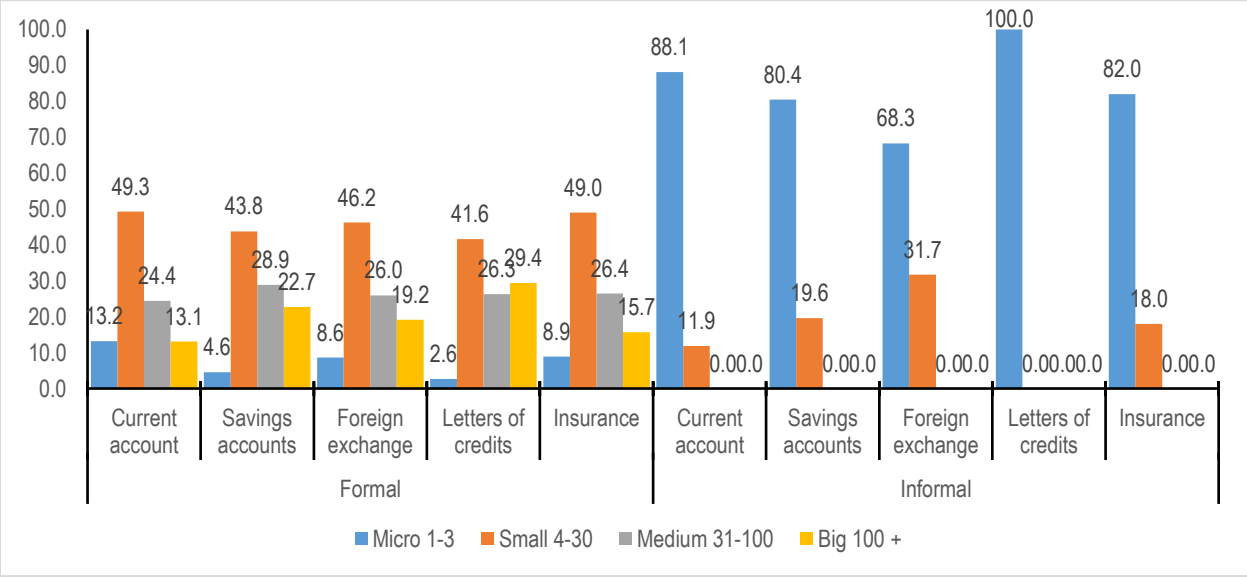
Current accounts are the most widely utilised financial instrument with 97% and 69% of formal and informal business enterprises having operational accounts respectively while 79% of formal business enterprises use various forms of insurance instruments (e.g. motor vehicle, property, medical and life insurance). Moreover, only 4% of informal business enterprises insure property or other assets. While savings accounts and letters of credit are the least utilised financial instrument, informal business enterprises are again disproportionately accounted for in their access, with less than 3% of business enterprises utilising both.

Graph 2.9: Access to Basic Formal Financing Instruments, % of Business Enterprises



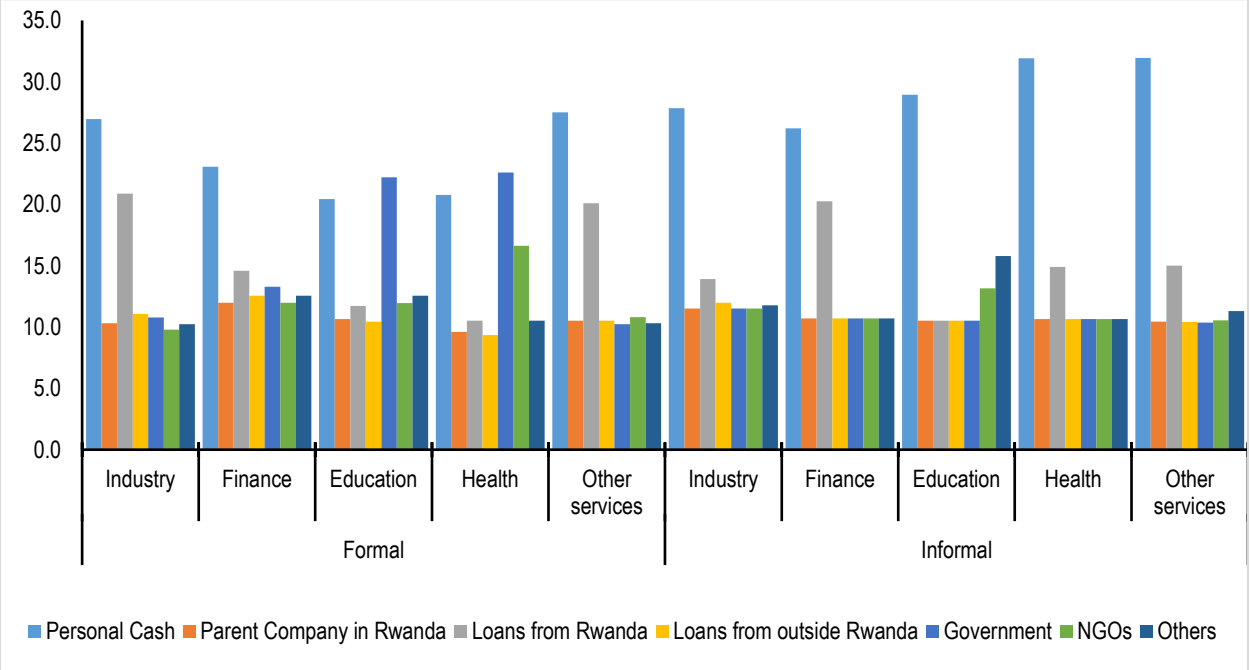
Small and medium business enterprises (SMEs) account for the largest share (72.4%) of the utilisation of financial instruments in the formal sector (Graph 2.10). On average, formal small business enterprises account for almost half (46%) of the utilisation of financial tools considered in 2022 while medium business enterprises account for 26.4% and big enterprises at 20%. The informal micro and small business-enterprises account for 83.8% and 16.2% use of financial instruments on average. For formal business, the most used instrument is the current account at 49.3% by small enterprises while the letters of credit are the most used by informal micro businesses at 100%.

Graph 2.10: Business Enterprise Use of Financial Instruments by Business Enterprise Size, % of Total Business Enterprises



The IBES 2022 considers several sources of financing including personal cash, government financing, and loans from within and outside the country, amongst others. On average for all economic activities, personal cash is the most widely used form of financing for both formal (23.7%) and informal (29.4) business enterprises. For formal business enterprises, government and loans from within and outside Rwanda are also significant sources, accounting for 15.6% and 10.8% of their funding respectively. Loans from within Rwanda (14.9%) and NGOs (11.3%), on the other hand, represent significant funding sources for informal business enterprises.

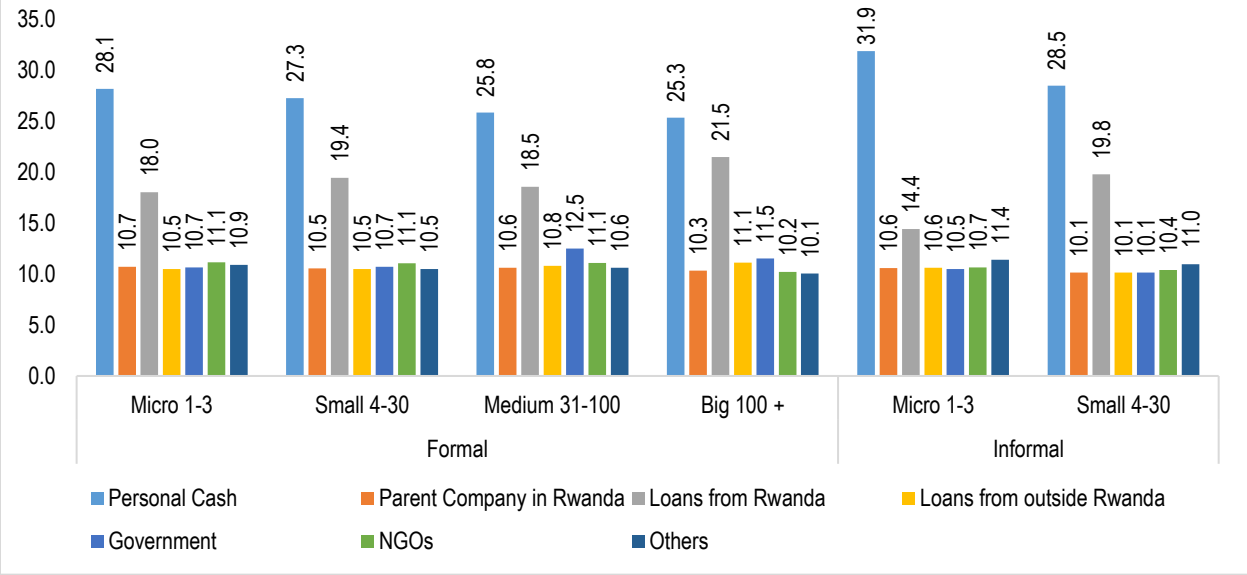
Graph 2.11: Sources of Financing for Business Enterprises by Sector, % of Business Enterprises



Analysis by sector reveals that personal cash is the most important source of financing for all sectors (Graph 2.11). For the formal enterprises, the personal cash represents the highest source of financing for service and industry sectors in particular, accounting for 27.5% and 27% respectively. This is closely followed by the finance sector with 23.1%. The informal counterparts who obtain a majority of their funding from personal sources, with both 31.9% for services and health sectors.

Further, Graph 2.12 below emphasises personal cash as the primary source of finance for business enterprises categorised by size. The informal micro-sized business enterprises exhibit the highest shares of usage of personal finance with nearly 31.9%. Loans from Rwanda were another important source of financing particularly for formal big, small and medium business enterprises, accounting for 21.5%, 19.4%, and 18.5% of financing respectively.

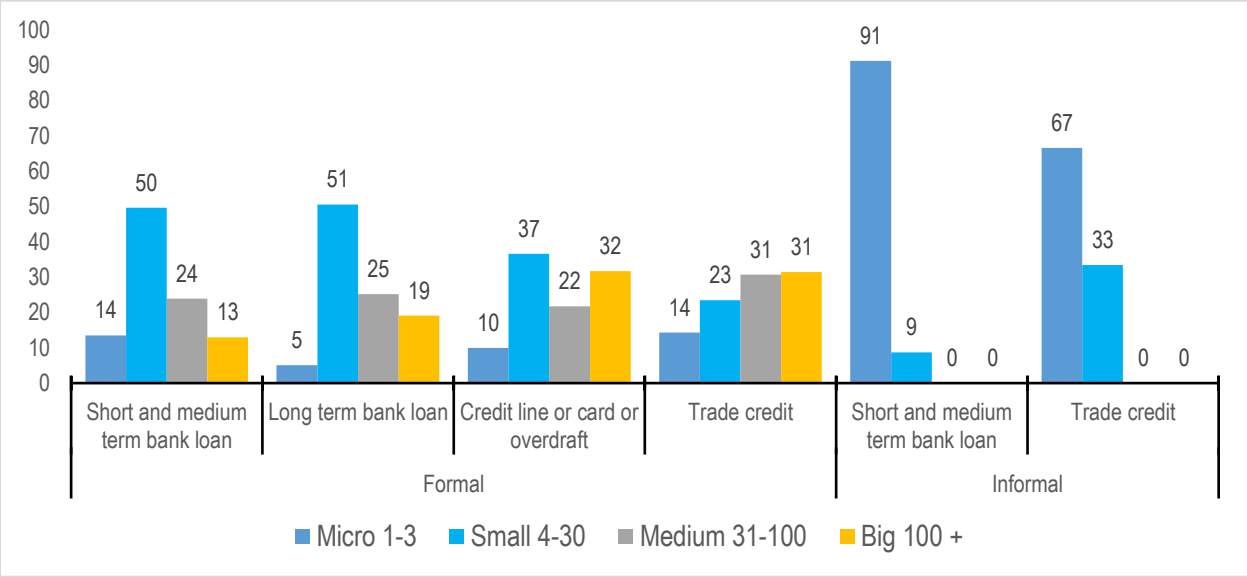
Graph 2.12: Sources of Financing for Business Enterprises by Business Enterprise Size, % of Business Enterprises



With findings illustrating difficulties in accessing finance, Rwandan business enterprises report differences in the barriers to accessing formal finance. The main barriers to financing include, fear of possible rejection, no bank loans available, high interest rate and too much paperwork involved among others. These barriers are common for accessing subsidised bank loans on an average of 15% followed by access to long term bank loans at 14.5% difficulties and access to short term bank loans at 12.8% difficulties (Graph 2.13).

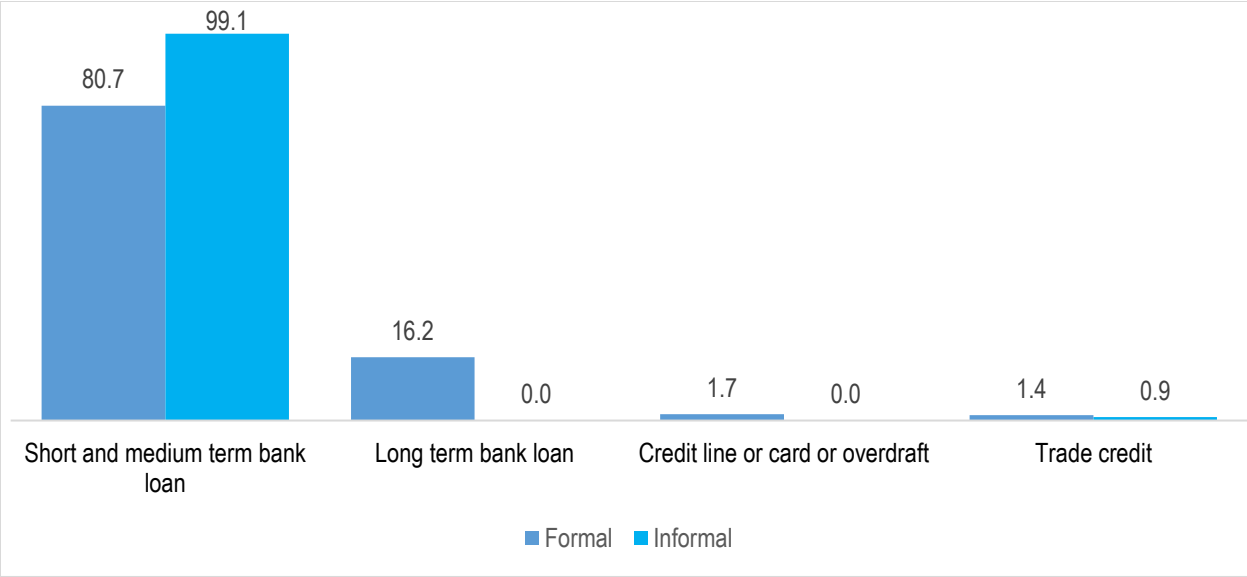
Graph 2.13: Barriers to Accessing Formal Financing, Formal Business Enterprises (%)

Graph 2.14: Accepted loans by type, formality and size of the business enterprise



For the informal business enterprises are unlikely to receive long term bank loan and Credit line or card or overdraft except for short and medium term bank loans, accounting for 99.1% and 0.9% for trade credit. About 80.7% of formal business enterprises that applied for short or medium-term loans received the full amount requested. While both formal and informal business enterprises have significantly reduced probabilities of receiving long-term loans, credit lines, and trade credit.

Graph 2.15: Outcome of Loan Applications, % of Business Enterprises

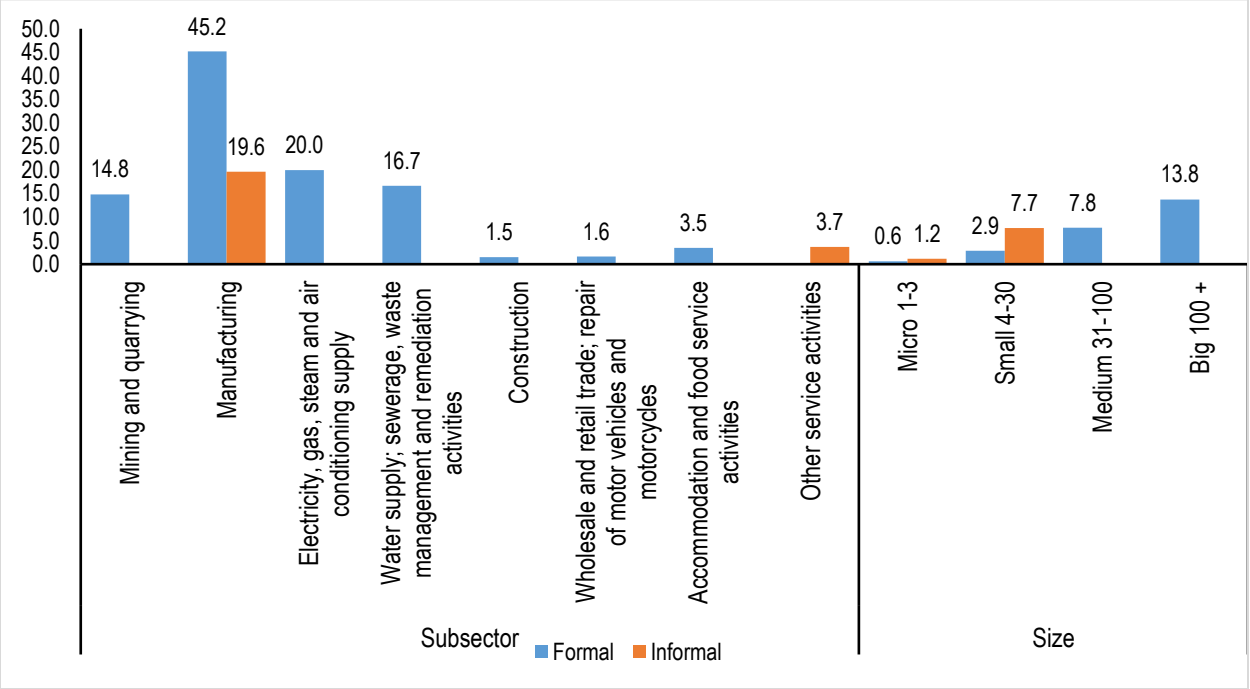


2.1.1.4. Capacity Utilisation

Capacity utilisation is crucial to business enterprise performance and could impact on the share of business enterprises investing in long-term assets, annual labour productivity growth, and sales growth. Capacity utilisation is conceptualised in this report as the extent of production capabilities being utilised by business enterprises at any one given time. It explains the difference between the output produced in a certain period, and the output that could have been produced had the elements of production been working/utilised at full capacity. It further indicates business enterprise efficiency levels by illustrating the extent to which a business enterprise can increase production at the same production cost.

In production unit business enterprises, capacity underutilization is prevalent more in formal than informal subsectors, excluding mining and construction. Formal business enterprises in the manufacturing sector report the highest shares of capacity underutilization at 45.2% (Graph 2.16), and 20% of business enterprises in water supply; sewerage, waste management and remediation activities. On the other hand, 19.6% of informal business enterprises in manufacturing reported underutilization. Further, in the formal sector, capacity underutilization increases with the business enterprise size. 13.8% of big business enterprises experience capacity underutilization as compared to 7.8%, 2.9%, and 0.6% for medium, small, and micro business enterprises respectively.

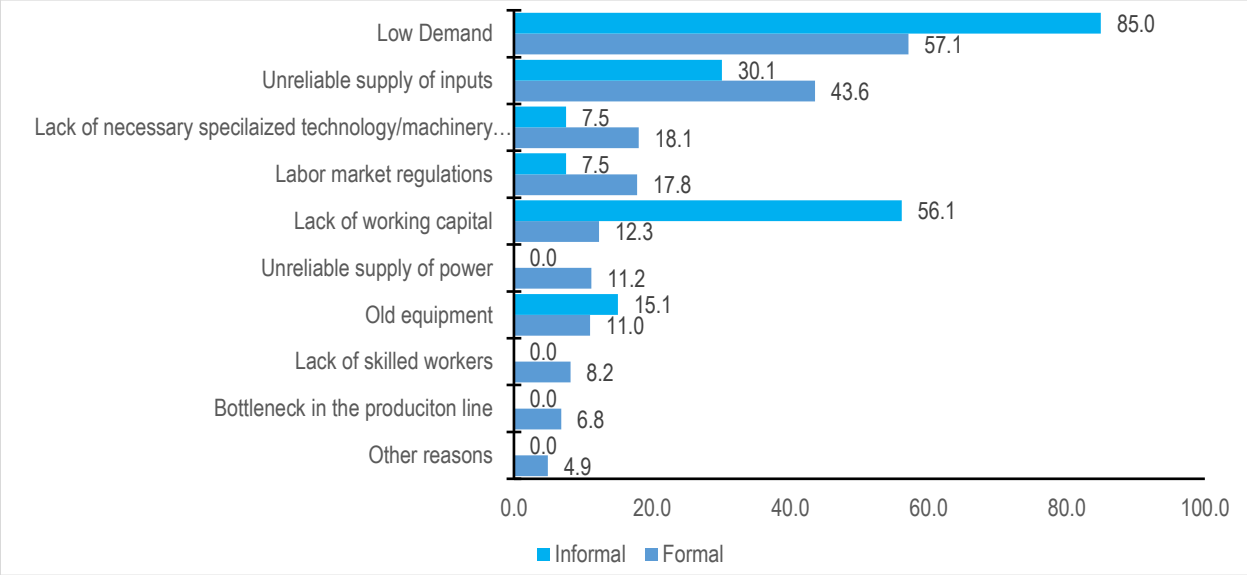
Graph 2.16: Shares of Capacity Underutilization, by Formality, Sectors, and Size (% of Business Enterprises)



There exists differences on the causes of business enterprise underutilization by formality. For both formal and informal business enterprises, the top reason for capacity underutilization is low demand. 57.1% of formal business enterprises and 85% of informal business enterprises reported low demand as the major barrier for full utilisation (Graph 2.17). Lack of working capital (56.1%) and unreliable supply of inputs (30.1%)

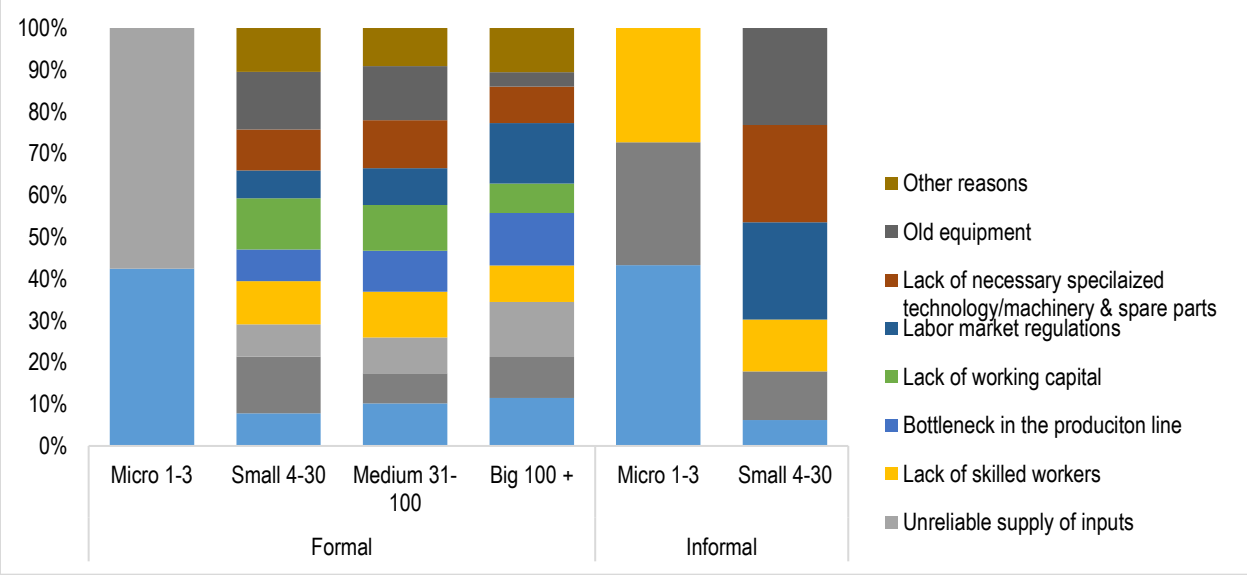
complete the top two in the ranking of the reasons for capacity underutilization for informal business enterprises. For formal business enterprises, 43.6% and 18.1% of business enterprises further reported an unreliable supply of inputs and lack of necessary specialised technology/machinery & spare parts as other major concerns regarding full utilisation.

