



THE REPUBLIC OF ZAMBIA

CENTRAL STATISTICAL OFFICE

RESEARCH PAPER ON PROVINCIAL GROSS DOMESTIC PRODUCT

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May, 2017



Contents

ACRONYMS/ABBREVIATIONS	viii
FOREWORD	ix
1.0 INTRODUCTION	1
1.1 Objective of Provincial GDP.	1
1.2 Some Conceptual Issues	2
1.3 Residence principle and the territory principle	3
2.0 PROVINCIAL GDP MEASUREMENT METHODOLOGY	4
Top-down methodology	4
2.1 Coverage	4
2.2 Limitations	4
2.3 Selected indicators by province 2014 and 2015	5
2.3.1 Population by province	5
2.3.2 Employment by province	6
2.3.3 Number of companies and sales by province	6
2.3.4 Maize production by province	7
	8
3.0 2014 RESULTS	
3.1 Percentage Distribution of Industries Across Provinces, 2014.	10
3.2 Percentage Distribution of Industries Within Each Province, 2014.	12
	14
4.0 2015 RESULTS	
4.1 Percentage Distribution of Industrial Activities across Provinces, 2015.	16
4.2 Percentage Distribution Of Industrial Activities Within Each Province, 2015.	18
5.0 CONCLUSION	20
Key Persons Involved in the Production of the Report	21

List of Tables

Table 1: Number of Companies and their Aales by Province,	6
Table 2: Indicators used for each industry	7
Table 3: Provincial GDP and percent shares at current prices, 2014	8
Table 4: Provincial Gross Value Added by production at current prices 2014	9
Table 5: Percentage Distribution of Industrial Activities Across Provinces, 2014	11
Table 6: Percentage Distribution of Industrial Activities within each Province, 2014	13
Table 7: Provincial GDP and percent shares, 2015.	14
Table 9: Percentage Distribution of Industrial Activities across Provinces, 2015.	17

List of Figures

Figure 1: Percentage distribution of population by Province, 2014	5
Figure 2: Percentage distribution of employment by Province, 2014	6
Figure 3: Maize production by Province, 2014 and 2015	7
Figure 4: Provincial GDP and percent shares, 2014	8
Figure 5: Provincial GDP and percent shares, 2015	14

ACRONYMS/ABBREVIATIONS

GDP	Gross Domestic Product
BOP	Balance of payment
CPI	Consumer Price Index
CSO	Central Statistical Office
GO	Gross Output
IC	Intermediate Consumption
TA	Technical Assistance
ISIC	International Standard of Industrial Classification
LFS	Labour Force Survey
MOF	Ministry of Finance
PHS	Post Harvest Survey
SNA	System of National Accounts
UN	United Nations
VAT	Value Added Tax
ZRA	Zambia Revenue Authority

FOREWORD

FOREWORD BY THE DIRECTOR JOHN KALUMBI CENTRAL STATISTICAL OFFICE



This research paper explains how the provincial Gross Domestic Product (GDP) estimates were derived. The challenges and limitations faced and finally results from the 2014 and 2015 GDP are presented. In deriving the 2014 and 2015 GDP estimates, the Office adhered to the best practice National Accounts compilation guidelines and recommendations, which are contained in the 2008 United Nations System of National Accounts (UN 2008 SNA) Manual and the 2013 Eurostat manual on Regional Accounts Methods.

The process of producing Provincial GDP estimates has been motivated by the high demand for provincial GDP estimates by various users including provincial administration offices, provincial ministers and policy makers just to mention a few. It is for this reason that the office saw the need to disaggregate national level GDP estimates using available provincial indicators to come up with provincial GDP estimates

This process of compiling provincial GDP would not have been possible without the cooperation and support that my office received from various Institutions including Zambia Revenue Authority (ZRA), National Water and Sewerage Company (NWASCO), Energy Regulation Board (ERB), Forestry Department, Fisheries Department and the Other Government Departments. My office honors and acknowledges your contribution to the success of this useful research paper. I would also like to thank the International Monetary Fund (IMF) AFRITAC South office and African Development Bank for having provided their Technical Comments on the design of the framework for the provincial GDP.

Lastly, I would like to end by thanking the staff in the National Accounts, Public Finance and Industrial Production branches of CSO for their selfless contribution towards the success of this research paper. Your efforts will not go unrecognised.

A handwritten signature in blue ink, consisting of a stylized 'J' and 'K' followed by a horizontal line.

John Kalumbi
Director, Census and Statistics

June, 2017

1.0 INTRODUCTION

The Central Statistical Office (CSO) benchmarked its National Accounts Statistics to 2010 using data from the 2011-2012 Economic Census and other surveys. Among the objectives of conducting the Economic Census was to start estimating Provincial Gross Domestic Product.

Provincial GDP requires that data is collected at establishment level (branches/agents). However, during the Economic Census the Office encountered a lot of challenges in accessing financial accounts at establishment level as reliable data could only be obtained at enterprise level through consolidated accounts. Meanwhile, the demand for provincial GDP estimates continues to increase hence the need for the office to disaggregate national level GDP estimates using available provincial indicators to come up with provincial GDP estimates. In doing so, CSO managed to use practical guidelines from the 2008 System of National Accounts (SNA2008) and 2013 Eurostat manual on Regional Accounts Methods.

This research paper summarises the concepts, methodology and results in the compilation of Provincial Gross Domestic Product (GDP) for 2014 and 2015.

1.1 Objective of Provincial GDP.

1. To evaluate the contribution of each province to the GDP
2. To analyse the industrial specialisation of the provinces
3. To facilitate economic diversification
4. To facilitate resource allocation across provinces
5. To analyse the role of provinces in each industry
6. To be used as a basis for balanced industrial development
7. To Monitor provinces lagging behind in terms of GDP contribution
8. To enable provincial labour productivity studies
9. Studies by enterprises about where to establish their head offices or production plants require, amongst other things, information on the availability of supply industries, service industries, the labour market situation and their consumers.

1.2 Some Conceptual Issues

The National Accounts statistics describe the behavior of institutional units and the activities in which they engage namely production, consumption and accumulation of assets. Residence of the institutional units in the country is fundamental to the allocation of the activities to the country. These statistical concepts are also the basis for the regional accounts. The description of the economy of a region is, like in the national accounts, based on institutional units located in the region with their activities, such as production, consumption and capital formation.

There are practical and conceptual problems when describing a provincial economy. Provincial accounts of households in principle require some additional guidelines, although the national accounts concepts almost fully apply. For example, it is necessary to clarify some aspects of regional accounts of households, such as the allocation of income and consumption of students studying in regions other than their home region.

A general problem for the accounts by industry is that enterprises may consist of several establishments in different provinces within the country. For instance, there may be a head office in one province (often in urban areas) and production establishments in other provinces (often in more peripheral regions). In such a case each of the establishments of the institutional unit should have to provide information on output, intermediate consumption and thus value added which in practice is not the case. Allocating all value added to the head office or a kind of quasi-region would be a solution, however a solution that does not reflect the activities of the establishments in the province and one which would destroy the relationship of these establishments with the regional labour market, other establishments in or outside the province and the resident households with their income and consumption. Additional adjustments for regional accounts are required to reflect the real economic situation.

Enterprises may have large capital-intensive production units in a region and a distribution network of pipelines and cables or a wireless network which may cross regional boundaries. Examples are; Zambia Electricity Supply Company (ZESCO), Railway Systems and Communication Networks which provide services not only to the regions where they are located but also to other regions.

Enterprises in construction may not only build houses, buildings, bridges, roads, etc. in the region where they are settled, but also in other regions. The concept in provincial accounts is clear; it should be allocated to the province of the building site for projects of a year or longer. The practical implementation, however, depends largely on available statistical sources.

In most cases the source data are based on samples designed for national and not for provincial purposes. The only way to estimate provincial accounts data is the use of provincial indicators.

These conceptual difficulties partly explain why no country establishes the complete System of National Accounts (SNA) for every province. Provincial accounts are usually limited to recording production activities by industry. Nonetheless, Provincial accounts, even with the limitations mentioned above, are a very useful tool for economic policy.

1.3 Residence principle and the territory principle

When a unit (e.g. a firm) is based in one province but also operates in another province, it raises a fundamental question in provincial GDP compilation; what province or provinces should the unit's activity be allocated to?

The two major principles to choose from are the residence principle and the territory principle. The residence principle allocates the activity to where the unit undertaking the activity is based, while the territory principle allocates the activity to the territory where the activity takes place. The principle of residence is chosen as the primary one for provincial accounts. This is the internationally preferred option for National Accounts, Balance of Payments and Regional/provincial GDP.

2.0 PROVINCIAL GDP MEASUREMENT METHODOLOGY

The internationally preferred approach for provincial GDP compilation is to directly measure the activity of establishments and build up provincial accounts from this information. The method of building up provincial estimates from establishment data is known as the 'bottom-up' approach. The alternative, where provincial indicators are used to allocate national level GDP estimates to provinces, is the 'top-down' approach. A top-down approach is used if the bottom-up approach cannot be implemented for an industry. The top-down approach was used for all the industries in the Zambian provincial GDP estimates. In applying this method an appropriate indicator was used to distribute the national level value added into the provinces.

Top-down methodology

A top-down methodology uses provincial indicators to allocate national GDP to provinces. This method is usually applied where survey data is not available at establishment level for the bottom-up approach to be considered.