Graph 2.17: Main Reasons for Underutilization- Overall



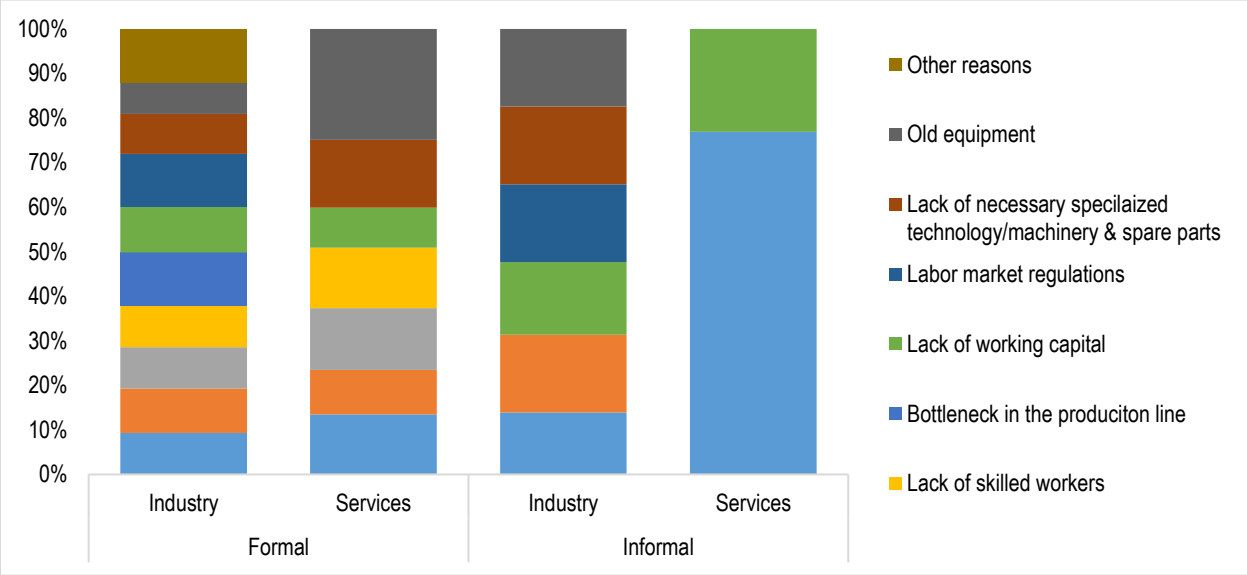
Barriers of full capacity utilisation further differ by business enterprise size and sectors. Labour market regulations account for the highest share of underutilization as the main reason for big enterprises followed by unreliable supply of inputs (43.6%). Also, low demand is the dominant barrier with 73.4% for the informal sector. Other significant barriers for the informal sector include lack of skilled workers and unreliable input supply (micro, small, and medium business enterprises).

Graph 2.18: Main Reasons for Underutilization, by Business Enterprise Size



Bottlenecks in the production line (100%) and labour market regulations (100%) was a dominant barrier of capacity utilisation for the formal service sector while unreliable supply of power (100%) to the informal industry sector.. On the other hand, low demand (79.7%) was the greatest challenge for informal business enterprises in the service.

Graph 2.19: Main Reasons for Underutilization, by Sector

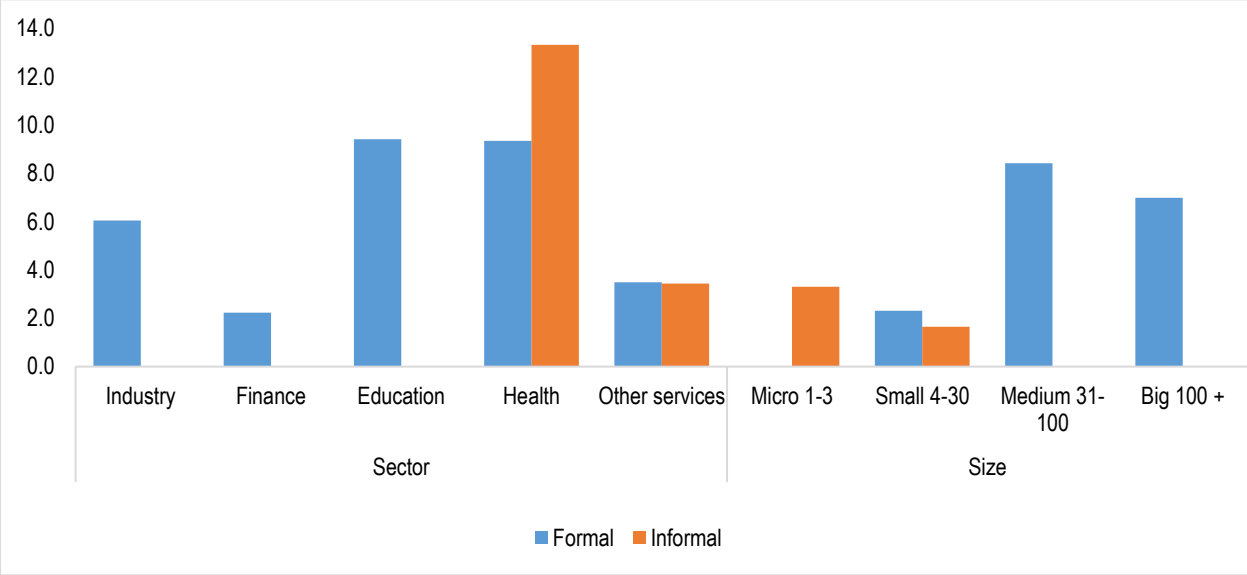


2.1.2. Infrastructure and the Environment

2.1.2.1. Energy Use and Access to Reliable Power

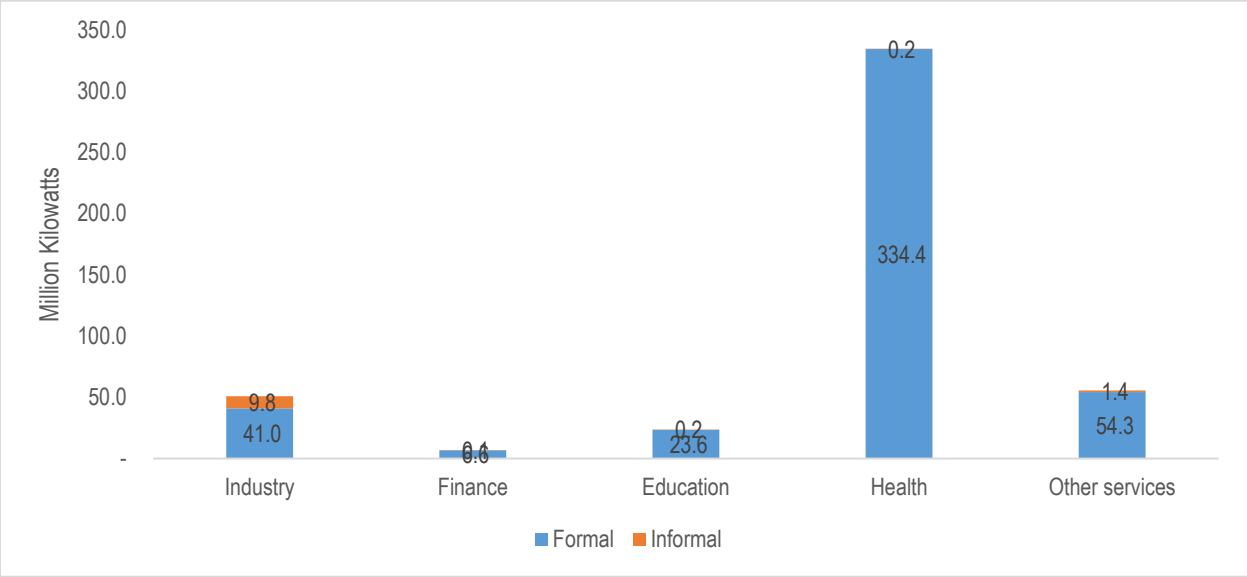
Rwandan business-enterprises exhibit a low capacity for solar energy use. In fact, on average, only about 6.1% of formal business enterprises use solar energy, with more utilisation in the education and health sectors at 9.4% (Graph 2.20). The formal micro business uses more solar energy at 8.4%. In the informal enterprises, on average 3.4% of informal business enterprises use solar energy and the health sector dominates at 13.3% while micro enterprises use mostly solar power at 3.3%.

Graph 2.20: Use of Solar Energy by Sector and Size, % of Business Enterprises

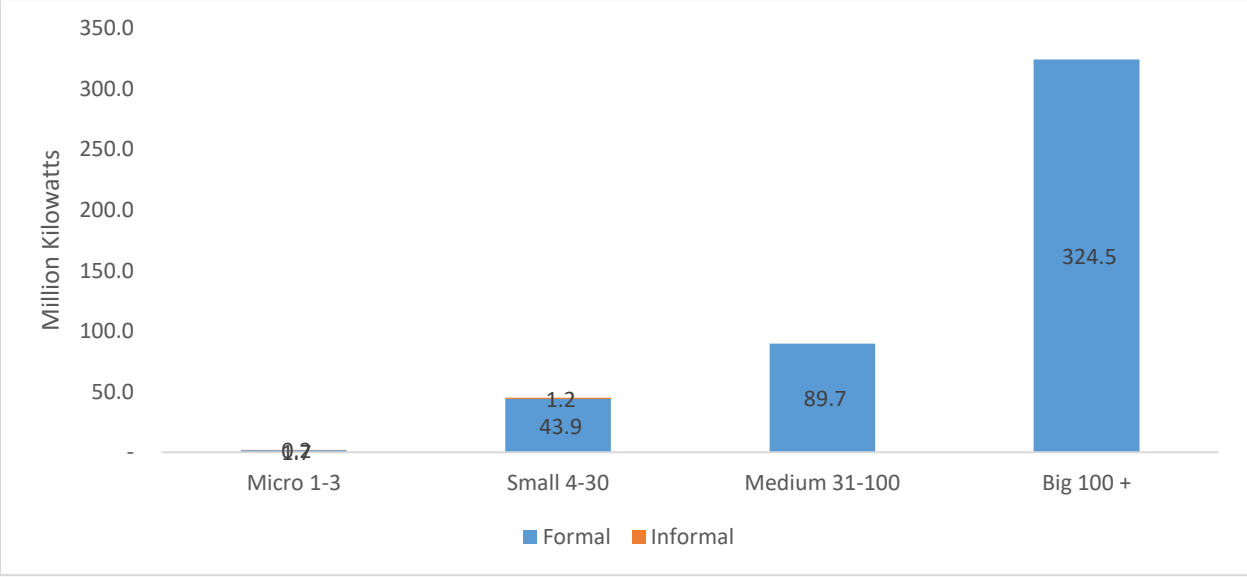


The graph 2.21 illustrates the average use of electricity and power by business-enterprises. The formal health (334.4%), services (54.3%) and industry sector (41%) consume the largest share of electricity. Furthermore, the big enterprises consume more electricity at 324.5% followed by medium enterprises at 89.7%. In the graph 2.22, the micro and small informal enterprises use electricity at 1.4% combined with the industry sector dominating usage at 9.8%.

Graph 2.21: Electricity Usage by Business Enterprises (Sector), in Million Kilowatts

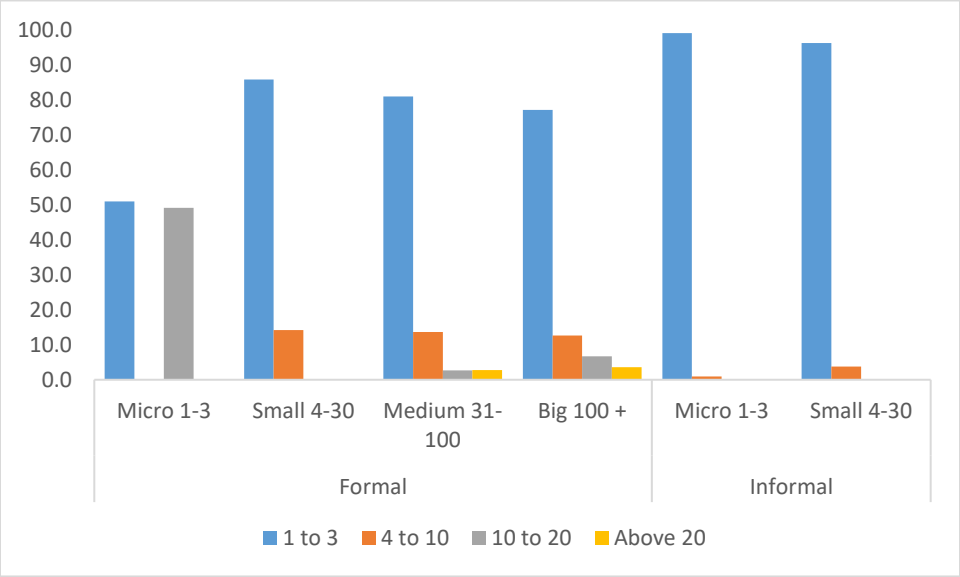


Graph 2.22: Electricity Usage by Business Enterprises (Sector), in Million Kilowatts

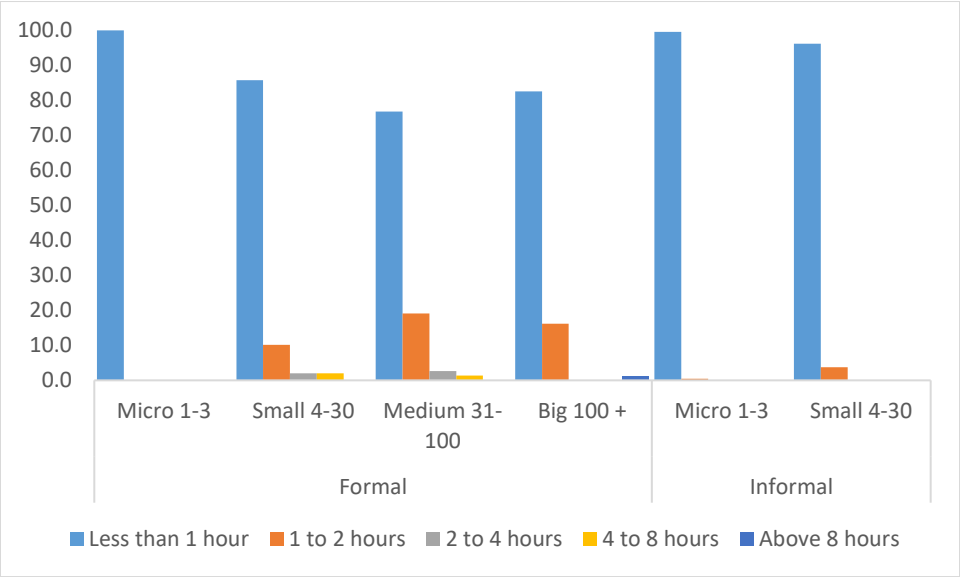


Micro and small informal business enterprises reported experiencing a greater number of power outages of one to three at the rate of 99.0% and 96.2 respectively, while 85.8% of small formal business enterprises have reported to experience one to three power outages (Graph 2.23). Meanwhile, micro business enterprises have reported the average duration of power outages of less than one hour at the rate of 100% and 99.6% formal and informal respectively, while less than 20% of formal medium and formal big business enterprises have reported to experience power outage duration of between one to two hours (Graph 2.24).

Graph 2.23: Business Enterprises by the number of monthly power outages (%)



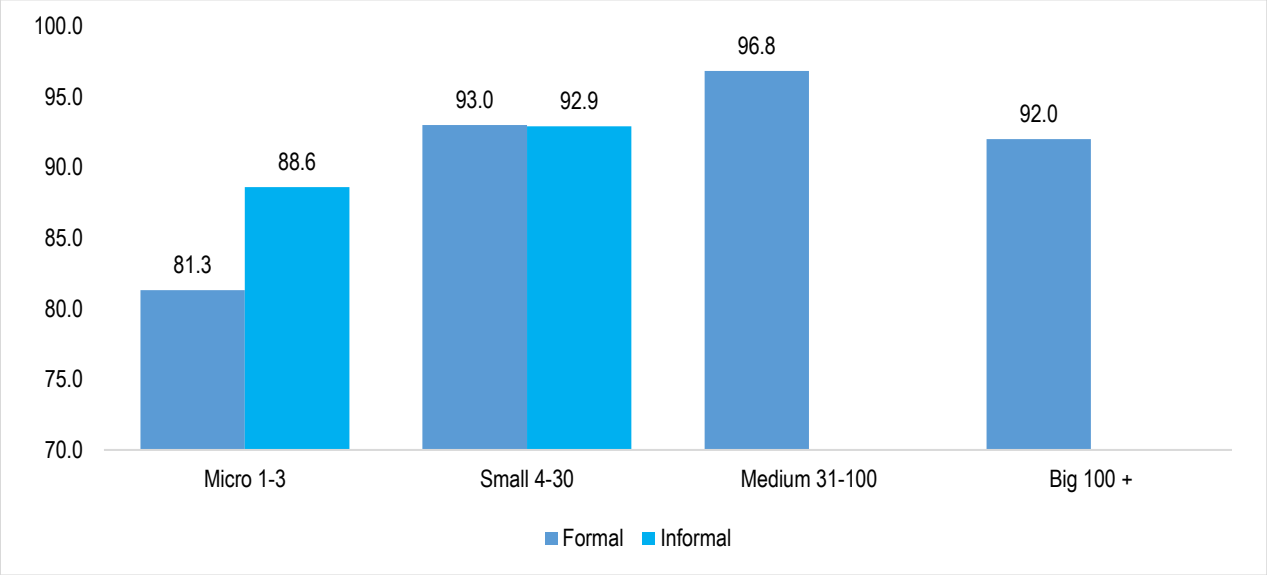
Graph 2.24: Average Duration of Power Outages (Hours), % of Business Enterprises



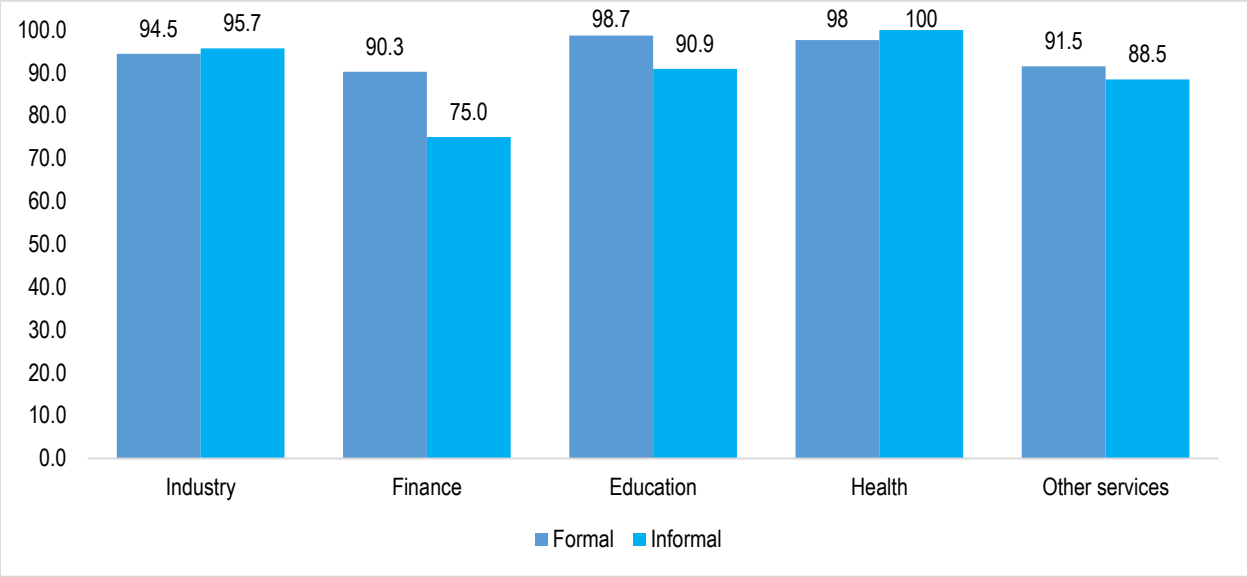
2.1.2.2. *Environmental Protection*

For businesses, environmental protection can have economic and social benefits both at micro and macro level. In Rwanda, an average of 94.5% of formal business enterprises and 90% of informal business enterprises reported producing waste. Overall, the service formal sector accounts for the highest shares of waste production in form, that is, 77.7%, 66%, 56.6% of solid, liquid, and gaseous waste respectively. Graph 2.25 below disaggregates waste production by business enterprise size, illustrating that formal medium businesses have higher shares of waste production at 96.8% while informal small businesses have the largest share of waste production at 92.9%. The education and health sectors also produced significant shares of waste at 98.7% and 98% respectively for formal businesses and the industry sector dominated within the informal businesses at 95.7%. Furthermore, formal SMEs accounted for about an average of 104% of mostly solid waste produced, 49.4% of liquid by small enterprises and 41.8% of liquid by medium enterprises (Graph 2.27).

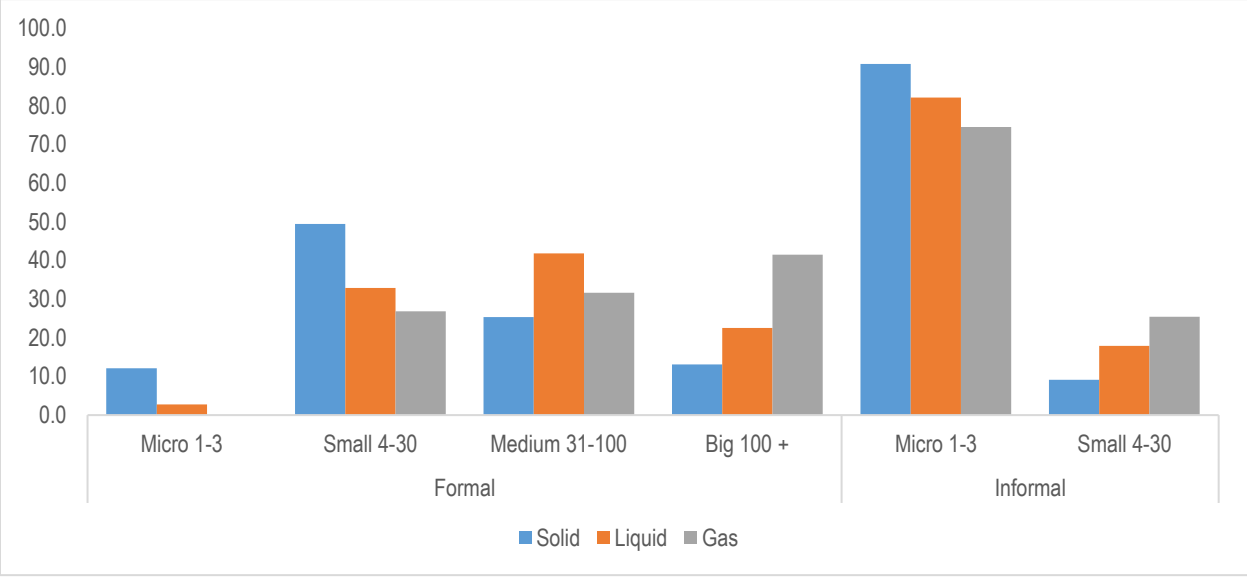
Graph 2.25: Waste Production by Business Enterprise Size, % of Business Enterprises



Graph 2.26: Waste Production by Sector, % of Business Enterprises

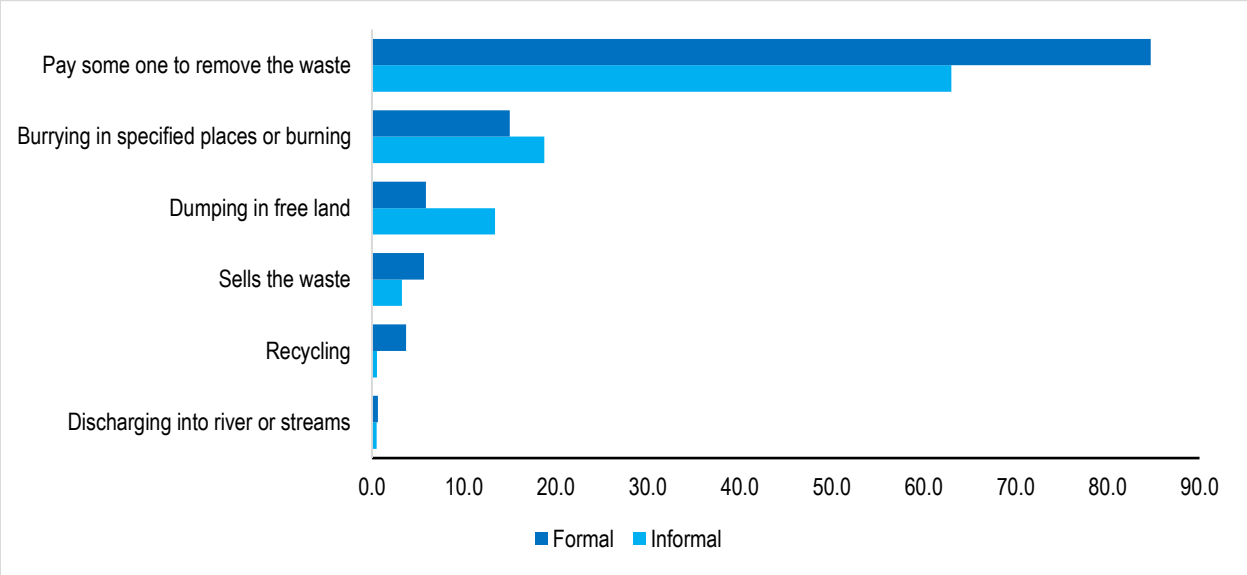


Graph 2.27: Waste Production by Type (Business Enterprise Size), % of Business Enterprises



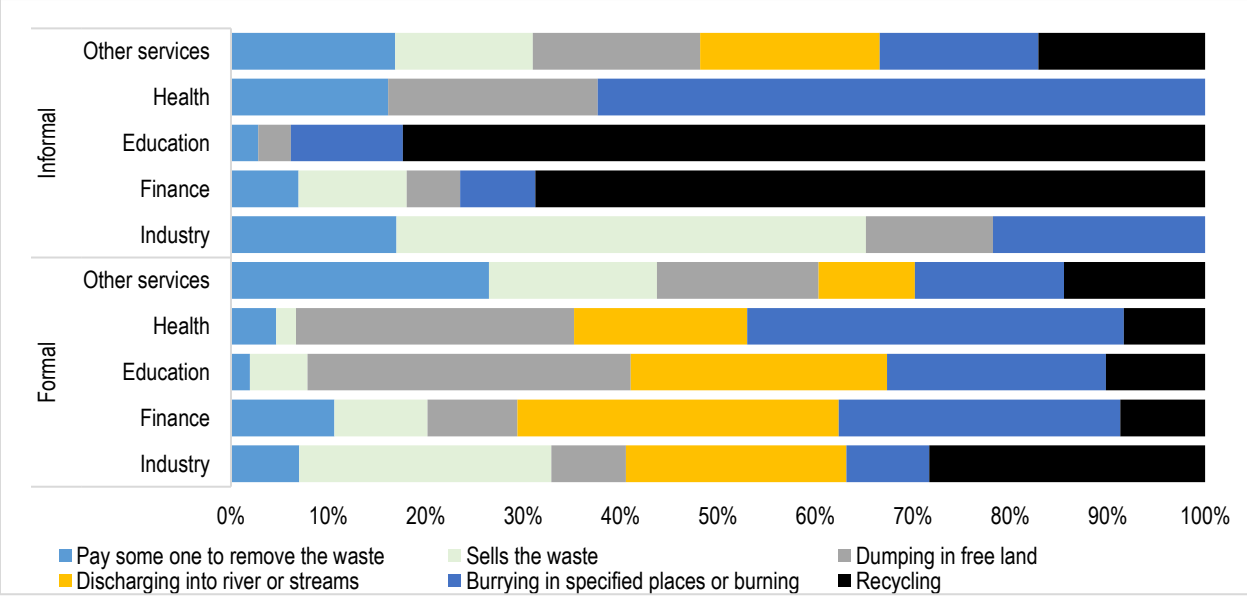
Informal business enterprise's modes of waste disposal largely involves paying someone to remove the waste. For instance, 63% of informal business enterprises and 84.7% of formal business enterprises pay someone to dispose of waste from their business enterprises (Graph 2.28). Burying of waste is another common practice by business enterprises which is likely to damage soil ecosystems, with 18.7% and 15% practised by informal and formal business enterprises respectively.

Graph 2.28: Modes of Waste Disposal, % of Business Enterprises



Across all sectors (except for formal education and health), paying external individuals to get rid of business enterprise waste is the most commonly used mode of waste disposal (Graph 2.29). 83.19% and 10.21% of formal business enterprises in the service and industry sectors pay individuals to collect waste. The education and health sector formal business enterprises (23.27% and 10.41% respectively) mainly dump in free land. In the informal sector, paying someone to remove the waste is the most common practice across all sectors followed by burying in specified places or burning.

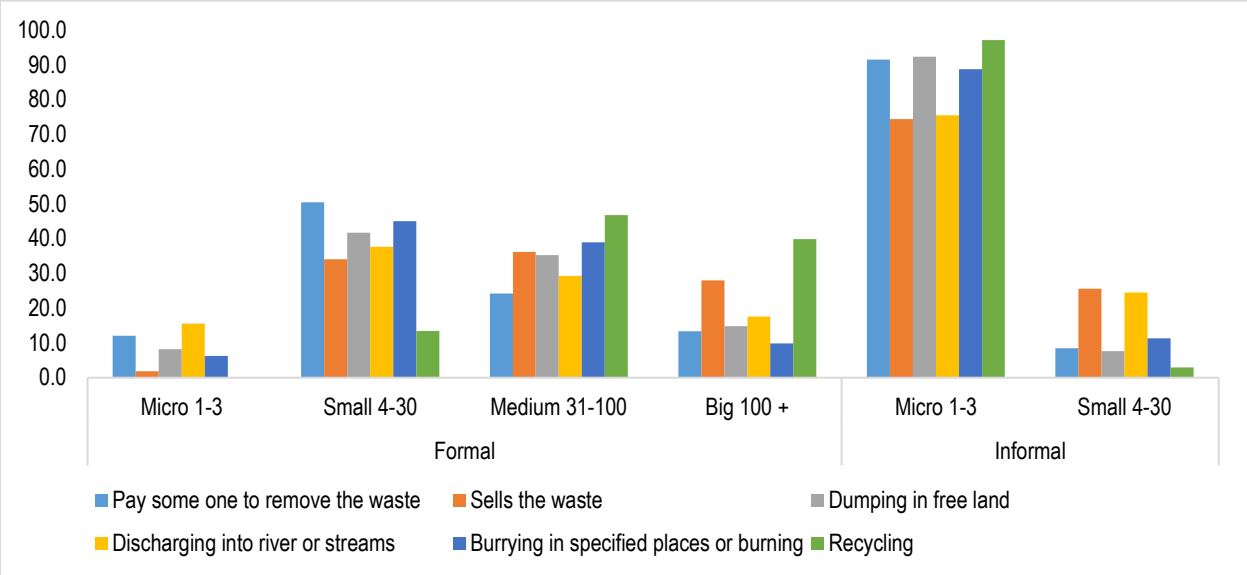
Graph 2.29: Modes of Waste Disposal by Sector, % of Business Enterprises



Formal small business enterprises display the highest shares of payment to external individuals for waste disposal with 50.4% while the practice of recycling is commonly used by formal medium enterprises at 46.7%.

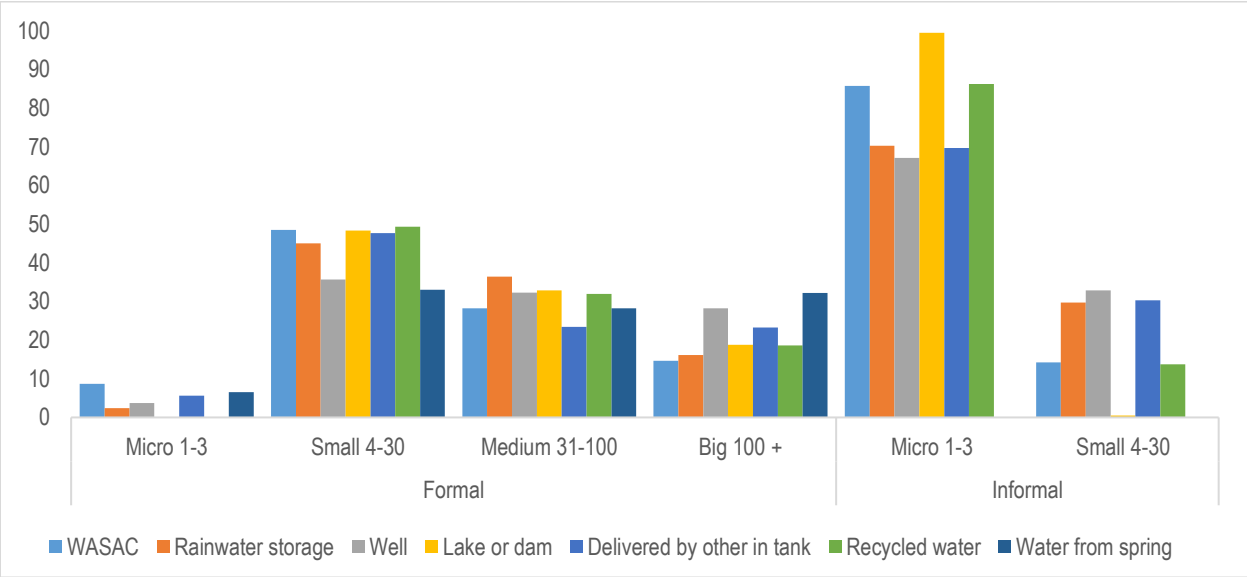
As the informal sector is more likely to recycle (97.1%), dump waste into free land (92%) or pay someone to remove the waste (91.5%) by micro businesses.

Graph 2.30: Modes of Waste Disposal by Business Enterprise Size, % of Business Enterprises



Business enterprises across all business enterprise size categories and formality obtain their water from the Water and Sanitation Corporation (WASAC), with 8.7%, 48.5%, 28.2%, and 14.61% of formal micro, small, medium, and big business enterprises respectively. Well water and lake or dam is also a significant source of formal business enterprises' water. 86.3% of informal micro-sized business enterprises use mostly recycled water and small informal business use mostly well water at 32.8%.

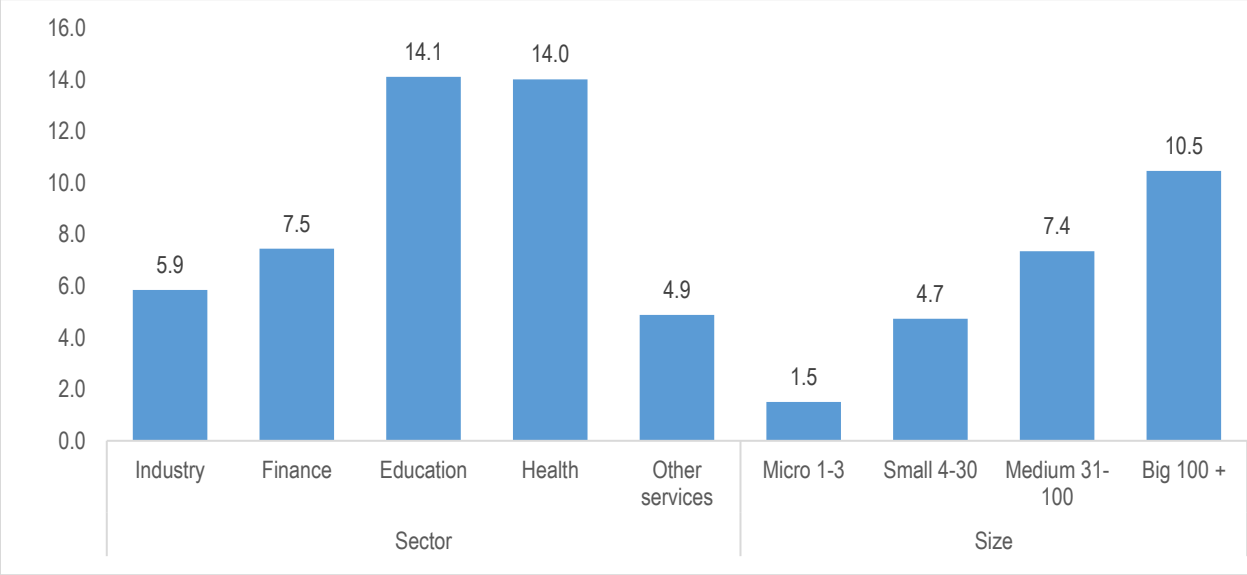
Graph 2.31: Business Enterprise Water Sources by Business Enterprise Size, % of Business Enterprises



2.1.3. Labour Market

Employees are an integral part of business enterprises, and their skill-level will significantly determine a business enterprise's efficiency in producing quality output. However, the highest perception of the skills gap was in the education sector, with 14.1% of managers reporting an existing gap in skills (Graph 2.32). The least skills gap is reported in the other services at 4.9%. Analysis by business enterprise size shows that 10.5% of managers in big business-enterprises perceive a skills gap in their employees. Seemingly, the share of managers identifying skills gaps increases by size. Micro-businesses have, however, a slightly lower managerial perception of skills gap at 1.5%.

Graph 2.32: Perception of Lack of Skills by Employers, % of Business Enterprise Managers

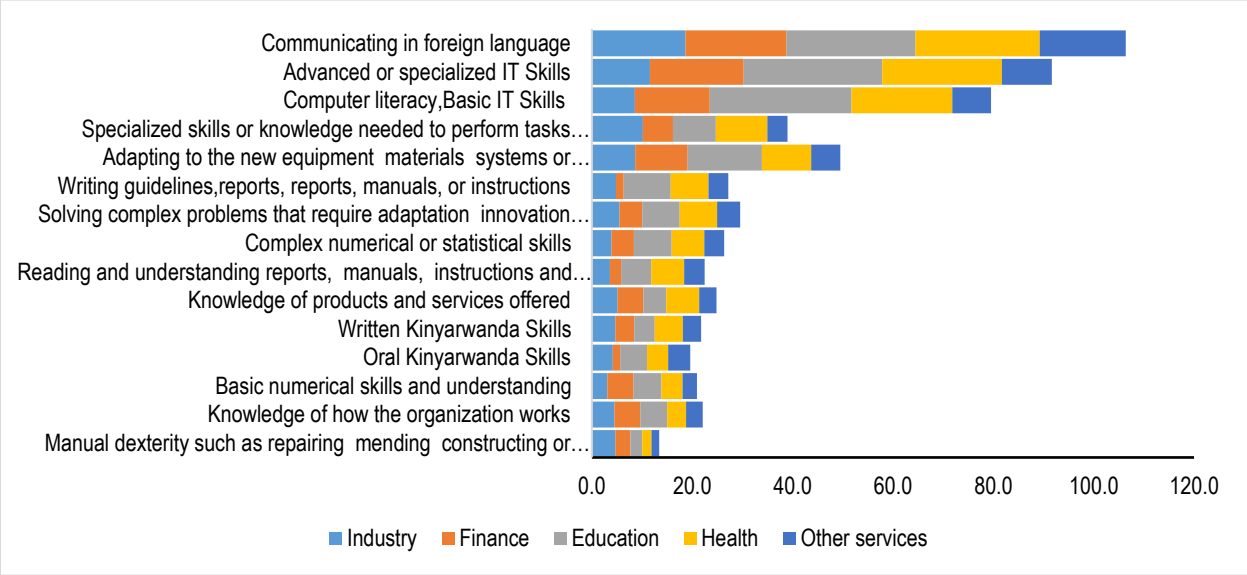


According to managers, the largest skills gap exists in computer literacy, basic IT Skills areas. On average, managers in all sectors identified gaps in advanced IT skills at 15.9%. The education sector struggles the most with regards to advanced IT skills, with 28.3% of managers reporting a skills gap (Graph 2.33). The health sector also reported significant gaps in IT skills with 20.1% managers identifying the gap. Thus, on average, about 18% of managers recognize that employees significantly lack both basic and advanced skills required to carry out their roles and also communicate in foreign languages (21.3%). Another relevant gap includes adapting to new technologies with 9.9%. On average, employees in the education sector struggle the most with gaps in technical skills, while those in the other services and finance sector exhibit the least gaps.

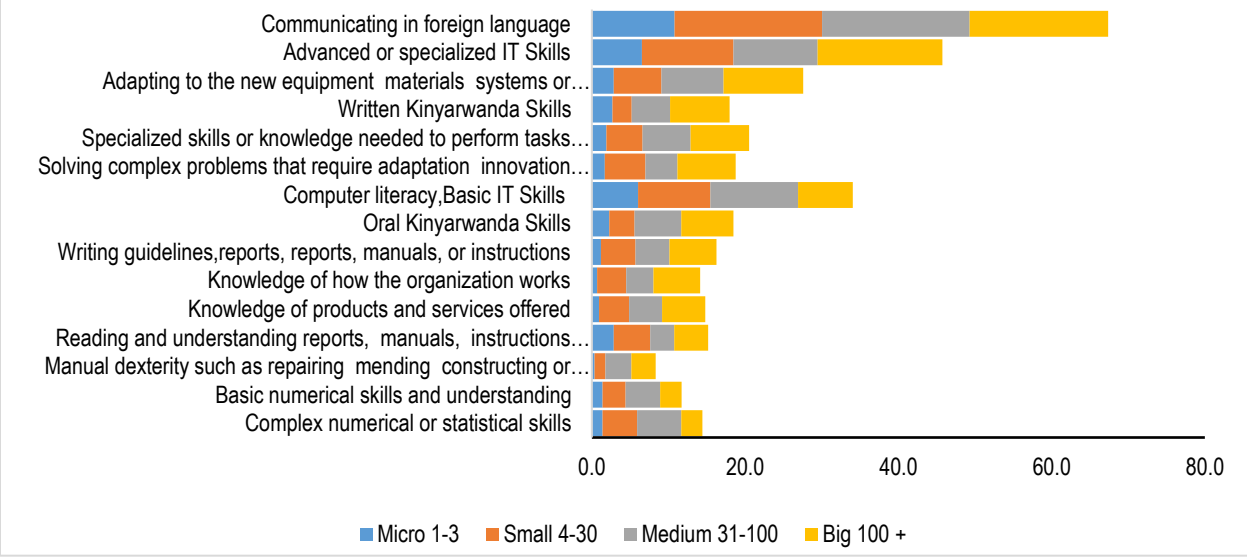
Similarly, when disaggregating the results by business enterprise size, the report finds that on average the largest gaps are in communicating in foreign languages (67.4%) followed by basic and advanced IT skills (45.8%) (Graph 2.34). More managers from micro-sized and big business enterprises reported a lack of communication skills in foreign than in any other size category, at 10.8% and 18.1% respectively. 19.3% of managers from micro-sized business enterprises also reported mostly the same. Computer literacy and basic IT skills was identified as another significant area with gaps, affecting medium-sized and big business

enterprises the most (11.4% and 7.1% of managers respectively). Employees from big business enterprises also struggle with skills relating to adapting to new equipment, systems, or technologies, creatively and innovatively solving complex problems with 10.4% and 7.6% of managers reporting concerns in these areas respectively.