The top-down approach was used for all the industries in the Zambian provincial GDP estimates. GDP was allocated to provinces by using an appropriate provincial indicator to derive provincial shares to be applied to national industry GDP. The actual indicator used depends on the characteristics of the industry which is being regionalized. The provincial GDP measure is based on the production approach measure of GDP. These estimates are at current prices only. Provincial GDP estimates are consistent with the published national estimates, that is, the sum of Provincial GDP estimates is equal to the national-level GDP.

2.1 Coverage

Provincial GDP has been compiled for 19 industry groups and 10 Provinces, based on the Section level of the International Standard Industrial Classification of economic activities revision 4 (ISIC rev 4;). Due to the data limitations and confidentiality issues it was difficult to estimate at a more detailed level.

2.2 Limitations

Enterprises like ZESCO, Railway systems, Communication Networks provide services not only to the regions where they are located but also to other regions. It is not easy to allocate the value added to other regions for these industries. They are either based on where the actual production is done or where the head office is located. Provincial accounts are usually limited

to recording production activities by industry. It is also not easy to allocate capital formation to provinces because each province is supposed to be treated as a country. Whatever comes in and out of the region must be treated as imports and exports. Only head offices have the legal mandate to incur liabilities and acquire assets.

2.3 Selected indicators by province 2014 and 2015

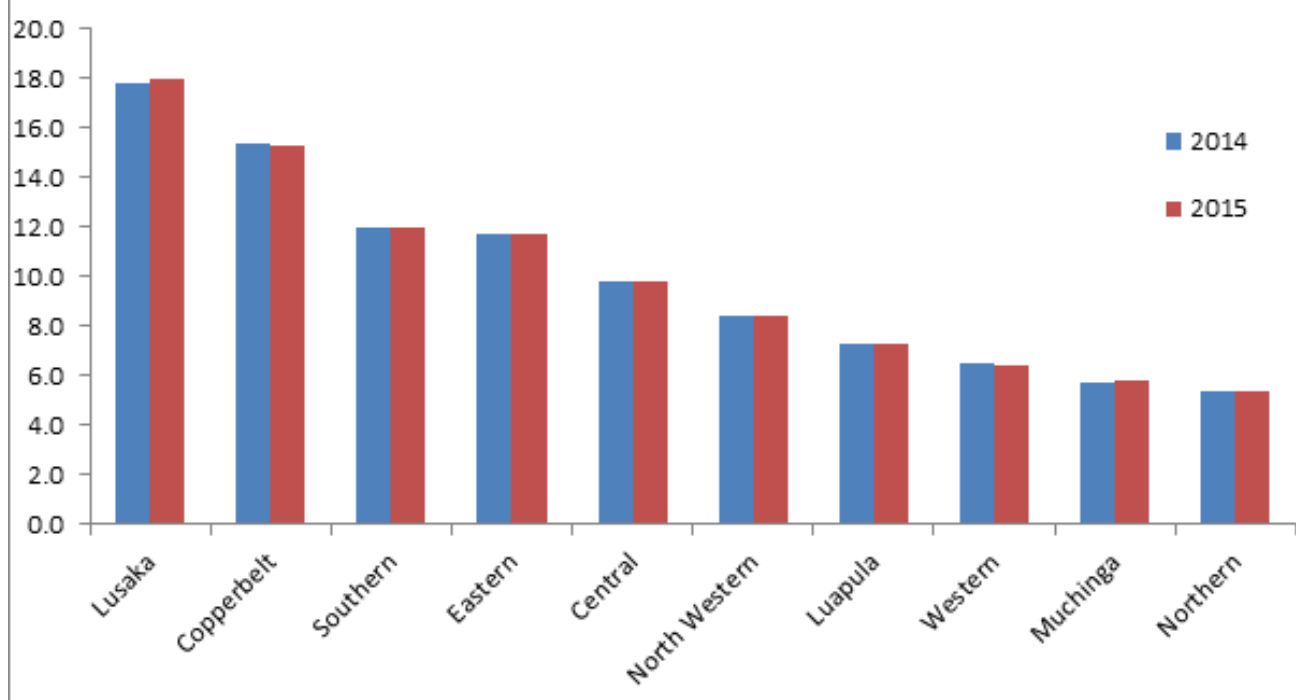
The main indicators for distributing the value added were the sales from the corporate income tax and the 2014 Labour Force Survey data. The corporate income tax data has a variable "location of business"; this variable was used to allocate the establishment's sales to the appropriate province. However, the data is at enterprise (headquarters) level. Below is a brief presentation of selected indicators for 2014 and 2015 by province

2.3.1 Population by province

One of the objectives of provincial GDP estimates is to facilitate resource allocation across provinces. A possible indicator for such facilitation is provincial population distribution.

Figure 1 shows the population distribution by province. The province with the highest population is Lusaka followed by Copperbelt, Southern, Eastern and Central Provinces. The least populated province is Northern Province.

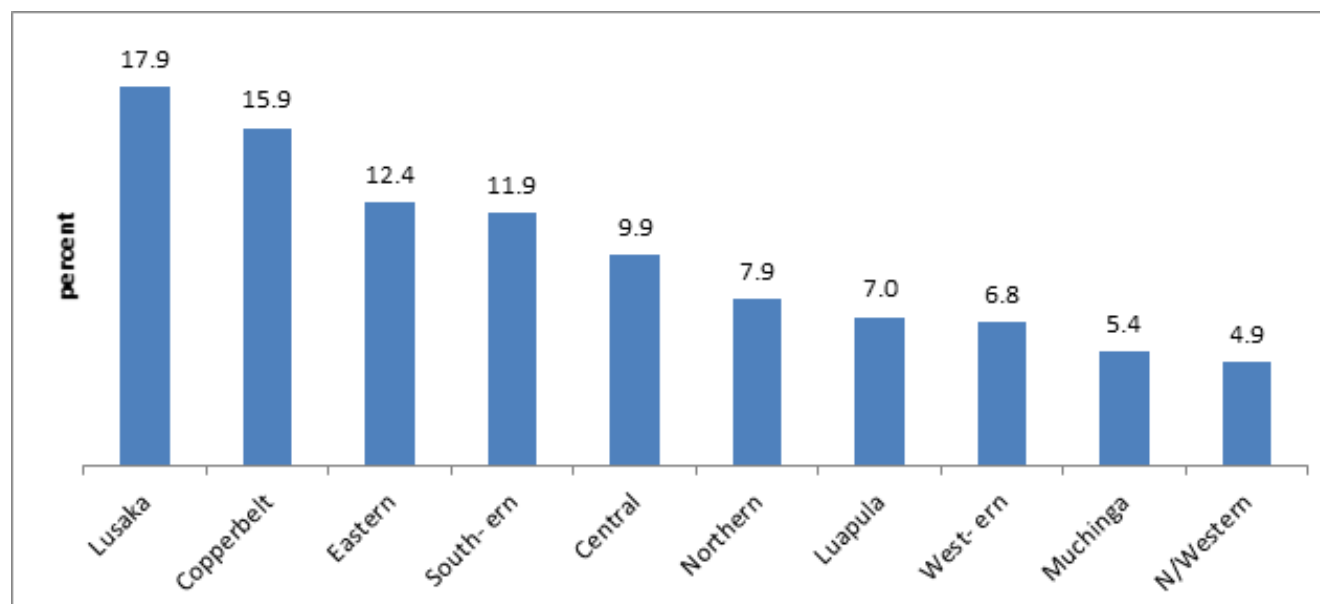
Figure 1: Percentage distribution of population by Province, 2014



2.3.2 Employment by province

Figure 2 shows the percentage distribution of employment by province. The province with the highest employment is Lusaka followed by Copperbelt, Eastern, Southern and Central Provinces. The least employment rate is observed in North-Western province.

Figure 2: Percentage distribution of employment by Province, 2014



Source: 2014 Labour force

2.3.3 Number of companies and sales by province

Table 1 shows the distribution of formal registered companies that submits their sales value by province. The province with the highest sales value is Lusaka followed by Copperbelt, North-Western, Southern and Central Provinces. The least employment sales value is observed in Muchinga province.

Table 1: Number of Companies and their Sales by Province,

Province	Number of Companies	2014 (K' Million).	2015 (K' Million).
Lusaka	6,878	73,196.6	92,646.6
Copperbelt	3,623	60,267.1	72,640.4
N/Western	74	17,345.1	20,805.2
Southern	399	3,951.0	5,065.1
Central	258	1,670.9	1,786.2
Eastern	119	1,608.0	1,833.6
Luapula	28	117.0	151.5
Western	22	87.6	70.0
Northern	38	54.8	95.9
Muchinga	26	45.7	51.8
Total	11,465	158,343.8	195,146.2

Source: CSO, National Accounts.

2.3.4 Maize production by province

Figure 3 shows Maize production in metric tonnes by province. The province with the highest Maize production is Eastern followed by Central, Southern and Northern provinces. The least production is observed in Western province.