Graph 2.33: Technical and Practical Skills Gaps by Sector, % of Business Enterprise Managers



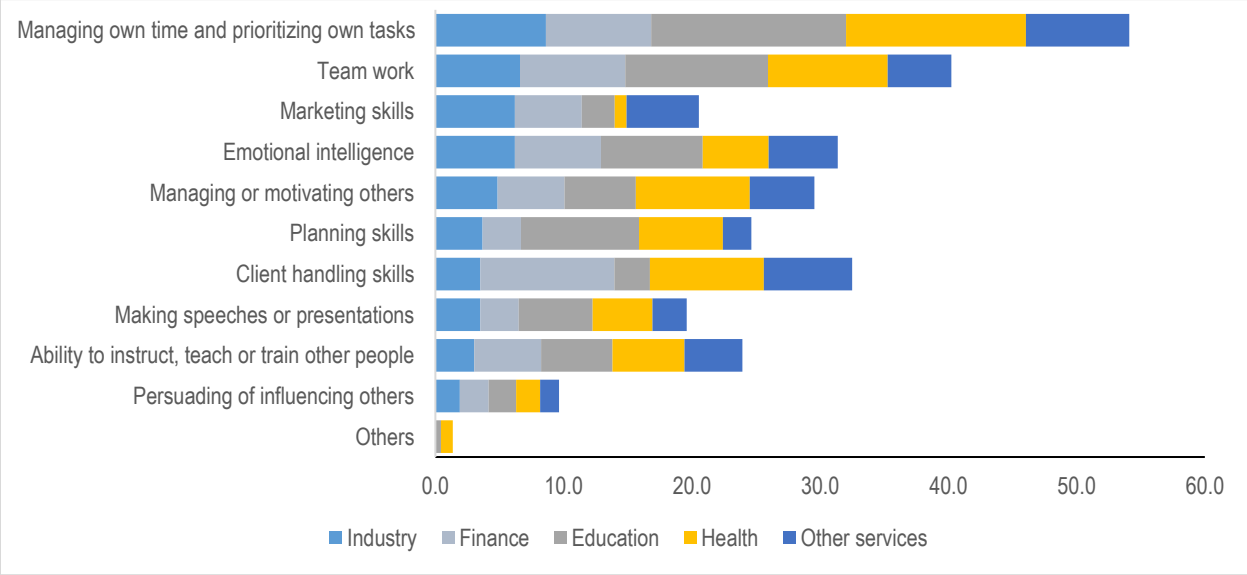
Graph 2.34: Technical and Practical Skills Gaps by Business Enterprise Size, % of Business Enterprise Managers



On average, the top three skills gap concerns from sector-wide managers are time management and task prioritisation, teamwork, and Client handling skills, with 10%, 8% and 6.5% of managers identifying significant gaps respectively (Graph 2.35). Employees from the education and industry sectors struggle the most with time management and teamwork, followed by those in the health and finance sectors. Overall, the other

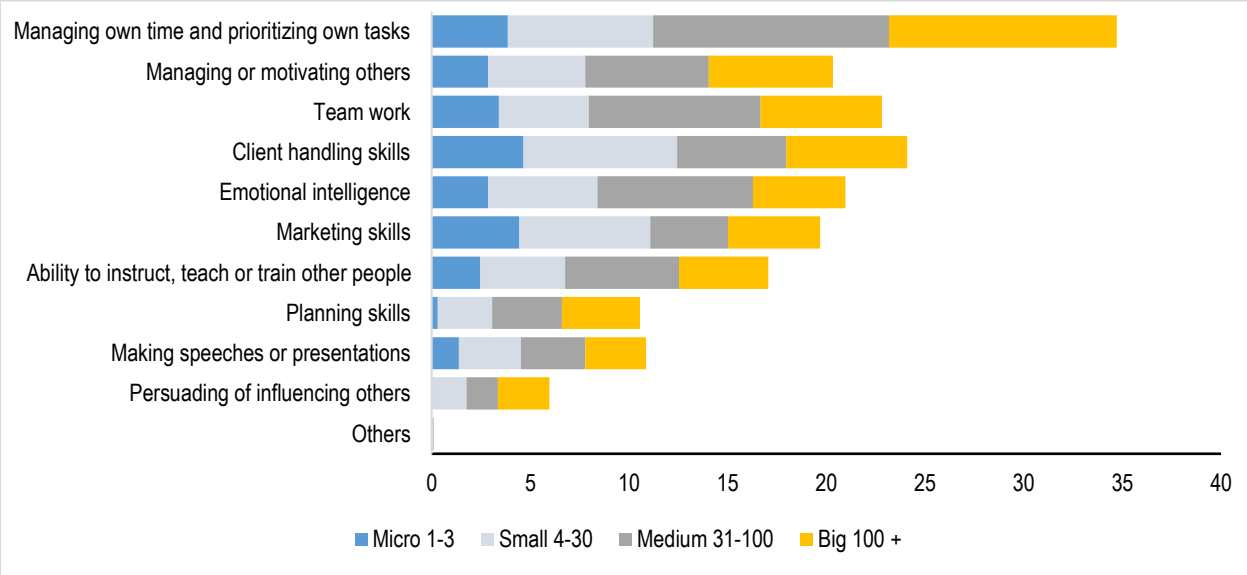
services sector has the least concerns with regards to gaps in skills required to carry out their tasks with only 4.3% on average of managers expressing concern.

Graph 2.35: Interpersonal/Soft Skills Gaps by Sector, % of Business Enterprises



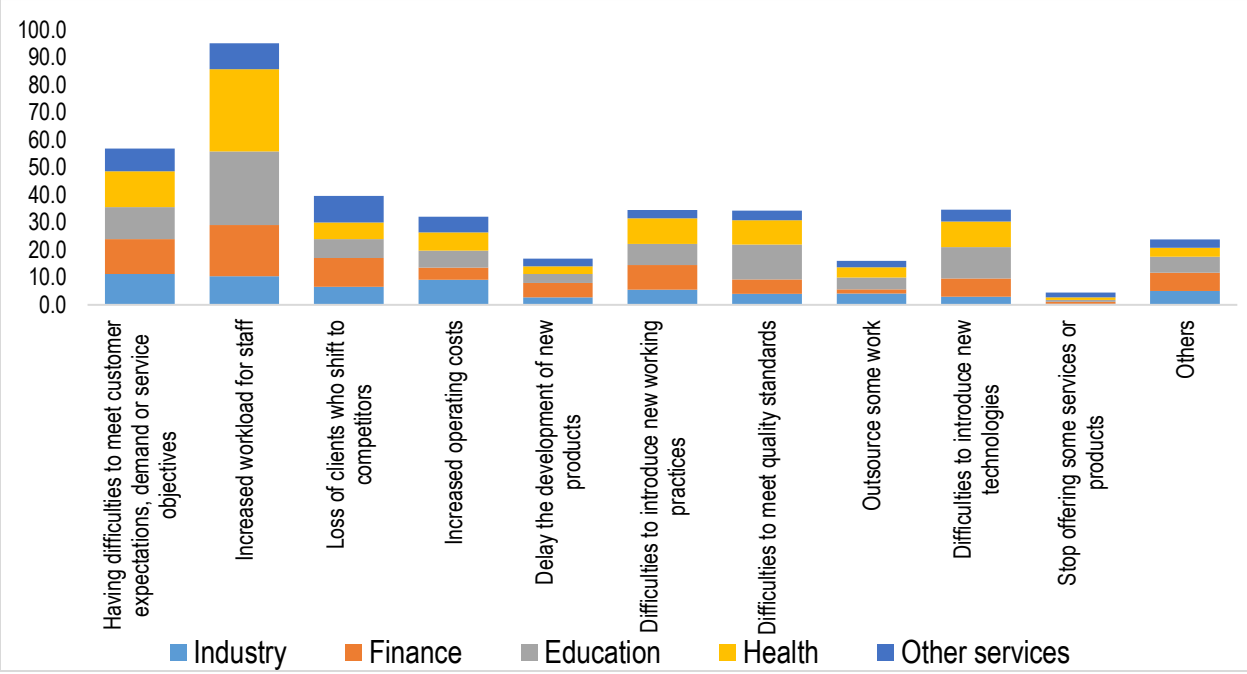
Interestingly, results analysed by business enterprise size reveal that in all skill categories, concerns in managing own time and prioritising own tasks gaps increase by business enterprise size. For instance, 12% of managers in medium business enterprises identify significant gaps in their employees' ability for time management as compared to 3.9%, 7.9%, and 11.6% in micro, small and big business enterprises respectively. The next gap is exhibited in client handling skills with 7.8% of managers citing it as a concern, as compared to 6.1%, 5.5%, and 4.7% of managers in small, big, and medium business enterprises respectively.

Graph 2.36: Interpersonal/Soft Skills Gaps by Size, % of Business Enterprise Managers



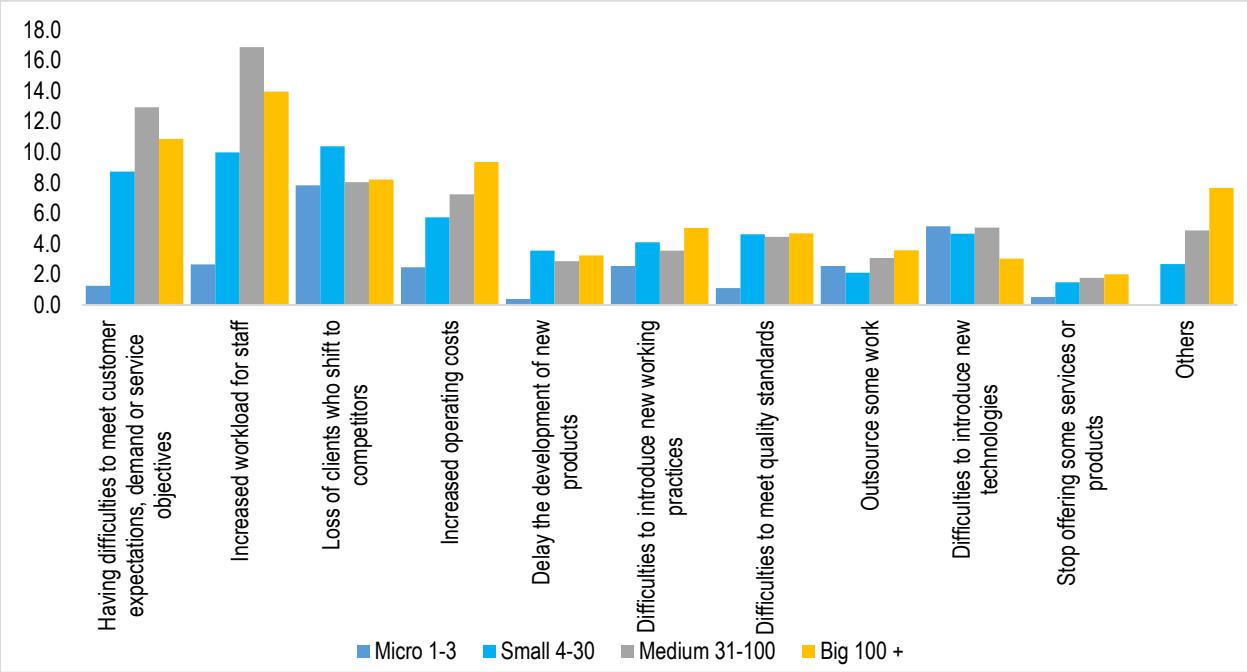
As a result of the gaps in numerous crucial skills, business enterprise managers have identified the major impact skill gaps (Graph 2.37). On average, managers identified increased staff workload (19.1%), difficulties meeting customer expectations, (11.4%), and loss of clients who shift to competitors (7,9%) as the main impacts of the skills gaps in business enterprises. In particular, education and health sectors identified the most significant impacts of skill shortages on average of 8.8% and 8.5% respectively. For these two sectors the main impact is due to the Increased workload for staff. While the service sector on average had the least share of impacts of skills gaps at 4.9, it struggled the most with loss of clients to competitors, with 9.7% of managers reporting this effect. In the finance sector, managers identified difficulties in increased workload for staff (18.7% of managers) and having difficulties to meet customer expectations, demand or service objectives, 12.7%.

Graph 2.37: Impact of Skill Shortages by Sector, % of Business Enterprise Managers



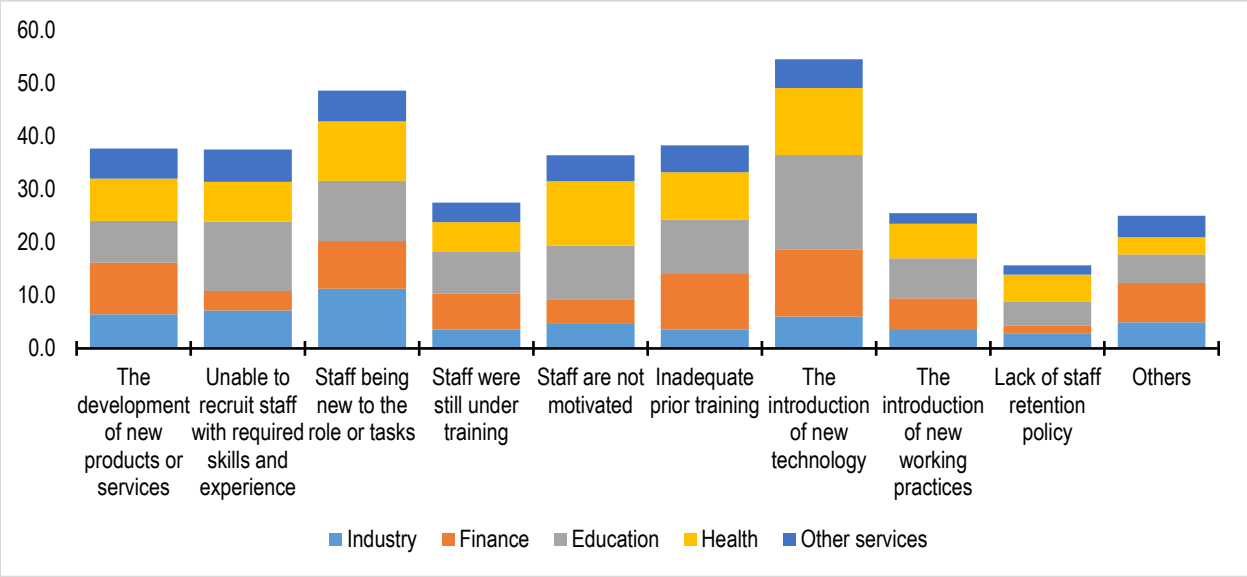
Findings further reveal that impacts significantly vary by business enterprise size (Graph 2.38). On average, however, managers reported increased staff workload (10.9%), loss of clients (8.6%), and difficulties in meeting customer expectations (8.5%) as the most significant impacts of skills gaps. For medium business enterprises, the largest impact concern was increased workload load (16.9%) similar to big enterprises, 14%.

Graph 2.38: Impact of Skill Shortages by Size, % of Business Enterprise Managers



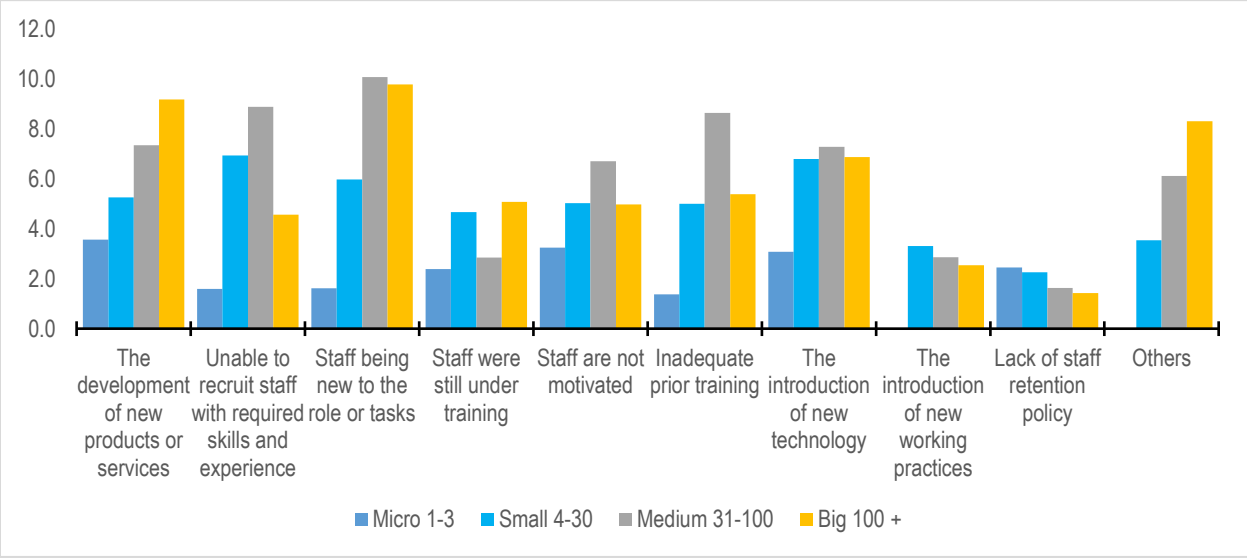
The report analysis investigates the causes of discussed skills gaps and finds that the main drivers are related to the introduction of new technology at an average of 10.9% (Graph 2.39). On average, the next main causes of skills gaps in Rwandan business enterprises are difficulties arising from staff being new to the role or tasks, the development of new products or services and unable to recruit staff with required skills and experience as reported by 9.7%, 7.5%, and 7.5% of sector managers respectively. Both the education and health sectors cited the introduction of new technologies as the main cause of skills gaps as reported by 17.8% and 12.6% of sector managers respectively. On the other hand, 11.3% and 11.2% of managers in the industry and health sector reported staff being new to the role or tasks as the main cause of skills shortages respectively.

Graph 2.39: Major Causes of Skill Gaps by Sector, % of Business Enterprise Managers



In terms of size, managers identified the staff being new to the role or tasks (6.9% of managers), the development of new products or services at 6.3%, introduction of new technologies, 6% (Graph 2.40). The development of new products or services amongst employees in medium business enterprises (10.1%) was identified as the major cause for skills gaps, similar to big business enterprises.

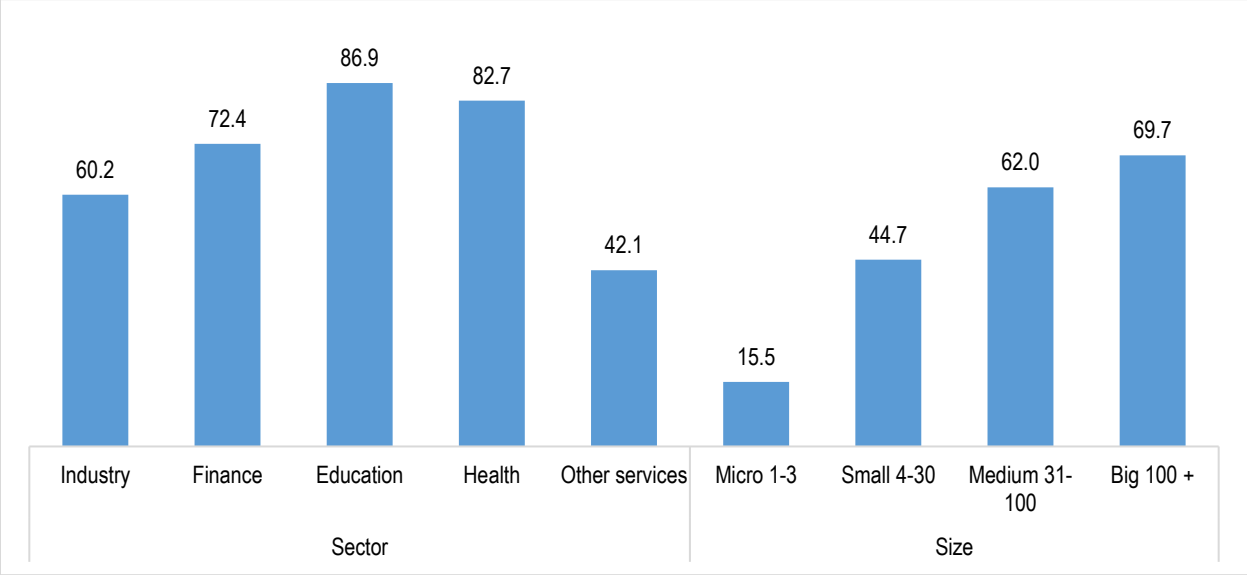
Graph 2.40: Major Causes of Skill Gaps by Business Enterprise Size, % of Business Enterprise Managers



In the face of the challenges in shortage of required skills, business enterprises in Rwanda have been facilitating staff training activities. Graph 2.41 below illustrates the proportions of business enterprises investing in training for their employees. Education and health sectors exhibited the highest share of business enterprises training their staff with 86.9% and 82.7% of business enterprises respectively. The service sector conducted the least Staff training, with only 42.1% of service sector business enterprises providing any

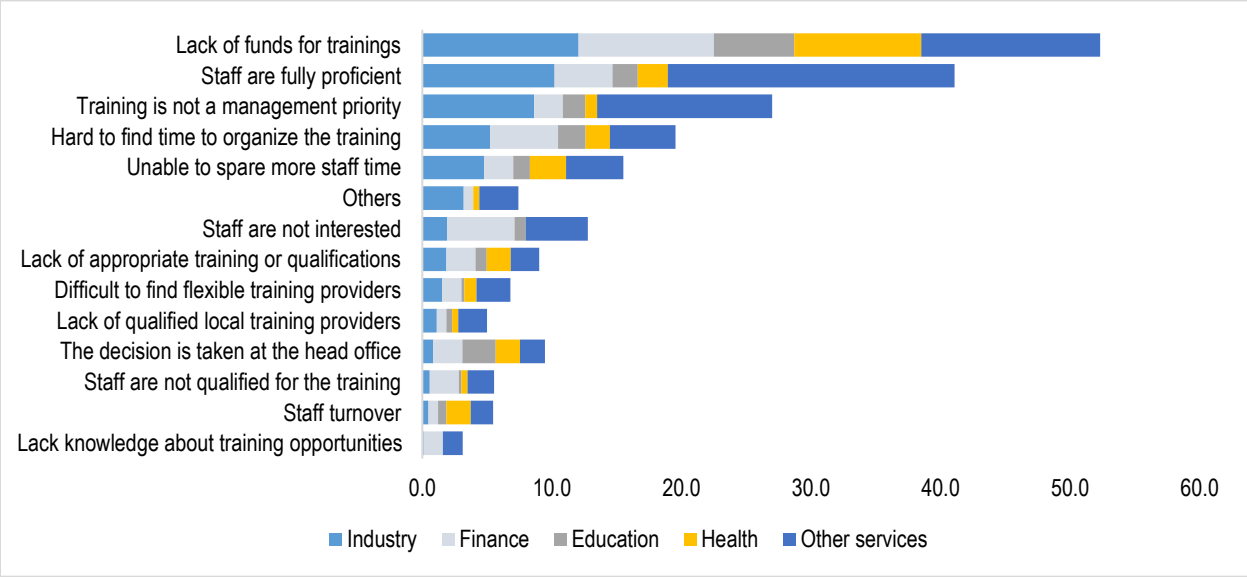
training sessions. By size, the big enterprises followed by medium enterprises provided more trainings at 69.7% and 62.0% respectively.