Figure 3: Maize production by Province, 2014 and 2015

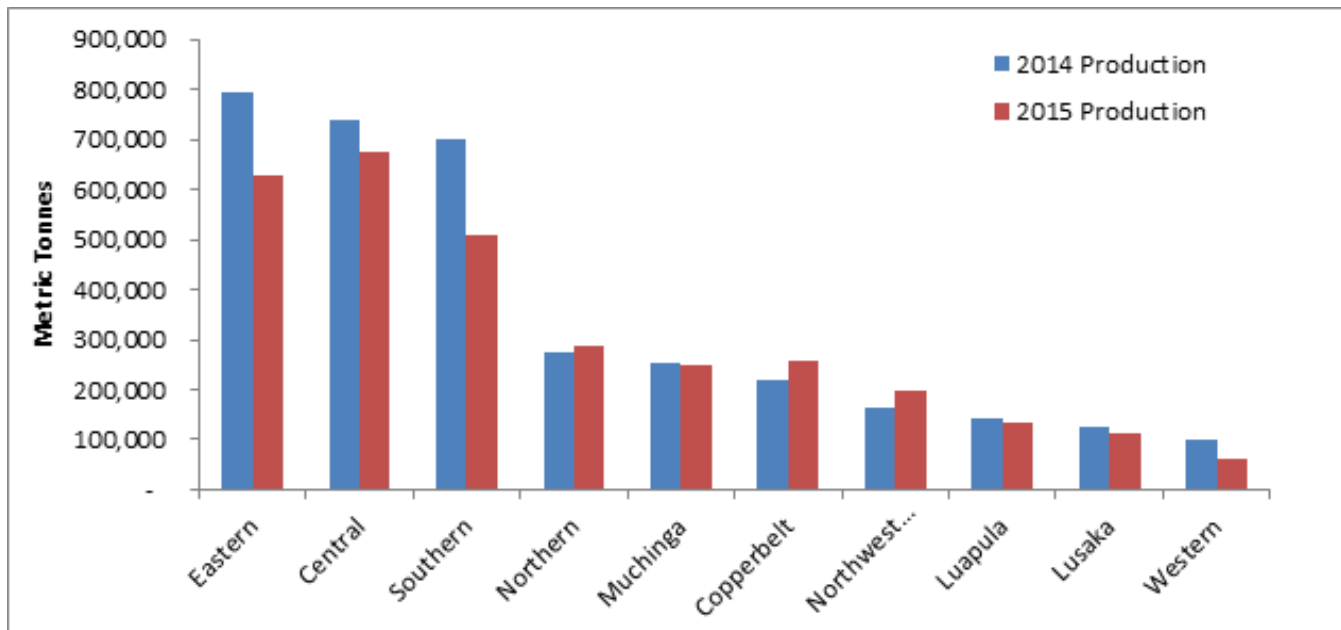


Table 2 summarises the indicators used in distributing the national level value added to the provincial value added by industry.

Table 2: Indicators used for each industry	
Industry	Indicator used
Agriculture, forestry and fishing	
Agriculture	Crop production /Livestock stocks by Province
Forestry & Logging	Forestry Sales
Fishing & Aquaculture	Fish catch by province
Mining and quarrying	Sales estimates.
Manufacturing	Sales estimates.
Electricity generation	Generation from provinces.
Water supply; Sewerage	Volumes of water from provinces.
Construction	Employment from LFS 2014.
Wholesale and retail trade	Employment from LFS 2014.
Transportation and storage	Sales estimates.
Accommodation and food service	Sales estimates.
Information and communication	Employment from LFS 2014.
Financial and insurance activities	Employment from LFS 2014.
Real estate activities	Population by provinces.
Professional, scientific	Sales estimates.
Administrative and support	Employment from LFS 2014.
Public administration and defence;	Employment from LFS 2014.
Education	Employment from LFS 2014.
Human health and social work	Employment from LFS 2014.
Art, entertainment and recreation	Employment from LFS 2014.
Other service	Population by provinces.

3.0 2014 RESULTS

In evaluating the contribution of each province to the National GDP, results in table 3 show that Copperbelt and Lusaka Provinces accounted for more than half of the National GDP at current prices in 2014. Luapula Province had the least share of the National GDP contributing 2.7 percent.

Table 3: Provincial GDP and percent shares at current prices, 2014

Province	K'Million	Shares
Copperbelt	49,019.4	29.3
Lusaka	45,504.8	27.2
Southern	16,871.4	10.1
North-western	13,589.2	8.1
Central	12,025.7	7.2
Eastern	9,025.1	5.4
Northern	6,148.0	3.7
Muchinga	5,184.6	3.1
Western	5,096.6	3.1
Luapula	4,587.7	2.7
Total	167,052.5	100.0

Figure 4: Provincial GDP and percent shares, 2014.