Graph 2.41: Business Enterprise Employee Training Activities by Sector and Size, % of Business Enterprises

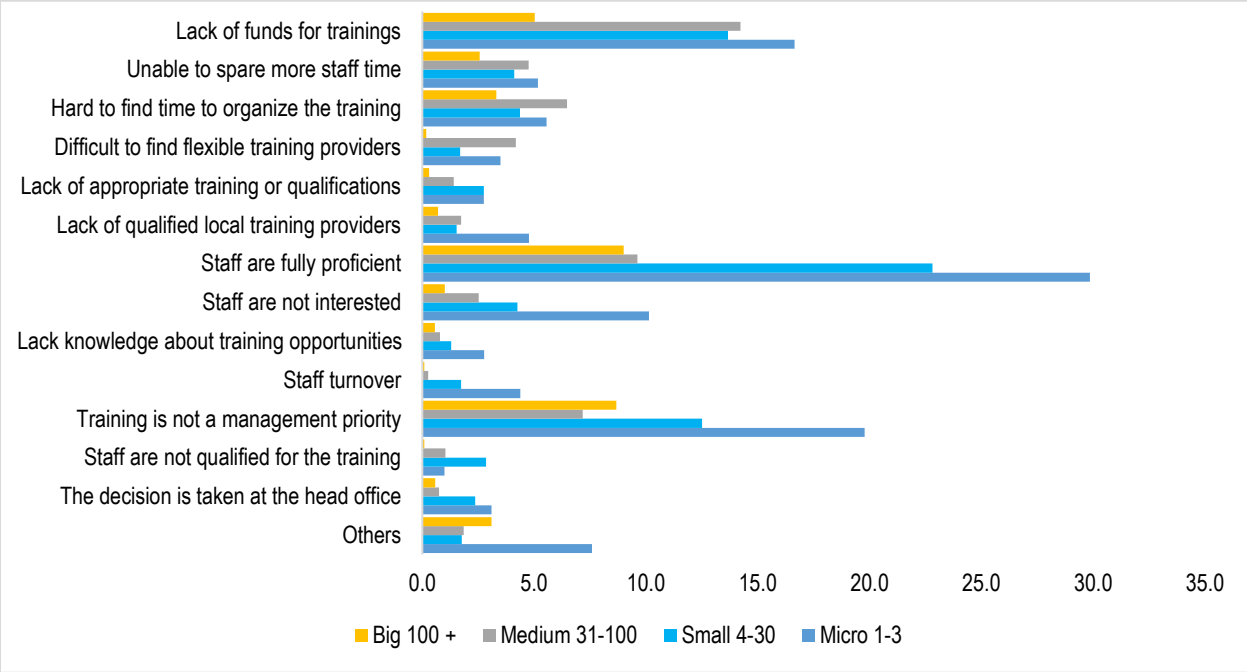


On average, a lack of training funding was the main reason for business enterprises not conducting staff training, with 10.5% of managers reporting. 13.8% of service managers reported a shortage of funds for training as the top barrier. Other significant reasons include the proficiency of staff, and therefore, no urgent need to carry out any training and the training is not a management priority. However, by size, the impact of provision of training was distributed in micro, small and medium business-enterprises, with 8.4%, 5.6%, and 4.1%.

Graph 2.42: Barriers to Providing Trainings by Sector, % of Business Enterprise Managers



Graph 2.43: Barriers to Providing Trainings by Business Enterprise Size, % of Business Enterprises



3. BUSINESS PERFORMANCE

This section will measure business performance by looking at several indicators including income, employment growth, and asset growth.

3.1. Impact of Economic Conditions on Rwandan Business Enterprises

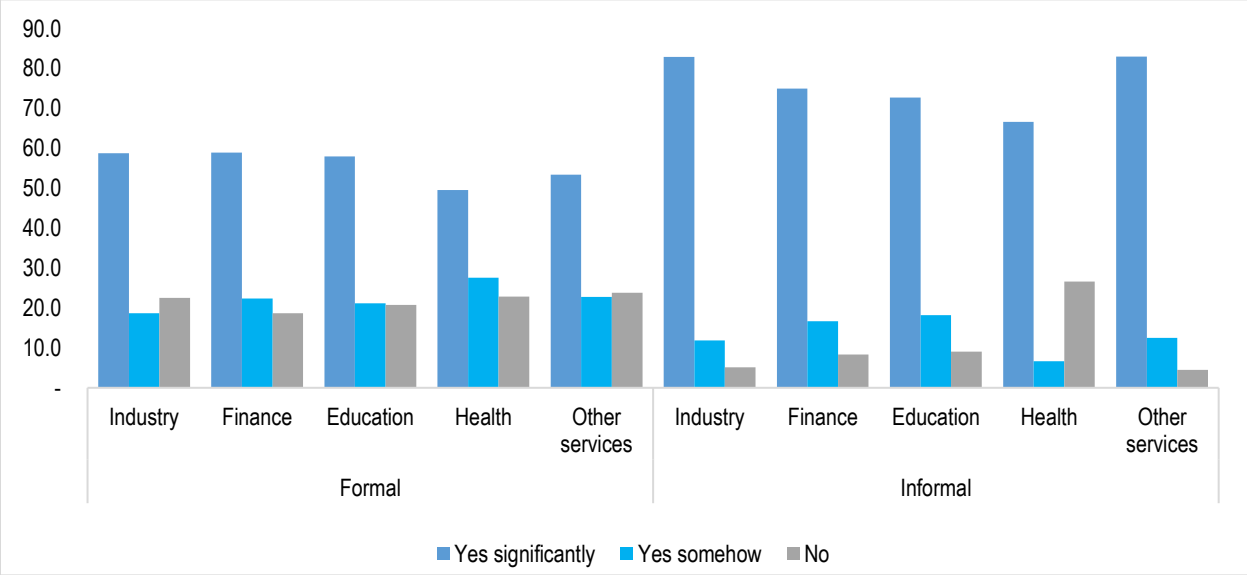
Economic conditions refer to the state or health of a country's economy at a specific point in time. These conditions encompass a wide range of factors that collectively describe the overall economic well-being of a nation. One key component of economic conditions is the Global Economic Environment made of global factors such as international trade, geopolitical events, and global economic trends. The interconnected nature of the world economy means that events in one part of the world can have ripple effects elsewhere. Analysing these and other factors helps economists, policymakers, businesses, and individuals understand the current state of the economy and make informed decisions. Economic conditions can vary over time, and monitoring these indicators is essential for assessing the overall health and direction of an economy.

In 2022 economic conditions had disproportionate impacts on the informal sector. On average about 95.4% of business enterprises in the informal sector experienced a decrease in income, with 82.9% and 12.5% reporting the impacts as significant and somehow significant. This is compared to 76.7% of business enterprises in the formal sector. Compared to the 82.9% in the informal sector, 54.3% of formal business enterprises described the decreases as significant. Impacts varied across sectors. In the formal sector, business enterprises in the finance sector were particularly impacted with 59.0% of business enterprises reporting significant income decrease, closely followed by business enterprises in the industry sector with

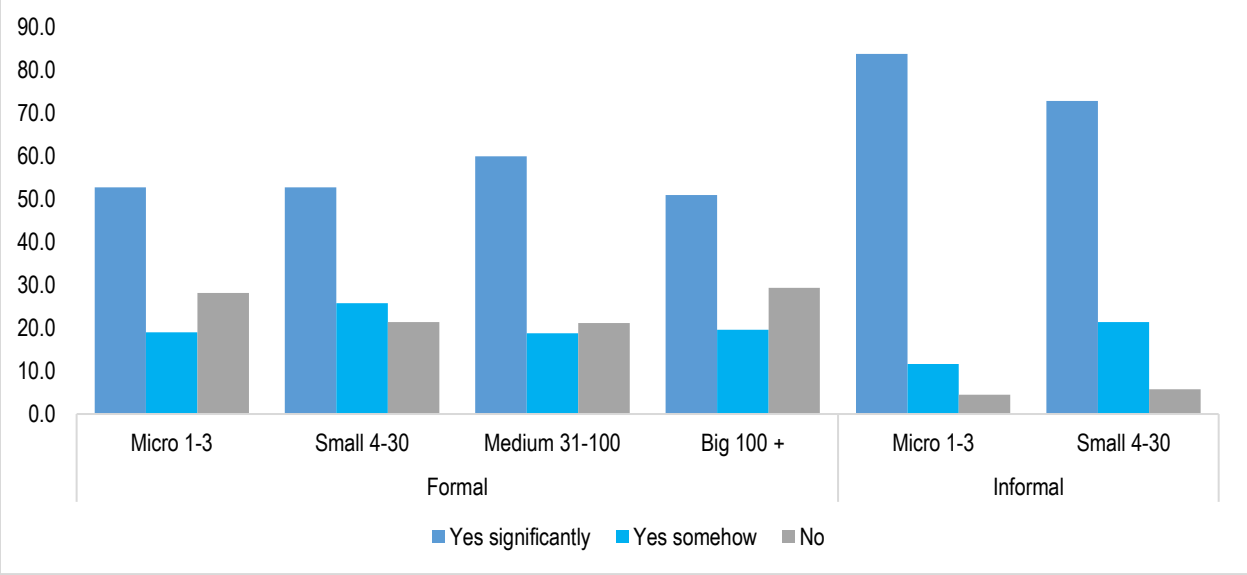
58.8% (Graph 3.1). Business enterprises in the health sector exhibited the least financial hit, with 49.5% of business enterprises reporting significant income decreases. On the other hand, the industry and other services sectors in the informal sector were the most hit, with 83.0% of business enterprises reporting significant income decreases each.

Analysis by size reveals differential impacts, with business enterprises in the informal sector being disproportionately impacted. 83.8% and 72.9% of small and micro business enterprises in the informal sector reported significant income decreases. Similarly, in the formal sector, medium and micro business enterprises were most impacted with 60.0% and 52.8% of business enterprises reporting significant income decreases.

Graph 3.1: Impact of Economic Conditions by Decreasing Incomes by Sector, % of Business Enterprises

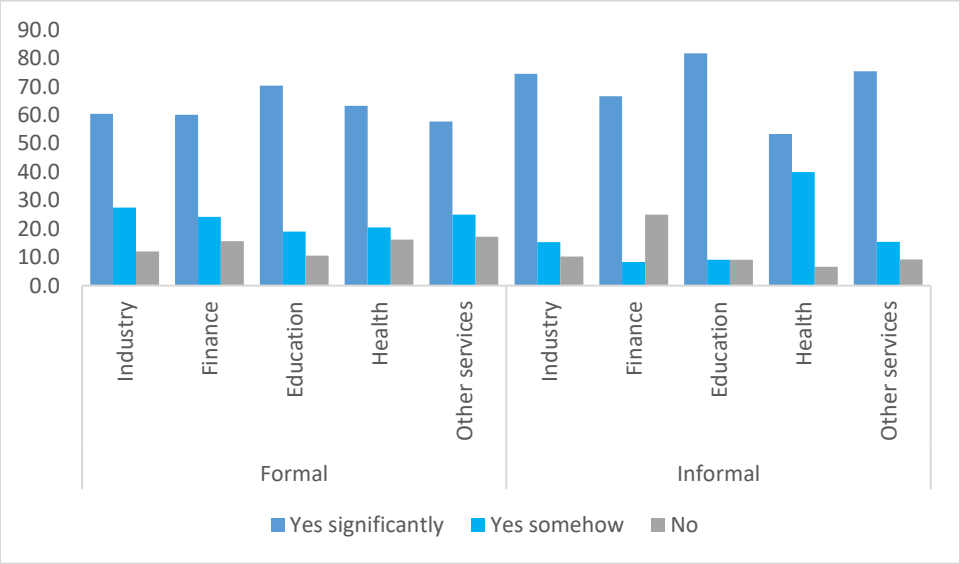


Graph 3.2: Impact of Economic Conditions by Decreasing Incomes by size, % of Business Enterprises

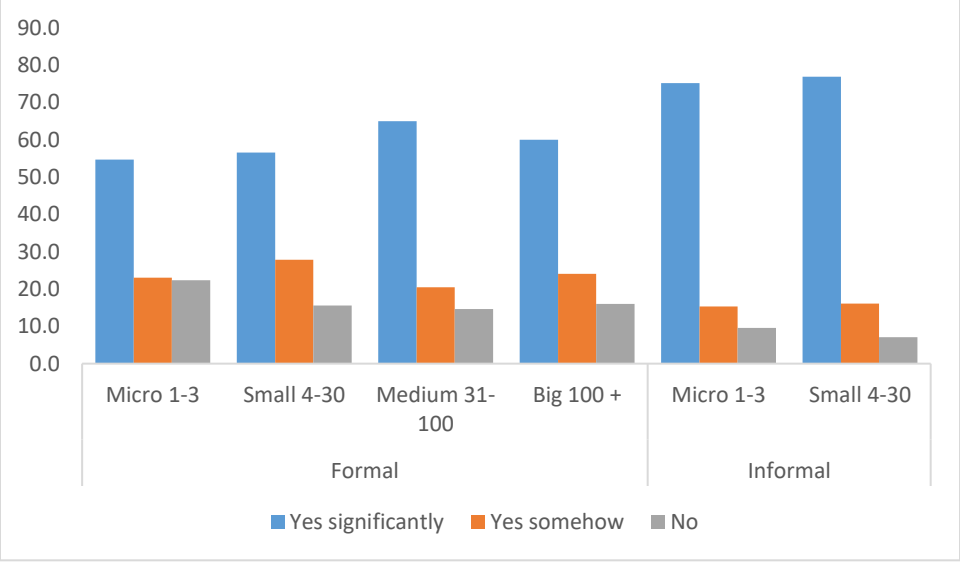


Economic conditions also resulted in expenditures increases across business enterprises with more business enterprises in the informal sector reporting increases than in the formal sector. In fact, 93.3%, 90.9%, and 90.8% of informal business enterprises in health, education, and other services respectively experienced an increase in expenditures, as are 89.8% and 75.0% of business enterprises in industry and finance. There were significantly less business enterprise shares of expenditure increases reported in the formal sector. In fact, 89.4% and 87.9% of business enterprises in education and industry reported expenditure increases. Analysis by size shows larger vulnerabilities in the informal sector with 76.9% and 75.1% of small and micro business enterprises reporting significant expenditure increases. Meanwhile, in the formal sector, 64.9% and 60.0% of medium-sized and big business enterprises respectively reported significant expenditure increases.

Graph 3.3: Impact of Economic Conditions by Increasing Expenditures by Sector, % of Business Enterprises

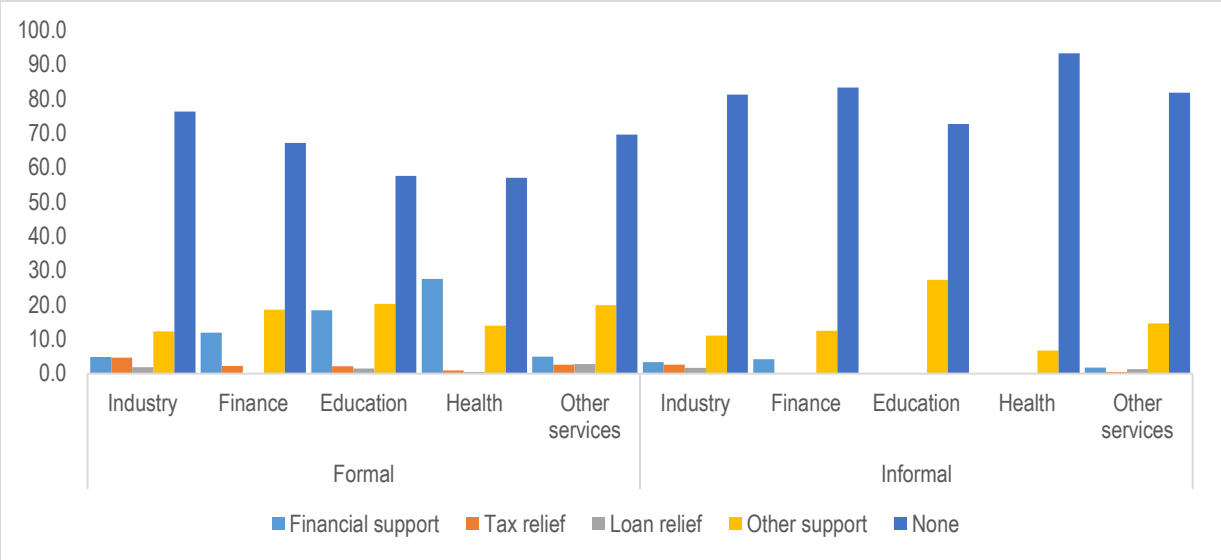


Graph 3.4: Impact of Economic Conditions by Increasing Expenditure by Size, % of Business Enterprises

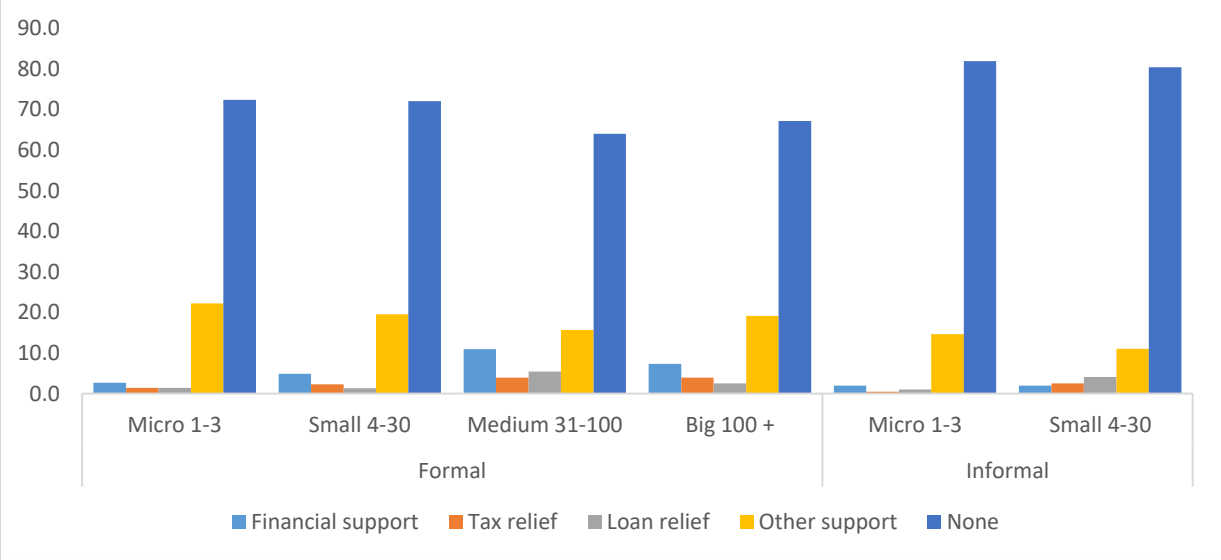


With clear vulnerabilities to the recent economic conditions, analysis reveals that many business enterprises have received relief. Figures show that 43.0% and 42.4% of formal business enterprises in health and education have received relief. Also, more than 10% of formal business enterprises in health, education and finance have received financial support. In the informal sector, 4.2% and 3.4% of finance and industry business enterprises have received financial support. Similarly, 11.0%, 7.3% and 4.9% of formal medium, big, and small business enterprises respectively have received the financial relief, while only 25.6% of big formal business enterprises have received support in other forms apart from the financial relief.