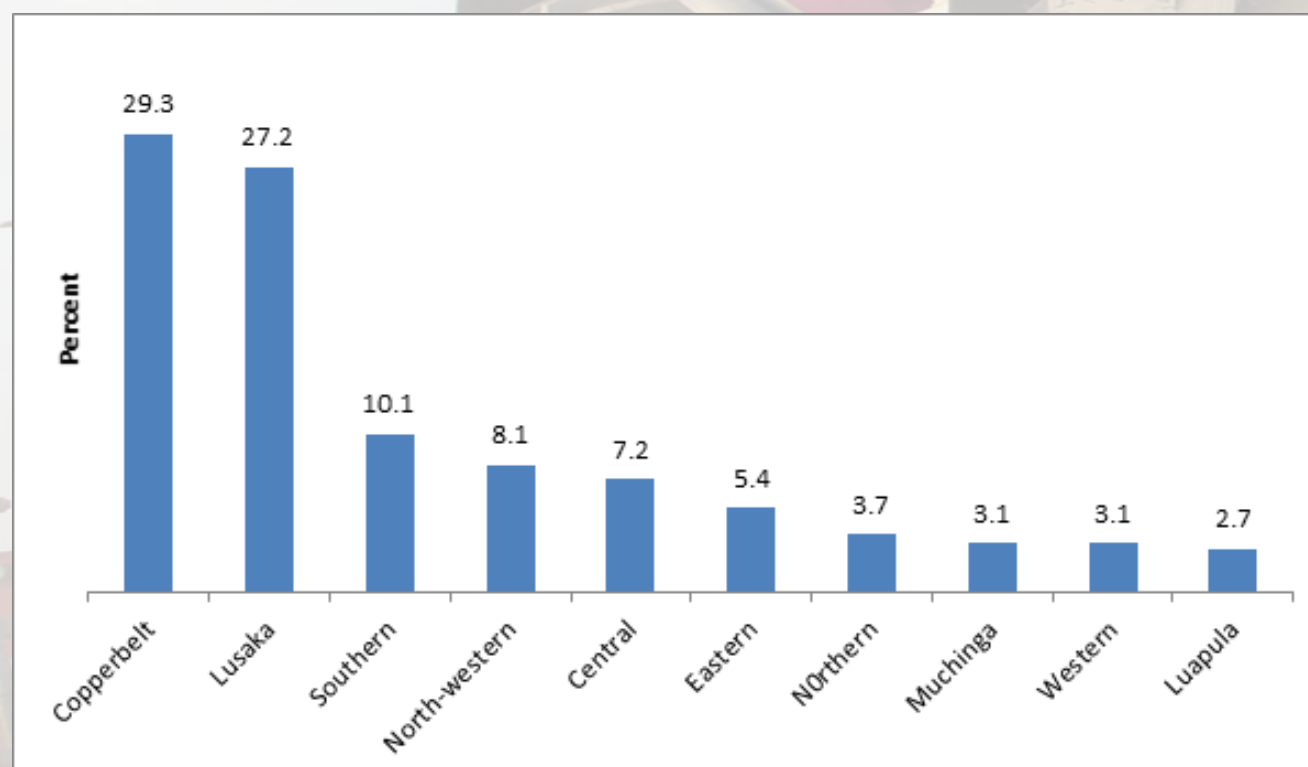


Table 4: Provincial Gross Value Added by production at current prices 2014

Industry	Central	Copper-belt	Eastern	Luapula	Lusaka	Muchinga	Northern	N/Western	Southern	Western	Total
Agriculture, forestry and fishing	2,372.4	1,734.3	1,916.5	492.9	531.2	607.7	861.5	314.9	1,916.7	577.5	11,325.5
Mining and quarrying	14.3	14,426.6	0.0	0.0	519.1	0.0	0.0	9,425.7	63.9	0.0	24,449.6
Manufacturing	146.8	6,183.0	2.7	0.0	4,334.3	0.0	0.1	3.1	722.7	0.2	11,393.0
Electricity generation	98.2	0.0	0.0	6.6	0.7	0.0	1.2	3.4	3,852.5	0.7	3,963.3
Water supply; Sewerage	16.9	166.4	5.0	3.5	96.4	4.1	8.2	4.5	17.9	6.8	329.8
Construction	902.8	2,516.0	1,070.4	773.7	5,989.4	823.8	451.7	441.7	1,312.7	616.3	14,898.6
Wholesale and retail trade;	3,642.7	8,350.3	2,260.4	1,322.0	11,686.3	1,144.4	2,376.7	898.6	3,125.4	1,609.2	36,415.9
Transportation and storage	276.7	2,945.8	21.2	0.0	2,641.3	0.0	0.0	0.0	111.9	0.8	5,997.7
Accommodation and food service	37.2	180.7	30.5	3.8	1,967.9	0.0	0.5	4.8	525.6	3.5	2,754.5
Information and communication	331.5	1,063.8	138.3	0.0	1,392.8	119.7	0.0	108.1	530.9	150.9	3,836.0
Financial and insurance activities	361.2	1,738.6	226.0	127.8	2,276.3	97.8	0.0	88.4	216.9	123.3	5,256.3
Real estate activities	694.7	1,016.1	796.1	460.6	1,358.3	393.2	544.1	351.0	815.6	446.0	6,875.8
Professional, scientific	5.1	261.1	29.7	0.0	2,322.4	0.0	0.0	210.2	29.7	0.0	2,858.2
Administrative and support	43.2	369.6	108.1	20.4	596.2	46.8	11.4	42.3	34.6	9.8	1,282.3
Public administration and defence;	469.8	2,261.5	294.0	249.4	1,903.5	890.8	279.1	229.8	564.3	240.6	7,382.9
Education	1,245.2	2,536.1	1,138.9	610.3	3,104.9	493.0	721.0	913.9	1,668.4	654.0	13,085.7
Human health and social work	140.5	386.6	175.9	42.6	686.9	119.7	79.5	206.3	241.2	96.0	2,175.2
Art, entertainment and recreation	0.0	151.1	0.0	0.0	282.7	34.0	0.0	15.4	37.7	0.0	521.0
Other service	96.3	140.8	110.3	63.8	188.2	54.5	75.4	48.6	113.0	61.8	952.6
Total for the economy	10,895.5	46,428.6	8,323.8	4,177.6	41,878.9	4,829.5	5,410.6	13,310.4	15,901.7	4,597.3	155,753.8
Taxes less subsidies on products	1,130.2	2,590.8	701.3	410.2	3,625.9	355.1	737.4	278.8	969.7	499.3	11,298.7
Gross Domestic Product (GDP) at Market prices	12,025.7	49,019.4	9,025.1	4,587.7	45,504.8	5,184.6	6,148.0	13,589.2	16,871.4	5,096.6	167,052.5