Graph 3.5: Share of Business Enterprises Receiving Support by Sector, % of Business Enterprises



Graph 3.6: Share of Business Enterprises Receiving Support by Business Enterprise Size, % of Business Enterprises

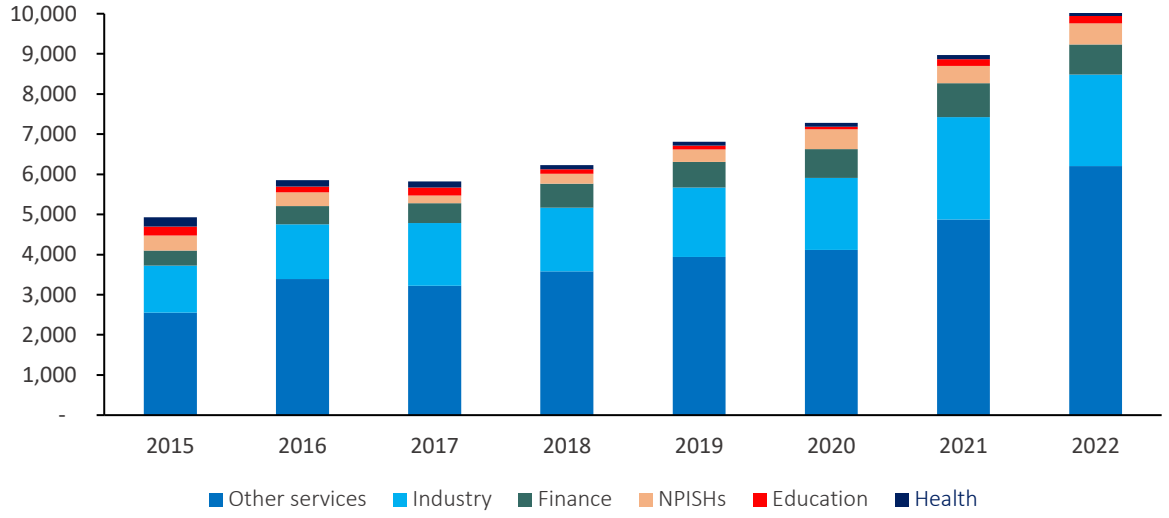


3.2. Formal Sector Performance

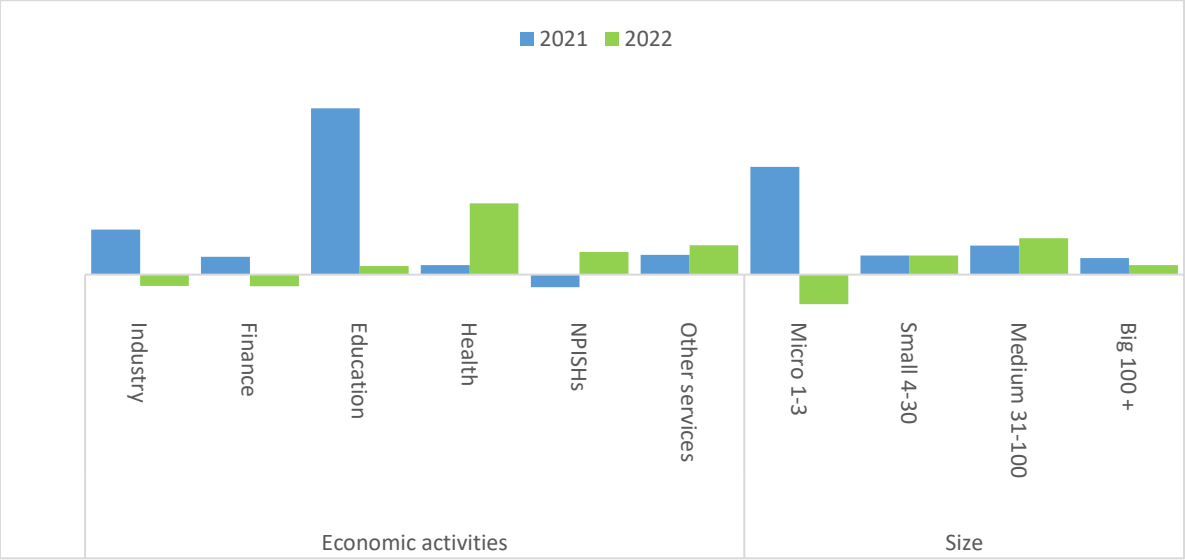
3.2.1. Business Enterprise Income

Rwandan business enterprises experienced a steady income growth in 2022 as compared to 2021. In absolute terms, incomes grew from RWF 8,974 billion in 2021 to RWF 10,117 in 2022 (Graph 3.7). However, year on year, while business enterprises' income grew by 23% in 2021, they slowed down to 13% in 2022. Further, analysis reveals that the Finance sector experienced the largest slump in 2022 with incomes falling by 11%. The sector, however, experienced a consistent rise from 2019 to 2021 with an average income growth rate of 15.5%. From 2021 to 2022, the health sectors registered the highest income growth of 66% followed by other services with a rise of 27% in 2022.

Graph 3.7: Business Enterprise Income by Sector

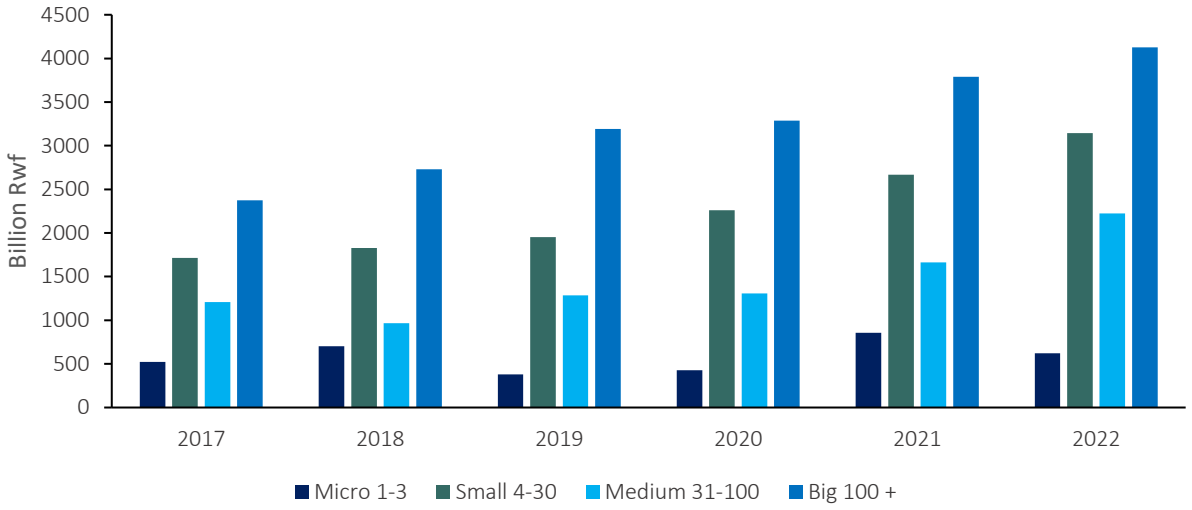


Graph 3.8: Income Growth Rates by Sector and Business Enterprise Size



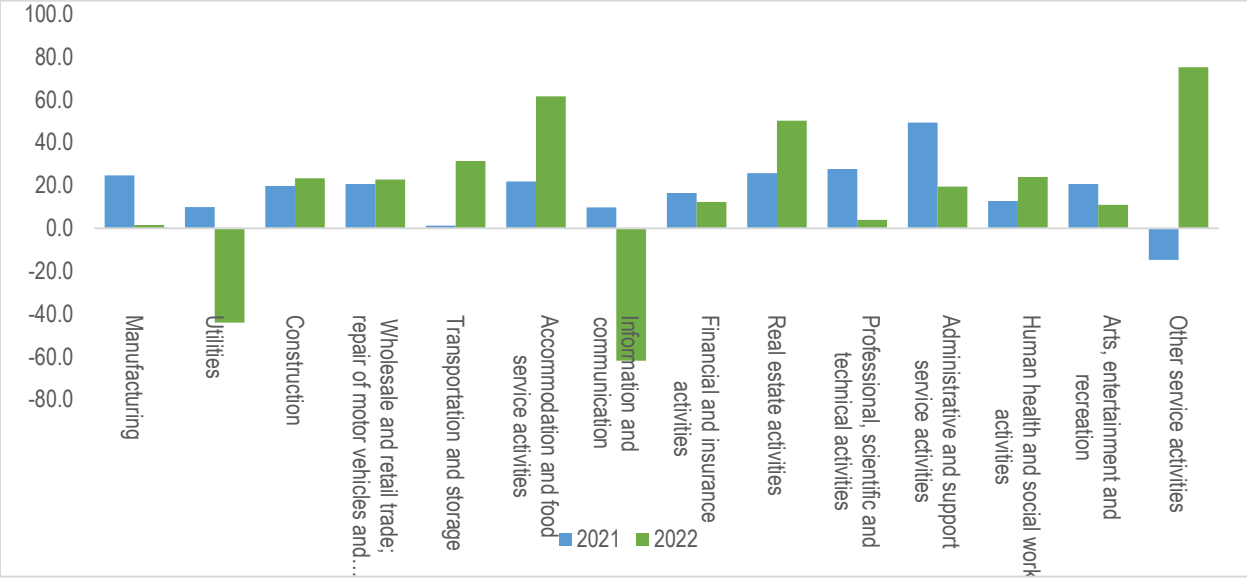
Compared to the total income of all enterprises, the big enterprises have the highest share of income at 41% followed by medium enterprises, 22%. Year on year, the micro business-enterprises experienced depressed incomes in 2022 (falling by 27.6%) despite a sharp rise in 2021 by 100.4%. In 2022, the Small business enterprises registered a flat growth rate of 17.9% while medium business-enterprises grew greatly to 33.9% compared to 27.1 growth in 2021. Moreover, both economic sectors of industry (-10.5%) and finance (-10.9%) registered declines in 2022, with incomes decreasing sharply. The health economic sector's income rose sharply to 66.3% in 2022 as compared to 8.8% rise in 2021. 8%. Overall, the income of business-enterprises grew moderately by 12.7% in 2022 as compared to the 23.2% increase in 2021.

Graph 3.9: Business Enterprise Income by Size



Overall, the total income of enterprises grew by 1,142.4 billion Rwf in 2022 from 2021. However, there is a sharp decline in income registered by micro enterprises to 620.4 billion Rwf in 2022 from 857.0 billion Rwf in 2021. The big business-enterprises represent the largest share of total income with 4,127.8 billion Rwf followed by small businesses with 3,143.1 billion Rwf.

Graph 3.10: Income Growth by Economic Activity



Further disaggregation reveals differences in income growth rates by economic activity, particularly in 2022. *Activities in information and communication and utilities, contracted in 2022 by 61.8% and 44.1% respectively. Year on year, in 2022, the rest of the economic activities realised a positive growth in income where other service activities had the highest rise of 75.3% followed by accommodation and food service with 61.7%.*

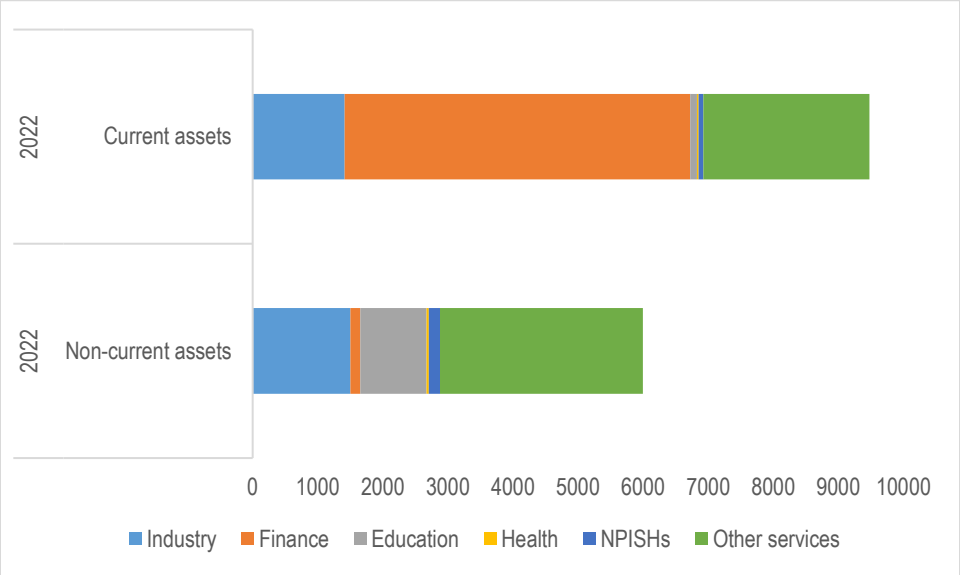
3.2.2. Balance Sheets

Financial stability, as indicated by several factors such as current and noncurrent assets, equity, liabilities, cash flow, and debt, is the most important feature of financial and economic activity. A strong balance is essential to a business enterprise's growth. In fact, the state of a business enterprise's balance sheet has been shown to influence its resilience to economic downturns and shocks as they are able to cushion against the effects of shocks for a longer period of time. Business enterprises with stronger balance sheets are structurally sounder than those without. For instance, business enterprises with stronger balance sheets are likely to have higher collateral and thus more likely to gain access to finance and obtain investment. Business enterprises with stronger financial capacities are more competitive and are more likely to invest in activities that spur their revenue growth, such as research and development, better skilled workers, information communication technologies, and quality equipment which in turn has effects on worker and capital productivity.

This report defines current assets as those resources held by a business enterprise that can be converted into cash streams in the short-term, usually within a year and may include account receivables, bank deposits, short-term investments and other inventory. Non-current assets are more long term investments usually of high value for long-term revenue generation such as land, property, machinery, patents, and goodwill. Graph 3.11 illustrates the distribution and trend of current and noncurrent assets by sector. The financial sector has grown the value of its current assets from RWF 4,455 billion in 2021 to RWF

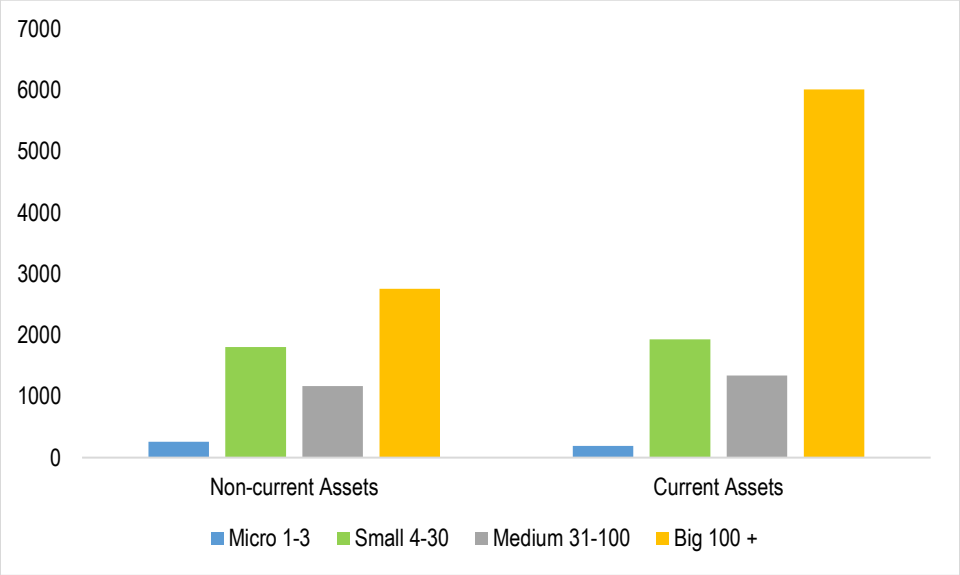
5,308.9 billion in 2022. Also, the financial sector accounts for the largest share of current assets as compared to other sectors, accounting for 2,553.2 in 2022. ***On the other hand, the services sector dominates shares and values of non-current assets in absolute terms***, accounting for RWF 3,117.1 billion in 2022 and followed by the industry sector with RWF 1,504.3 billion.

Graph 3.11: Balance Sheet by Sector



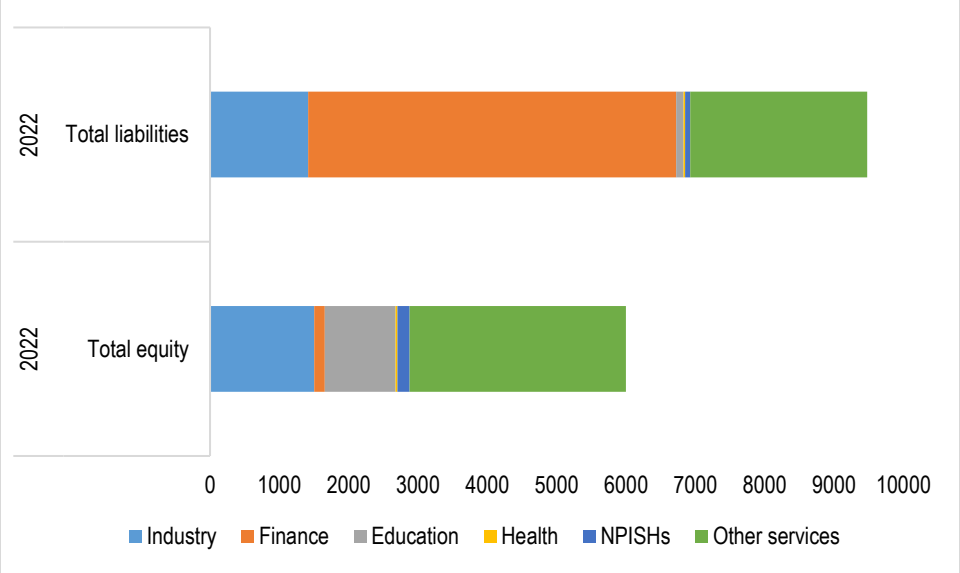
The large business enterprises (Rwf 6,016.2 billion) account for the largest share of current assets followed by small enterprises (Rwf 1,932 billion) in (Graph 3.12). Similarly, for the non-current assets, the big enterprises still dominate by share with RWF 2,757.9 billion followed by small enterprises with Rwf 1,808.4 billion.

Graph 3.12: Balance Sheet by Size



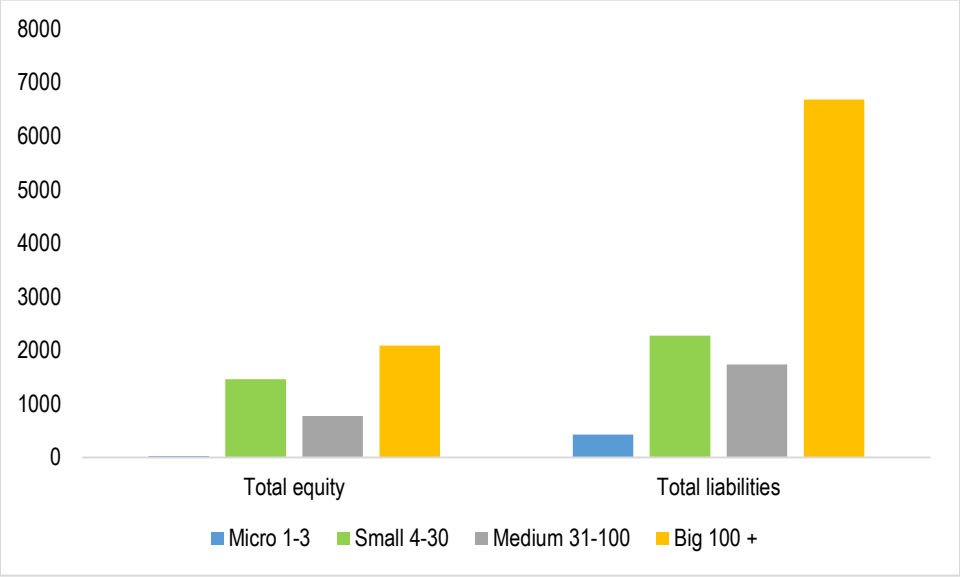
The financial sector has the largest total liabilities of RWF 5,308.9 billion followed by other services with RWF 2,553.2 billion. The health sector has the least total liability of RWF 23.1 billion. Alternatively, other services hold the largest share of total equity of RWF 3,117.1 billion followed by the industry sector with RWF 1,504.3 billion.

Graph 3.13: Equity and Liability by Sector



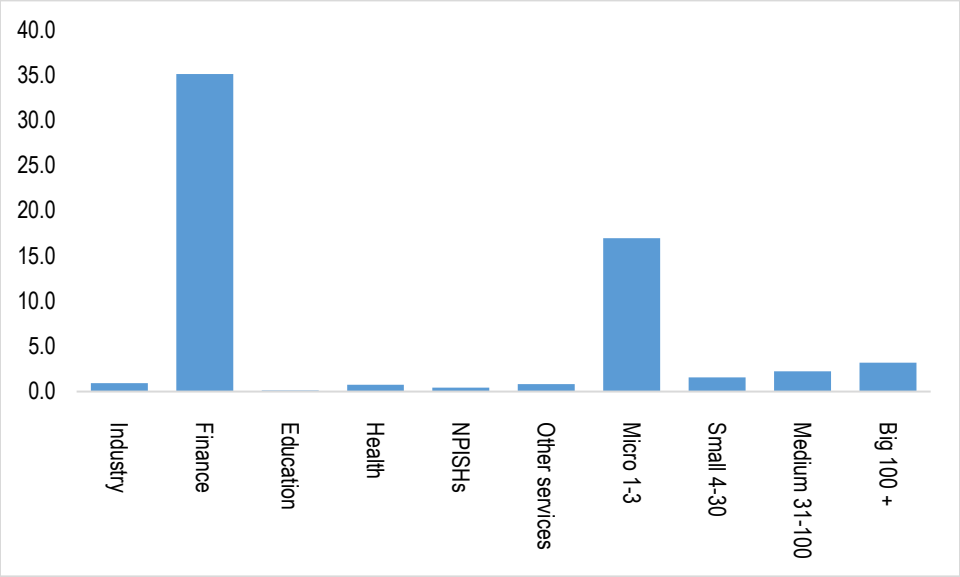
In 2022, the large business enterprises (RWF 6,683.2 billion) account for the largest share of total liabilities followed by small enterprises (RWF 2,276.6 billion) in (Graph 3.14). Similarly, for the total equity, the big enterprises still dominate by share with RWF 2,088.4 billion followed by small enterprises with RWF 1,460.6 billion. For both equity and liability, micro enterprises hold the least share.

Graph 3.14: Equity and Liability by Size



Another important indicator is the Debt-to-Equity (D/E) ratio, which measures the extent of a business enterprise's dependence on debt (Graph 3.15). The finance sector registered the highest D/E ratio over the 2021 to 2022 period, peaking at 35.1. The industry, other services and health follow in the D/E ratios. The micro enterprises represent the largest ratio of debt-to-equity at 17.0 while the least are the small enterprises (1.6).