3.1 Percentage Distribution of Industries Across Provinces, 2014.

Results from table 5 show that Copperbelt and Lusaka dominated most industries. However, the Agriculture, Forestry & Fishing industry was largely dominated by Central, Copperbelt, Eastern and Southern Provinces contributing 20.9 percent, 15.3 percent, 16.9 percent and 16.9 percent respectively. The Mining industry was driven by Copperbelt and North-Western Provinces contributing 59.0 percent and 38.6 percent respectively.

Table 5: Percentage Distribution of Industrial Activities Across Provinces, 2014

Industry	Central	Copper-belt	Eastern	Luapula	Lusaka	Muchinga	Northern	N/Western	Southern	Western	Total
Agriculture, forestry and fishing	20.9	15.3	16.9	4.4	4.7	5.4	7.6	2.8	16.9	5.1	100.0
Mining and quarrying	0.1	59.0	0.0	0.0	2.1	0.0	0.0	38.6	0.3	0.0	100.0
Manufacturing	1.3	54.3	0.0	0.0	38.0	0.0	0.0	0.0	6.3	0.0	100.0
Electricity generation	2.5	0.0	0.0	0.2	0.0	0.0	0.0	0.1	97.2	0.0	100.0
Water supply; Sewerage	5.1	50.5	1.5	1.1	29.2	1.2	2.5	1.4	5.4	2.1	100.0
Construction	6.1	16.9	7.2	5.2	40.2	5.5	3.0	3.0	8.8	4.1	100.0
Wholesale and retail trade;	10.0	22.9	6.2	3.6	32.1	3.1	6.5	2.5	8.6	4.4	100.0
Transportation and storage	4.6	49.1	0.4	0.0	44.0	0.0	0.0	0.0	1.9	0.0	100.0
Accommodation and food service	1.4	6.6	1.1	0.1	71.4	0.0	0.0	0.2	19.1	0.1	100.0
Information and communication	8.6	27.7	3.6	0.0	36.3	3.1	0.0	2.8	13.8	3.9	100.0
Financial and insurance activities	6.9	33.1	4.3	2.4	43.3	1.9	0.0	1.7	4.1	2.3	100.0
Real estate activities	10.1	14.8	11.6	6.7	19.8	5.7	7.9	5.1	11.9	6.5	100.0
Professional, scientific	0.2	9.1	1.0	0.0	81.3	0.0	0.0	7.4	1.0	0.0	100.0
Administrative and support	3.4	28.8	8.4	1.6	46.5	3.6	0.9	3.3	2.7	0.8	100.0
Public administration and defence;	6.4	30.6	4.0	3.4	25.8	12.1	3.8	3.1	7.6	3.3	100.0
Education	9.5	19.4	8.7	4.7	23.7	3.8	5.5	7.0	12.7	5.0	100.0
Human health and social work	6.5	17.8	8.1	2.0	31.6	5.5	3.7	9.5	11.1	4.4	100.0
Art, entertainment and recreation	0.0	29.0	0.0	0.0	54.3	6.5	0.0	2.9	7.2	0.0	100.0
Other service	10.1	14.8	11.6	6.7	19.8	5.7	7.9	5.1	11.9	6.5	100.0
Total for the economy	7.0	29.8	5.3	2.7	26.9	3.1	3.5	8.5	10.2	3.0	100.0
Taxes less subsidies on products	10.0	22.9	6.2	3.6	32.1	3.1	6.5	2.5	8.6	4.4	100.0
Gross Domestic Product (GDP) at Market prices	7.2	29.3	5.4	2.7	27.2	3.1	3.7	8.1	10.1	3.1	100.0

3.2 Percentage Distribution of Industries Within Each Province, 2014.

Table 6 shows the percentage distribution of industries within each Province in 2014. The results show that in most provinces, Wholesale & retail trade industry was the major industry contributing more than 20 percent to the respective Provincial GDPs except for Copperbelt, North-Western and Southern Provinces.