Graph 3.15: Debt-to-Equity Ratio by Sector and Size



3.2.3. Employment, income and businesses by top manager's sex

Table 3.1: Distribution of employees by gender and economic activity: formal sector

Main Economic Activity	Male	Female	Total
Mining and quarrying	4,734	981	5,714
Manufacturing	34,882	24,256	59,138
Electricity, gas, steam and air conditioning supply	3,015	2,507	5,522
Water supply; sewerage, waste management and remediation activities	2,285	690	2,975
Construction	17,800	3,444	21,244
Wholesale and retail trade; repair of motor vehicles and motorcycles	27,147	10,049	37,196
Transportation and storage	7,348	2,532	9,880
Accommodation and food service activities	11,707	8,274	19,981
Information and communication	1,748	669	2,417
Financial and insurance activities	6,319	6,261	12,581
Real estate activities	848	343	1,191
Professional, scientific and technical activities	2,634	1,512	4,146
Administrative and support service activities	16,384	5,151	21,535
Education	18,534	13,828	32,362
Human health and social work activities	8,512	14,581	23,093
Arts, entertainment and recreation	212	98	310
Other service activities	9,758	5,871	15,629
Total	173,866	101,048	274,914

Source: NISR, IBES2022

The distribution of employees by sex and economic activity in the formal sector of Rwanda's economy is depicted in Table 3.1 while the distribution of income by enterprise size and the sex of the top manager has been presented in Table 3.2. Different patterns are observed from these two tables.

Table 3.2: Income by enterprise size and the sex of the top manager, value in Billion RWF

Enterprise size	Male-led	Female-led	Total
Micro 1-3	391.8	224.1	615.8
Small 4-30	2,195.1	876.0	3,071.0
Medium 31-100	1,410.4	465.3	1,875.7
Big 100 +	2,523.2	1,149.4	3,672.5
Total	6,520.4	2,714.7	9,235.2

Source: NISR, IBES2022

Table 3.3: Income by economic activity and the sex of the top manager, value in Billion RWF

Economic activity	Male-led	Female-led	Total
Mining and quarrying	133.8	3.1	136.9
Manufacturing	1,051.0	184.9	1,235.9
Electricity, gas, steam and air conditioning supply	59.0	18.6	77.6
Water supply; sewerage, waste management and remediation activities	11.3	37.9	49.1
Construction	513.9	270.2	784.2
Wholesale and retail trade; repair of motor vehicles and motorcycles	2,783.9	1,475.2	4,259.1
Transportation and storage	623.8	58.8	682.7
Accommodation and food service activities	176.4	47.9	224.3
Information and communication	89.2	18.9	108.0
Financial and insurance activities	541.9	400.8	942.6
Real estate activities	82.2	26.1	108.3
Professional, scientific and technical activities	126.7	51.0	177.7
Administrative and support service activities	127.3	92.9	220.2
Education	10.5	0.0	10.5
Human health and social work activities	0.0	12.4	12.4
Arts, entertainment and recreation	17.8	7.0	24.8
Other service activities	171.7	9.1	180.8
Total	6,520.4	2,714.7	9,235.2

Source: NISR, IBES2022

Income distribution by economic activity and the sex of the top manager shows that male managed formal business enterprises have a lion share of 70.6 per cent. The female managed business enterprises account for 29.4 per cent.

Table 3.4: Number of trained Staff by enterprise size and their sex

Enterprise size	Male	Female	Total
Micro 1-3	364	182	547
Small 4-30	15,946	11,190	27,136
Medium 31-100	9,287	7,230	16,517
Big 100 +	17,141	13,733	30,874
Total	42,738	32,335	75,074

Source: NISR, IBES2022

Table 3.4 presents the number of trained Staff by enterprise size and top manager's sex. In total 75,074 employees have had job training. Education, Manufacturing and Human health and social work activities have trained more Staff with 16,169; 13,718 and 8,608 respectively (Table 3.5).

Table 3.5: Number of trained Staff by economic activity and their sex

Main Economic Activity	Male	Female	Total
Mining and quarrying	141	90	231
Manufacturing	7,243	6,475	13,718
Water supply; sewerage, waste management and remediation activities	736	665	1,401
Water supply; sewerage, waste management and remediation activities	597	126	723
Construction	2,098	355	2,453
Wholesale and retail trade; repair of motor vehicles and motorcycles	4,479	2,312	6,791
Transportation and storage	2,354	743	3,097
Accommodation and food service activities	2,445	2,349	4,795
Information and communication	558	216	774
Financial and insurance activities	3,263	3,086	6,350
Real estate activities	175	78	253
Professional, scientific and technical activities	1,043	614	1,656
Administrative and support service activities	2,666	1,118	3,784
Education	8,859	7,310	16,169
Human health and social work activities	3,330	5,279	8,608
Arts, entertainment and recreation	120	74	194
Other service activities	2,630	1,446	4,076
Total	42,738	32,335	75,074

Source: NISR, IBES2022

Table 3.6 presents the distribution of the total number of trained Staff by enterprise size and the top manager's sex. The female-hed formal business enterprises have trained 30.3 per cent of all trained Staff members irrespective of the sex of the trained Staff members.

Table 3.6: Number of trained Staff by enterprise size and top manager's sex

Enterprise size	Male-led	Female-led	Total
Micro 1-3	334	213	547
Small 4-30	19,308	7,828	27,136
Medium 31-100	11,888	4,629	16,517
Big 100 +	24,359	6,515	30,874
Total	55,889	19,185	75,074

Source: NISR, IBES2022

The distribution of the total number of trained Staff by economic activity and top manager's sex regardless of the sex of the trained Staff member is depicted in Table 3.7.

Table 3.7: Number of trained Staff by economic activity and top manager's sex

Main Economic Activity	Male-led	Female-led	Total
Mining and quarrying	191	40	231
Manufacturing	12,516	1,202	13,718
Water supply; sewerage, waste management and remediation activities	9	1,392	1,401
Water supply; sewerage, waste management and remediation activities	652	71	723
Construction	1,700	753	2,453
Wholesale and retail trade; repair of motor vehicles and motorcycles	5,212	1,579	6,791
Transportation and storage	2,592	505	3,097
Accommodation and food service activities	2,988	1,806	4,795
Information and communication	688	86	774
Financial and insurance activities	3,186	3,163	6,350
Real estate activities	205	48	253
Professional, scientific and technical activities	911	745	1,656
Administrative and support service activities	1,956	1,827	3,784
Education	12,362	3,807	16,169
Human health and social work activities	6,829	1,779	8,608
Arts, entertainment and recreation	131	63	194
Other service activities	3,759	318	4,076
Total	55,889	19,185	75,074

Source: NISR, IBES2022

The distribution of total employees of the formal business enterprises is presented in Table 3.8. More employees are found in the big business enterprises which employ more than half of all employees for both sexes.

Table 3.8: Distribution of employees by gender and enterprise size: formal sector

Size Band	Male	Female	Total
Micro 1-3	1,739	1,050	2,789
Small 4-30	56,682	29,657	86,339
Medium 31-100	24,714	15,468	40,182
Big 100 +	90,731	54,873	145,604
Total	173,866	101,048	274,914

Source: NISR, IBES2022

Table 3.9: Number of formal business enterprises by economic activity and top manager's sex

Economic activity	Male-led	Female-led	Total
Mining and quarrying	114	14	128
Manufacturing	1,271	235	1,506
Electricity, gas, steam and air conditioning supply	25	17	42
Water supply; sewerage, waste management and remediation activities	292	58	350
Construction	117	33	150
Wholesale and retail trade; repair of motor vehicles and motorcycles	7,299	2,883	10,181
Transportation and storage	340	83	423
Accommodation and food service activities	1,741	625	2,366
Information and communication	192	38	231
Financial and insurance activities	590	288	878
Real estate activities	66	18	84
Professional, scientific and technical activities	444	180	625
Administrative and support service activities	270	110	380
Education	517	167	683
Human health and social work activities	337	213	550
Arts, entertainment and recreation	31	16	47
Other service activities	875	179	1,055
Total	14,519	5,160	19,679

Source: NISR, IBES2022

Table 3.9 presents the distribution of the total number of formal business enterprises by economic activity and by top manager's sex while Table 3.10 highlights the distribution of the total number of formal business enterprises by enterprise size and top manager's sex.

Table 3.10: Number of formal business enterprises by enterprise size and top manager's sex

Size Band	Male-led	Female-led	Total
Micro 1-3	1,848	832	2,681
Small 4-30	6,937	2,723	9,661
Medium 31-100	3,644	1,107	4,752
Big 100 +	2,089	497	2,586
Total	14,519	5,160	19,679

Source: NISR, IBES2022

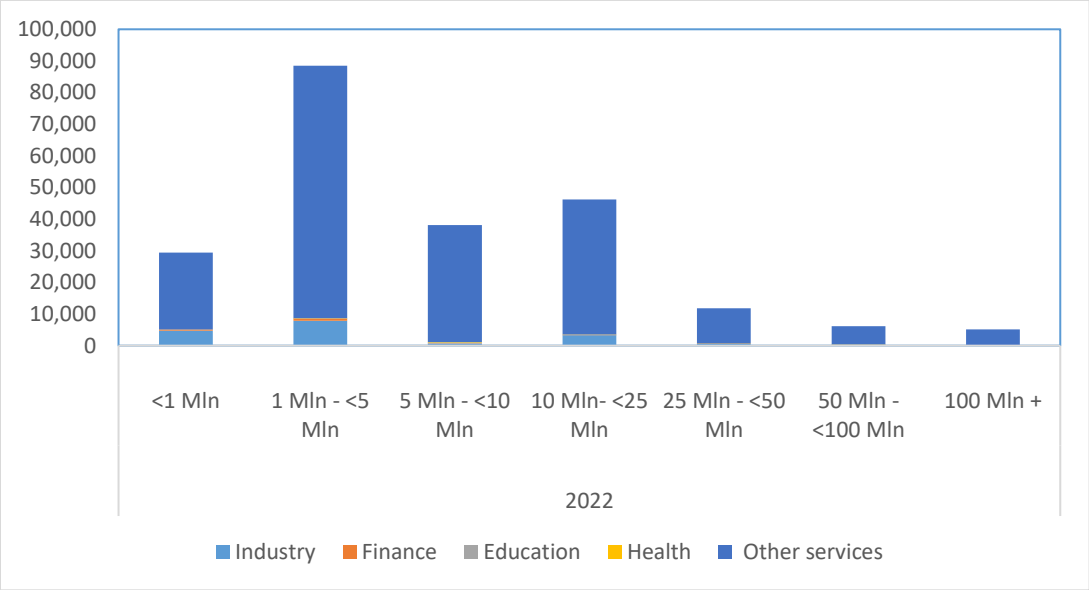
3.3. Informal Sector Performance

This subsection will discuss performance in the informal sector. Unlike the formal sector, performance in the informal sector will be measured against three metrics; income, expenditure, and addition of fixed assets. Business enterprise performance will be based on absolute count/numbers under different income bands per year.

3.3.1. Income

Generally, income for Rwandan business enterprises lie in the income levels between RWF 1 million to RWF 5 million. For all years analysed, the income band between RWF 1 million and 5 million was composed of the highest number of business enterprises, followed by the income band of RWF 10 million to 25 million. Further, business enterprises in the other services sector dominated the composition of business enterprises in 2022 and income categories.

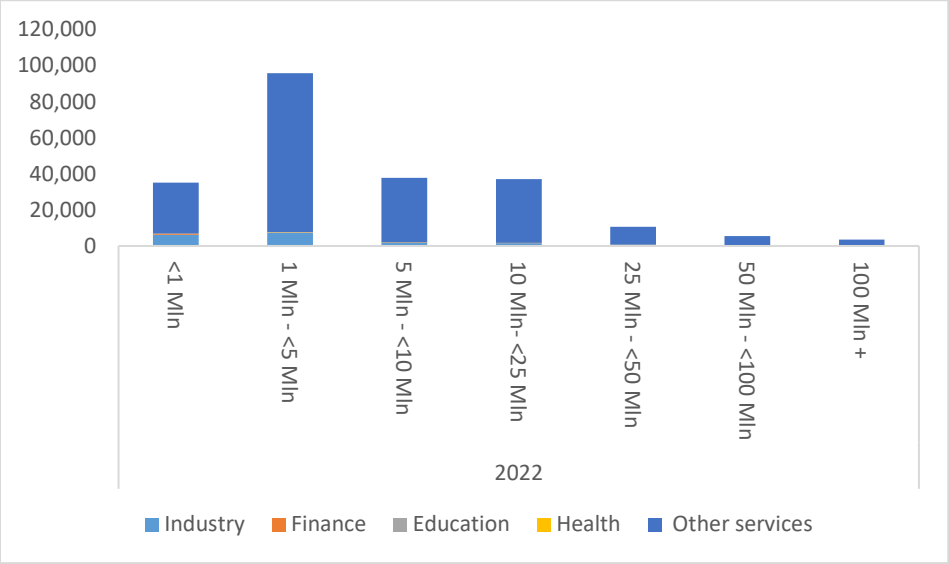
Graph 3.16: Number of Business Enterprises by Income Categories (Sector)



3.3.2. Expenditure

Similarly, most of the Rwandan business enterprises' expenditure lay in the RWF 1 million to RWF 5 million category, followed by the expenditure category of RWF 5 million to 10 million. The business-enterprises in the other service sector accounted for the highest share of expenditure by categories.

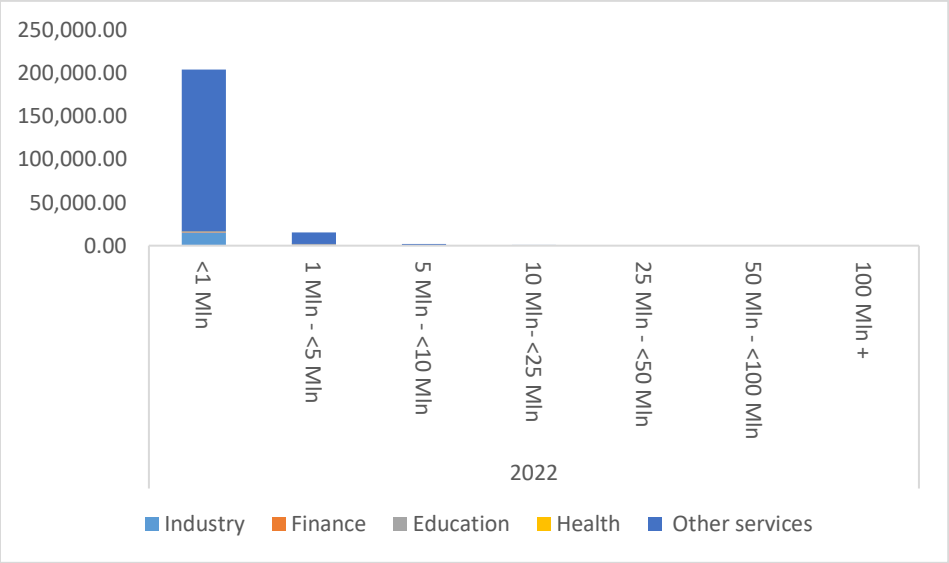
Graph 3.17: Number of Business Enterprises by Expenditure Categories (Sector)



3.3.3. Asset Accumulation

The Business enterprises mainly added new assets for a total value of less than RWF 1 million, with a very miniscule number of business enterprises adding assets with a total value between RWF 1 million and 5 million. The other services sector (Rwf 203,759.1 billion) accounts for the largest share of new assets added in all years followed by the industry sector (Rwf 17,614.2 billion).

Graph 3.18: Number of Business Enterprises by Total Value of Asset Addition Categories (Sector)



3.3.4. Employment, income and businesses by top manager's sex

The distribution of employees by gender and economic activity in the informal sector shows that 53 per cent are male against 47 per cent (Table 3.11).

Table 3.11: Distribution of employees by gender and economic activity: Informal sector

Main Economic Activity	Male	Female	Total
Mining and quarrying	581	363	944
Manufacturing	21,406	12,189	33,595
Water supply; sewerage, waste management and remediation activities	622	311	934
Construction	42	0	42
Wholesale and retail trade; repair of motor vehicles and motorcycles	95,178	101,127	196,305
Transportation and storage	982	0	982
Accommodation and food service activities	66,656	54,006	121,148
Information and communication	1,636	1,309	2,945
Financial and insurance activities	677	587	1,264
Real estate activities	170	75	245
Professional, scientific and technical activities	2,402	4,347	6,749
Administrative and support service activities	1,216	486	1,702
Education	1,743	1,712	3,455
Human health and social work activities	1,136	784	1,920
Arts, entertainment and recreation	256	0	256
Other service activities	17,673	13,187	30,860
Total	212,377	190,484	403,347

Source: NISR, IBES2022

The analysis of the distribution of the total number of informal businesses by income category and the top manager's sex reveal that 45.4 per cent are female managed informal businesses (Table 3.12).

Table 3.12: Number of informal businesses by income category and top manager's sex

Income category	Male-led	Female-led	Total
<1 Mln	12,996	12,168	25,164
1 Mln - <5 Mln	48,690	42,796	91,486
5 Mln - <10 Mln	19,568	19,483	39,051
10 Mln - <25 Mln	26,887	19,607	46,494
25 Mln - <50 Mln	7,543	4,529	12,072
50 Mln - <100 Mln	4,213	2,460	6,673
100 Mln +	3,195	1,478	4,673
Total	123,091	102,520	225,612

Source: NISR, IBES2022

Table 3.13: Number of trained Staff by enterprise size and top manager's sex, informal sector

Size Band	Male-led	Female-led	Total
Micro 1-3	2,780	1,496	4,276
Small 4-30	4,791	1,798	6,589
Total	7,571	3,294	10,865

Source: NISR, IBES2022

The number of trained Staff by enterprise size and top manager's sex in the informal sector is illustrated in Table 3.13 while the distribution of the total number of trained Staff by economic activity and top manager's sex in informal sector in presented in Table 3.14.

Table 3.14: Number of trained Staff by economic activity and top manager's sex, informal sector

Main Economic Activity	Male-led	Female-led	Total
Manufacturing		298	298
Wholesale and retail trade; repair of motor vehicles and motorcycles	2,215	1,551	3,766
Transportation and storage	1,070		1,070
Accommodation and food service activities	582		582
Financial and insurance activities	60		60
Real estate activities		241	241
Professional, scientific and technical activities	356		356
Administrative and support service activities	488	54	543
Education	523	303	825
Human health and social work activities	418	172	590
Other service activities	1,859	676	2,535
Total	7,571	3,294	10,865

Source: NISR, IBES2022

The total number of trained Staff by enterprise size and their sex and the total number of trained Staff by economic activity and their sex are presented in Table 3.15 and Table 3.16 respectively.

Table 3.15: Number of trained Staff by enterprise size and their sex

Size Band	Male	Female	Total
Micro 1-3	2,733	1,543	4,276
Small 4-30	5,332	1,257	6,589
Total	8,064	2,801	10,865

Source: NISR, IBES2022

More trainings have been carried out in the micro informal business enterprises in terms of the number of trained women, 1,543 against 1,257 for small informal business enterprises (Table 3.15).

Table 3.16: Number of trained Staff by economic activity and their sex

Economic activity	Male	Female	Total
Manufacturing		298	298
Wholesale and retail trade; repair of motor vehicles and motorcycles	3,102	665	3,766
Transportation and storage	1,070		1,070
Accommodation and food service activities	291	291	582
Financial and insurance activities	60		60
Real estate activities	120	120	241
Professional, scientific and technical activities	267	89	356
Administrative and support service activities	380	163	543
Education	523	303	825
Human health and social work activities	393	197	590
Other service activities	1,859	676	2,535
Total	8,064	2,801	10,865

Source: NISR, IBES2022

The distribution of the total number of trained Staff by economic activity and their sex is depicted in Table 3.16 while the distribution of total employees of the informal business enterprises by the enterprise size is presented in Table 3.17. More employees are found in the micro size which employs more than double for both sexes.

Table 3.17: Distribution of employees by gender and enterprise size: informal sector

Size Band	Male	Female	Total
Micro 1-3	147,054	136,746	284,287
Small 4-30	65,322	53,738	119,060
Total	212,377	190,484	403,347

Source: NISR, IBES2022

In general, micro and medium informal business enterprises are managed by women at the rate of 46.9% and 30.1% respectively (Table 3.18).

Table 3.18: Number of informal businesses by enterprise size and top manager's sex

Size Band	Male-led	Female-led	Total
Micro 1-3	109,529	96,677	206,206
Small 4-30	13,563	5,843	19,406
Total	123,091	102,520	225,612

Source: NISR, IBES2022

Table 3.19 illustrates the distribution of informal business enterprises by economic activity and top manager's sex. Overall, 45.4% of informal business enterprises are managed by women.

Table 3.19: Number of informal businesses by economic activity and top manager's sex

Main Economic Activity	Male-led	Female-led	Total
Mining and quarrying	73	73	145
Manufacturing	9,216	7,433	16,649
Water supply; sewerage, waste management and remediation activities	622	156	778
Construction	42		42
Wholesale and retail trade; repair of motor vehicles and motorcycles	67,666	67,914	135,579
Transportation and storage	218		218
Accommodation and food service activities	30,652	17,515	48,167
Information and communication	327	655	982
Financial and insurance activities	677	406	1,084
Real estate activities	57	19	75
Professional, scientific and technical activities	1,144	343	1,487
Administrative and support service activities	699	213	912
Education	187	156	342
Human health and social work activities	243	162	406
Arts, entertainment and recreation	256		256
Other service activities	11,012	7,477	18,489
Total	123,091	102,520	225,612

Source: NISR, IBES2022

4. CONCLUSIONS AND FURTHER AREAS OF RESEARCH

IBES 2022 has presented substantial findings regarding the business landscape in Rwanda. Despite commendable efforts to boost the progress of businesses, bridging existing gaps requires increased cooperation among various government agencies. Rwanda's business ventures still rely on informal financing, face significant underutilization of capacity, show limited involvement in exports, and grapple with infrastructure challenges like reliable power. While these insights are vital for decision-making and policy formulation, they also raise additional questions and suggest possible directions for further research.

4.1. Potential Research Questions and Interest Areas

The following three research areas aim to delve deeper into the identified challenges and gaps in Rwanda's business environment, providing valuable insights for policymakers and stakeholders working towards fostering economic development.

i. **Informal Financing in Rwandan Businesses:** Explore the dynamics of informal financing in Rwanda's business enterprises. Investigate the sources, mechanisms, and implications of relying on informal financial channels. Analyse the challenges and benefits associated with this mode of financing and propose strategies for enhancing formal financial inclusion.

ii. **Capacity Utilization Challenges in Rwandan Businesses:** Conduct a detailed examination of the factors contributing to the substantial underutilization of capacity in Rwandan businesses. Identify barriers, assess the impact on overall economic productivity, and propose recommendations for optimizing capacity utilization to foster greater economic growth.

iii. Enhancing Export Participation of Rwandan Businesses: Investigate the reasons behind the limited engagement of Rwandan businesses in export activities. Examine barriers, both internal and external, that hinder participation in the global market. Develop strategies and policy recommendations to encourage and support businesses in expanding their presence in international trade

APPENDICES

APPENDIX 1: METHODOLOGY AND RATIONALISATION OF KEY CONCEPTS

1. Integrated Business Enterprise Survey

As stated in the introduction of this report, IBES is an annual data collection exercise by NISR on business enterprises operating in Rwanda. The survey aims at providing reliable statistics and data on the nature of business enterprises in Rwanda, their labour employment patterns, ownership and legal characteristics of the businesses among others. The survey and its subsequent report also provide insights on the businesses' perspective on the business environment they operate in. The survey compiles detailed statistics on business aspects as access to finance, waste management practices, energy usage, and utilisation of information communication technologies. Further, business performance by sector and size of business enterprises are analysed using income and expenditure data.

It extensively compiles business data for the year 2022 and includes insights on the impact of economic conditions on business enterprises in Rwanda. The survey data is structured as a panel, which allows for execution of further analysis that includes both spatial and temporal dimensions.

2. Coverage

The 2022 IBES report covers a sample of non-agricultural business enterprises classified under sections B to S of the International Standard Industrial Classification of all economic activities, revision 4 (ISIC-4). Further, the survey does not cover public administrative and extraterritorial organizations (organizations outside Rwanda territorial borders). This report defines "**business enterprise"** as a legal entity possessing the right to conduct business on its own, for example to enter into contracts, own property, incur liabilities and establish bank accounts. It may be a corporation, a quasi- corporation, a non-profit institution, or an unincorporated business enterprise. The IBES survey contains information on Small and medium-sized business enterprises (SMEs) and big business enterprises. SMEs employ fewer than 100 people. They are further subdivided into micro business enterprises (fewer than 3 employees), small business enterprises (4 to 30 employees), and medium-sized business enterprises (31 to 100 employees). Big business enterprises employ 100 or more people. The management of a business enterprise typically develops a set of organizational objectives and a strategy for meeting those goals to help employees understand where the company is headed and how it intends to get there.

3. Sampling Design

3.1. Sampling Frame

A sampling frame comprises a list of all units from which a sample survey is selected. An up-to-date, good quality sampling frame is an essential pre-requisite for organizing a sample survey. An Economic Census (EC) of all establishments can provide such a sampling frame, giving a listing of business enterprises and a count of workers by broad industry groups at the primary level of geographical units such as villages.

The Establishment Census carried out in 2020 (EC2020) served as the sampling frame for both formal and informal IBES. For informal IBES 2023, EC2020 served as the sampling frame for the first stage sample and a listing exercise was carried out in the sampled administrative sectors in the second stage. In addition, for formal IBES 2022; the EC2020 frame was supplemented using IBES panel business enterprises to ensure that all previous complying businesses were covered in the formal sector survey.

The IBES 2022 is based on a sample of 2,817 formal and 2,508 informal sector business enterprises, selected from an estimated 19,194 formal and 225,612 informal business enterprises. Informal business enterprises were sampled from 50 selected administrative sectors. Thus, the survey has been designed so that it provides good quality estimates of shares or averages for the country as a whole.

3.2. Formal Sector Sample and Estimation

This report defines the formal sector as those businesses registered in the Rwanda Revenue Authority (RRA) and keeping business accounts. The formal sector IBES 2022 sample was produced from the following separate components: a panel component based on the IBES 2019-2021 and large business enterprises from the VAT and BIT registers which were not in the IBES panel. Informal IBES 2023 sample has been drawn the data set of the Establishment Census 2020.

The IBES panel includes all business enterprises that responded to the IBES 2019-2021 survey. The purpose of this panel component of the IBES 2022 sample is to preserve a time series element in the overall sample. This is designed to reduce the variance of the estimates of changes in the characteristics of the population over time. In addition, the panel should improve the overall response rate to the survey as all of the business enterprises in this component were willing and able to respond for formal IBES 2019-2021.

In addition, the survey sample was topped up by 718 large business enterprises with turnover greater than 1 billion RWF in 2022 drawn from the Value Added Tax (VAT) and Business Income Tax (BIT) registers which are registered with RRA for VAT or income tax and which were not in the IBES panel sample. At the end, a sample of 2,817 formal business enterprises and 2,508 informal business enterprises was developed and targeted.

Most of the estimates included in this report have been obtained by multiplying the data for each sampled business enterprise by its weight. The weight assigned to completely enumerated businesses was 1, as these businesses represent only themselves.

The initial weights assigned to businesses in the sampled strata were the inverse of the probabilities of selection. For example, if half of the businesses in a stratum were selected, the initial weight was 2. It was also necessary to take into account of the businesses for which no response could be obtained within each stratum and to take out all non-eligible sampled businesses like businesses dealing in agriculture and public administration. The estimated actual, or valid, population of businesses in each stratum was taken as the original population less all non-eligible businesses. Similarly, the valid sample in each stratum was calculated as the original less all non-eligible businesses in the stratum.

As a result, the weights of the responding units were adjusted so as to maintain the original grossed up number of units in each stratum by dividing the valid population by the valid sample for all strata and theses final weights were distributed to each sampled business enterprise within the stratum. More precisely, if in each sampled stratum *i*, *ni* is the number of valid businesses enumerated out of a valid population of *Ni* business enterprises in the census, then the weight for each business is *Ni/ni*. The assumption behind this method is that each business from which a valid response was received is representative of the eligible businesses in the wider population. Tables 1.1 and 1.2 in Appendices illustrate how the final weights were derived.

3.3. Informal Sector Sample and Estimation

The selection of business enterprises in the informal sector was based on a two stage sample. The first stage was the selection of administrative sectors, which form the enumeration areas (EAs); where a sample of 50 administrative sectors were selected using the 'probability proportional to size' (PPS) method based on data from EC2020. The measure of size (MoS) used was the number of business enterprises in each administrative sector, i.e.

$$MoS_{hi=}\Sigma_{j=1}^{t}P(h,i,j),$$

Where, S_{hi} is the size of the administrative sector i, in geographic stratum h; and P(h, i, j) is the number of business enterprises in the economic activity j, within the sector i, in geographic stratum h. The data were collected during data collection of Establishment Census 2020 and fed the first stage (in 50 selected administrative sectors) with information about the economic activity, number of workers, registration status, maintenance of regular business accounts and time of starting operations. Based on this, a new listing of all the business enterprises in the sample EAs was established. At the second stage, the listed business enterprises in each sample EA were then stratified by major economic activity (ISIC Rev.4 2 digit), and a sample of business enterprises was then selected within each stratum. At the second sampling stage, all of the listed business enterprises for some strata were included in the survey with certainty in case there were 3 or less business enterprises for one ISIC 2-digit code within the sampled administrative sector. The procedure led to a total sample of 2,508 informal business enterprises being selected.

The selection probabilities for business enterprises in an area sample depend on the sample design. As noted, the IBES informal sector area frame sample was based on a two-stage selection. As such, the probability of selection can be expressed as follows:

$$P_{hij} = \frac{m_h \times MoS_{hi}}{\sum_{i\varepsilon h} S_{hi}} \times \frac{n_{hij}}{N_{hij}},$$

Where;

P_{hij} = probability of selection for the sample business enterprises in j-th economic activity group within the i-th sample segment (i.e., administrative sector) in geographic stratum h

m_h = number of sample segments selected in geographic stratum h

MoS_{hi} = measure of size (based on the indicator established for the PPS selection) for the i-th sample area in geographic stratum h

n_{hij}= number of sample business enterprises selected in the j-th economic activity group within the i-th sample area in geographic stratum h

N_{hij}= total number of business enterprises in the j-th economic activity group within the i-th sample area in geographic stratum h

In the sample strata where all the business enterprises for an economic activity are included in the sample at the second sampling stage, the second term of this probability was 1. The weight (or 'raising factor) applied to the data from the informal business enterprises is calculated as the inverse of this probability of selection, as follows:

$$W_{hij} = \frac{\sum_{i\varepsilon h} S_{hi}}{m_h \times MoS_{hi}} \times \frac{N_{hij}}{n_{hij}}$$

Finally, a non-response adjustment factor similar to that used for the formal IBES 2022 was applied to this weight, within the economic activity group in the EA. This factor is equal to the valid sample divided by the completed interviews for each stratum.

4. Comparison with National Accounts and turnovers from revenue authority

The published national accounts statistics include estimates of economic activity for the whole of Rwanda. These may differ from the survey estimates when one compiles indicators such as gross value added. A key reason for the difference is that, when producing the national accounts, many other sources of data are used in addition to information from the business sector. For example, data on consumption patterns from the Rwandan household budget survey (Integrated Households Living Conditions Survey EICV), data on international trade, and from other surveys, notably the Seasonal Agricultural Survey.

A further difference between the estimates from this survey and the national accounts arises because of coverage. The IBES covers the formal and informal activities in observable business premises. Additionally, the national accounts estimates include goods and services produced by household businesses without identifiable premises, often numerous but on a small scale. They also implicitly include estimates for the

'hidden' economy (transactions that are not recorded in business accounts) for example, goods that retailers may withdraw from their stocks for their own consumption.

For this reason, the national accounts estimates should be considered as providing the measure of the level of gross value added and output. However, the IBES can be used to enrich understanding of the underlying activity of the business sector by providing more detailed information relating to investment, employment, credit, and the general business environment.

5. Comparison of IBES employment data with LFS employment data

Enterprise survey employment data and household labor force survey (LFS) data diverge due to differences in the populations surveyed, methods of data collection, and the scope and focus of each survey. Enterprise surveys typically target businesses and organizations, gathering data on formal employment within these entities through administrative records, such as payroll data or employment records provided by businesses. In contrast, LFS data are collected directly from households, encompassing a broader range of employment including informal sectors, self-employment, and various work arrangements.

Additionally, enterprise surveys may sample businesses based on factors like size, industry, or geographic location, while LFS surveys use household sampling methods to ensure representation of different demographic groups. These variations in sampling, coverage, and biases contribute to discrepancies between the two datasets, with enterprise surveys potentially overlooking small or informal businesses and LFS data susceptible to respondent bias and sampling errors. Thus, while both sources provide valuable insights into employment trends, understanding their inherent differences is essential for interpreting and comparing their findings accurately.

6. Key concepts and data collection methodology

6.1. Distinction between business enterprise and establishment

A business enterprise is an institutional unit as a producer of goods and services. It has the autonomy in decision-making and allocating resources. It may be engaged in one or more economic (productive) activities. It can be a corporate or non-corporate business enterprise. An establishment is a business enterprise or part of the business enterprise located in a single location and normally carrying out a single economic activity. In many cases, and particularly for smaller or medium-sized units, business enterprises and establishments are identical. Efforts were made to list and record details for each business enterprise including all its branches. Information on whether or not the establishment was part of a business enterprise was also recorded.

6.2. Activity Coverage and Listing of Business Enterprises

The IBES considered only non-agricultural activities. Agricultural activities- the primary production of agricultural and plantation crops, livestock and poultry, agricultural services, forestry and fishing were not covered. Activities related to the processing of the primary produce of agricultural and allied activities were

treated as non-agricultural. Further, the sale of agricultural produce by the producer himself directly to wholesalers, retailers, or even consumers was considered agricultural.

Detailed guidelines were provided to determine the broad activity category of a business enterprise. Some are reproduced here. Manufacturing involves the transformation of raw materials into finished products. Trade is an act of purchase of goods and their resale, either wholesale or retail, without any intermediate physical transformation of the goods. A hotel (Division 55 of ISIC-4) provides accommodation with or without arrangements for meals and other prepared food and refreshments. A restaurant (Division 56 of ISIC-4) generally provides eating and drinking services where prepared meals, food, refreshment and other snacks are sold for immediate consumption without any provision for lodging. Such business enterprises are variously known as restaurants, cafes, cafeteria, snack bar, lunch counters, refreshment stands, milk bar, canteens etc. Bars and other drinking places also come under this category.

Transport is the act of carrying passengers and/or goods from one place to another. The operation of storage and warehouses on hire to the farm producer, dealer or trader, processor and manufacturing business enterprises, including the public, as a business is in the storage and warehousing industry (Division 52 of ISIC-4). However, warehouses meant for storing farm produce, trading commodities, manufactured goods etc., owned by the owner of the farm, trader or manufacturer himself, were not treated as storage and warehousing.

6.3. Items of Information and Related Concepts

Apart from collecting background information IBES collects data on the number of people the business enterprise employs and how much it pays them, its operating expenses and receipts, the value of fixed assets, and its outstanding loans.

- **Business enterprise size:** In this report the business enterprise size is measured by the number of employees; Micro business enterprise (1 to 3 employees), Small business enterprise (4 to 30 employees), Medium business enterprise (31 to 100 employees), and Big business enterprise (more than 100 employees).

- **Method of data collection**: this depended on whether the business enterprise has maintained accounts. If it did, data were collected from them. Otherwise, the information was collected orally, as reported by the respondent. In both cases, primary field workers visited the sites of the business enterprises and collected data from the respondents by interviewing them. Key concepts and methodology involved in data collection are discussed below.

- **Reference year/last year**: For most of the items, namely compensation, operating expenses/inputs, and receipts/output, the reference or last year meant last accounting year for the business enterprises maintaining accounts and the previous 12 months for those not maintaining accounts.

- **Last day of the year**: Information on the value of fixed assets and outstanding loans related to the last day of the year. 'Last day' meant the closing day of the last accounting year for business enterprises maintaining accounts. In other cases, it was the day preceding the date of survey.

- **Background information about the business enterprise**: Certain background information about the business enterprise was collected first. These included broad activity of the business enterprise for which 12 codes were provided, main activity of the business enterprise in terms of 4-digit code as per ISIC-Rev 4, location (within permanent structure or within temporary structure or without any structure), ownership status, whether registered under any Act, age of the business enterprise, if received any government assistance during last 2 years, nature of problem faced during last year, whether accounts maintained, and whether establishment was part of an business enterprise in case of an establishment.

- **Employment and compensation of employees**: As regards the employment position, data on average number of workers working per day during the major period of working in the last year were collected. Break-up of number of paid and unpaid workers was also recorded. Paid workers were those who got regular salary or wages. Break-up employment was also noted by (a) sex, (b) occupation (i.e. manager/ professional/administrative and others), and (c) nationals or foreigners. Compensation payable to the workers included wages/salaries to hired workers and other remunerations in the form of providing food, canteen facility, health care facility or other facilities to its workers. Given the importance of employment related statistics, a specific module (Labor Module) was designed to cover all the details judged to be important.

- **Operating expenses**: All the expenses incurred by the business enterprise during last year including (a) compensation to workers, (b) rent on hired land and building (if any) and (c) interest payable on loan (if any) were covered under the head of expenditure. The relevant information was collected through two sections of the questionnaire module– one giving the details of the main inputs/raw materials used by the business enterprise and the other recording the residual operating expenses involved in the day to day running of the business enterprise. Value figures were recorded at the purchase price of raw materials and other inputs.

- **Income**: Information on income was also collected through two sections of the questionnaire – one furnishing details of the main receipts of the business enterprise directly associated with the value of goods and services produced while the other recording other receipts of the business enterprise. Valuation of income was at the sale value if sold or at the market value of goods made ready for sale in the market or at producer's prices for manufactured goods.

- **Fixed assets**: Information on value of fixed assets as on last day of the year was collected. It was the book value if the business enterprise-maintained accounts otherwise it was the market value of the asset owned or rented/hired. This apart, data on net addition to fixed assets and rent payable for hired assets were also collected.

APPENDIX 2: IBES 2022 SURVEY STAFF

SURVEY MANAGERS

MURANGWA Yusuf, Director General, NISR
MURENZI Ivan, Deputy Director General, NISR
MWIZERWA Jean Claude, Director, Economic Statistics Department (DES), NISR
NZASINGIZIMANA Tharcisse, Trade and Services Statistics Team Leader, DES, NISR

MEMBERS OF TECHNICAL TEAM

HABINSHUTI Vital
HITIMANA Dieudonné
KATO Denis
KAYITARE Ivan Patrick
MPAYIMANA Fabien
MUDENGE Modeste
MWIZERWA Jean Claude
NSHIMIYIMANA Emile
NZASINGIZIMANA Tharcisse
SIBOMANA Oscar

FIELDWORK COORDINATOR

NZASINGIZIMANA Tharcisse

FIELD TEAM LEADERS

ABAYISENGA Claudine
ABIMANA Janvier
BYUKUSENGE Assoumpta
DUSHIMIRIMANA Gaudence
GAKIRE Polycarpe
HABUWE Viateur
HAKIZUMWAMI Ildephonse
MBWIRABUMVA Desiree
MUGABEKAZI Neema Crepine
MUHABWA Eric
MUKANKUSI Betty
MUNEZERO Fabien
MUSIRIMU GAPANGA Pacifique
NIYONIZEYE Prosper
NKURUNZIZA Didier
NSHIMIYIMANA Fidele
NSHIMIYUMUKIZA Naman
NTAKIRUTIMANA Jonathan
NTEZIRYAYO Irene
NYIRAHABIMANA Speciose
NYIRANSENGIMANA Bernadette
USABYIMANA Monique
UWITONZE African
UZARERWA Marie Claire

ENUMERATORS

BAHIGIRORA Theogene
BIZIREMA Valens
BUCYEDUSENGE Philbert
BUTERA Augustin
GAHIMA Jean claude
GATABAZI Olivier France
HABIHIRWE Vital
HABIMANA Emmanuel
HABINEZA JMV
HABUMUGUSHA Aaron
HAKIZIMANA Jean claude
HAKIZIMANA Jean Damascene
HARAGIRIMANA Alexandre
HARELIMANA Theogene
HITIMANA Alli Ismael
HITUWABYAYE Nadege
IRADUKUNDA Aimee Providence
IRIBAGIZA Clarisse
IYAKAREMYE Innocent
KABANYANA Scovia

KAMALI Mustafa
KASINE Charlotte
KAWERA Pascasie
KAYIRANGA Gaston
KIMENYI VIncent
KOMEZUSENGE Eleonora
KUBWIMANA Jean Baptiste
LINGUYENEZA Antoine
MAKOMBE David
MANISHIMWE Adeline
MAZIMPAKA Thacien
MUDAHEMUKA Jean Bosco
MUGARURA Protogene
MUGENZI Eric
MUGISHA Diamand
MUGWANEZA Devotha
MUKAGATARE Clementine
MUKAKAMALI Yvonne
MUKAMANA Francine
MUKAMUDENGE Fausta
MUKAMUSONI Jacqueline
MUKAMWIZA Violette
MUKANDAYISHIMIYE Julienne
MUKESHIMANA Judith
MUKUNDE Fidele
MUNGARAKARANA Protais
MURERWA Annonciatha
MUSABYIMANA Charlotte
MUSANABERA Florence Jacqueline
MUSHIMIYIMANA Immaculee
MUSHIMIYIMANA Salima
MUTIJIMA Immaculee
MWELEVU Methode hussen
MWISENEZA Eric
NDAYISHIMIYE Pierre
NDUWAYEZU Jean Bosco
NIYIGENA Yves Paulin
NIYOMUGENI Alphonsine
NIYONGIRA Liberee
NIYONSHUTI Gabriel
NIYONZIMA Anastase
NIYOYITA Thacienne
NiZEYIMANA Jean Baptiste
NKURANGA James
NKURANGA Justin
NKUSI Innocent
NSENGIMANA Louis
NTEZIRYAYO Simeon
NTIBAZIYAREMYE Jean Baptiste
NYAMPINGA Jeannette
NYIRAMANA Faina
NYIRAMPORE Eugenie
NYIRANSABIMANA Francine
NZISENGERA Jean de Dieu
SIMBARIKURE Fabien
SIMPEZE Emmanuel
TWAGIRIMANA Hamdoun
TWIZEYIMANA Samuel
UMUGWANEZA Theopiste
UMURARUNGU Edith
UMUTO Paula
UMUTONI Annoncee
UMUTONI Console
UMWALI Odette
UWABABYEYI Delphine
UWAMARIYA Claudine
UWERA Annick Louise
UWERA Desanges
UWILINGIYIMAN Aimme sylvain
UWIMANA Jean Baptiste
UWIMPUHWE Sharamanzi Claudette
UWINEMA Marie
UWIRAGIYE Christine
UWIRINGIYIMANA Jean Damascene
YIBUKUWAYO Ildephonse

DATA PROCESSING

NIYIGENA Eric
SEBAHIRE Jean Nepomuscene

DATA ANALYSIS AND REPORT WRITING

KATO Denis
KAYITARE Ivan
MWIZERWA Jean Claude
NZASINGIZIMANA Tharcisse
SIBOMANA Oscar

Contacts:

National Institute of Statistics of Rwanda (NISR)
P.O. BOX 6139 Kigali,
Web site: www.statistics.gov.rw
Email: info@statistics.gov.rw

Publication Directors:

MURANGWA Yusuf, Director General
Email: yusuf.murangwa@statistics.gov.rw

MURENZI Ivan, Deputy Director General
Email: ivan.murenzi@statistics.gov.rw

MWIZERWA Jean Claude, Director of Economic Statistics Department
Email: claude.mwizerwa@statistics.gov.rw

NZASINGIZIMANA Tharcisse, Trade Statistics Team Leader
Email: tharcisse.nzasingizimana@statistics.gov.rw