In Copperbelt and North-Western provinces, the major industry was Mining contributing 29.4 and 69.4 percent to the provincial GDP respectively. In Southern province the major industry contributing industry to its provincial GDP was Electricity and gas at 22.8 percent.

Other major industry contributing to GDP within the Provinces were Agriculture, Fishing & Forestry, Construction and Education

In Central, Eastern and Northern Provinces the second major industry following Wholesale & retail trade was Agriculture, Fishing & Forestry industries with a contribution of 19.7 percent, 21.2 percent and 14.0 percent to their provincial GDP respectively. In Luapula and Lusaka provinces, construction was the second major industry contributing 16.9 percent and 13.2 percent respectively. The second most important industry in Muchinga Province was Public Administrating contributing 17.2 percent; Meanwhile Western province had education contributing 12.8 percent.

Table 6: Percentage Distribution of Industrial Activities within each Province, 2014

Industry	Central	Copper-belt	Eastern	Luapula	Lusaka	Muchinga	Northern	N/Western	South-ern	Western	Total
Agriculture, forestry and fishing	19.7	3.5	21.2	10.7	1.2	11.7	14.0	2.3	11.4	11.3	6.8
Mining and quarrying	0.1	29.4	0.0	0.0	1.1	0.0	0.0	69.4	0.4	0.0	14.6
Manufacturing	1.2	12.6	0.0	0.0	9.5	0.0	0.0	0.0	4.3	0.0	6.8
Electricity generation	0.8	0.0	0.0	0.1	0.0	0.0	0.0	0.0	22.8	0.0	2.4
Water supply; Sewerage	0.1	0.3	0.1	0.1	0.2	0.1	0.1	0.0	0.1	0.1	0.2
Construction	7.5	5.1	11.9	16.9	13.2	15.9	7.3	3.3	7.8	12.1	8.9
Wholesale and retail trade;	30.3	17.0	25.0	28.8	25.7	22.1	38.7	6.6	18.5	31.6	21.8
Transportation and storage	2.3	6.0	0.2	0.0	5.8	0.0	0.0	0.0	0.7	0.0	3.6
Accommodation and food service	0.3	0.4	0.3	0.1	4.3	0.0	0.0	0.0	3.1	0.1	1.6
Information and communication	2.8	2.2	1.5	0.0	3.1	2.3	0.0	0.8	3.1	3.0	2.3
Financial and insurance activities	3.0	3.5	2.5	2.8	5.0	1.9	0.0	0.7	1.3	2.4	3.1
Real estate activities	5.8	2.1	8.8	10.0	3.0	7.6	8.9	2.6	4.8	8.8	4.1
Professional, scientific	0.0	0.5	0.3	0.0	5.1	0.0	0.0	1.5	0.2	0.0	1.7
Administrative and support	0.4	0.8	1.2	0.4	1.3	0.9	0.2	0.3	0.2	0.2	0.8
Public administration and defence;	3.9	4.6	3.3	5.4	4.2	17.2	4.5	1.7	3.3	4.7	4.4
Education	10.4	5.2	12.6	13.3	6.8	9.5	11.7	6.7	9.9	12.8	7.8
Human health and social work	1.2	0.8	1.9	0.9	1.5	2.3	1.3	1.5	1.4	1.9	1.3
Art, entertainment and recreation	0.0	0.3	0.0	0.0	0.6	0.7	0.0	0.1	0.2	0.0	0.3
Other service	0.8	0.3	1.2	1.4	0.4	1.1	1.2	0.4	0.7	1.2	0.6
Total for the economy	90.6	94.7	92.2	91.1	92.0	93.2	88.0	97.9	94.3	90.2	93.2
Taxes less subsidies on products	9.4	5.3	7.8	8.9	8.0	6.8	12.0	2.1	5.7	9.8	6.8
Gross Domestic Product (GDP) at Market prices	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

4.0 2015 RESULTS

Results show that Copperbelt and Lusaka Provinces accounted for more than half of the National GDP at current prices in 2015. Luapula and Western Provinces had the least share of the National GDP contributing 2.8 percent and 3.0 percent, respectively.

Table 7: Provincial GDP and percent shares, 2015.

Province	K'Million	Shares
Copperbelt	52,979.4	28.9
Lusaka	52,186.7	28.5
Southern	19,484.0	10.6
North-Western	13,760.1	7.5
Central	12,624.1	6.9
Eastern	9,475.7	5.2
Northern	6,589.6	3.6
Muchinga	5,715.5	3.1
Western	5,448.8	3.0
Luapula	5,117.2	2.8
Total	183,381.1	100.0

Figure 5: Provincial GDP and percent shares, 2015.

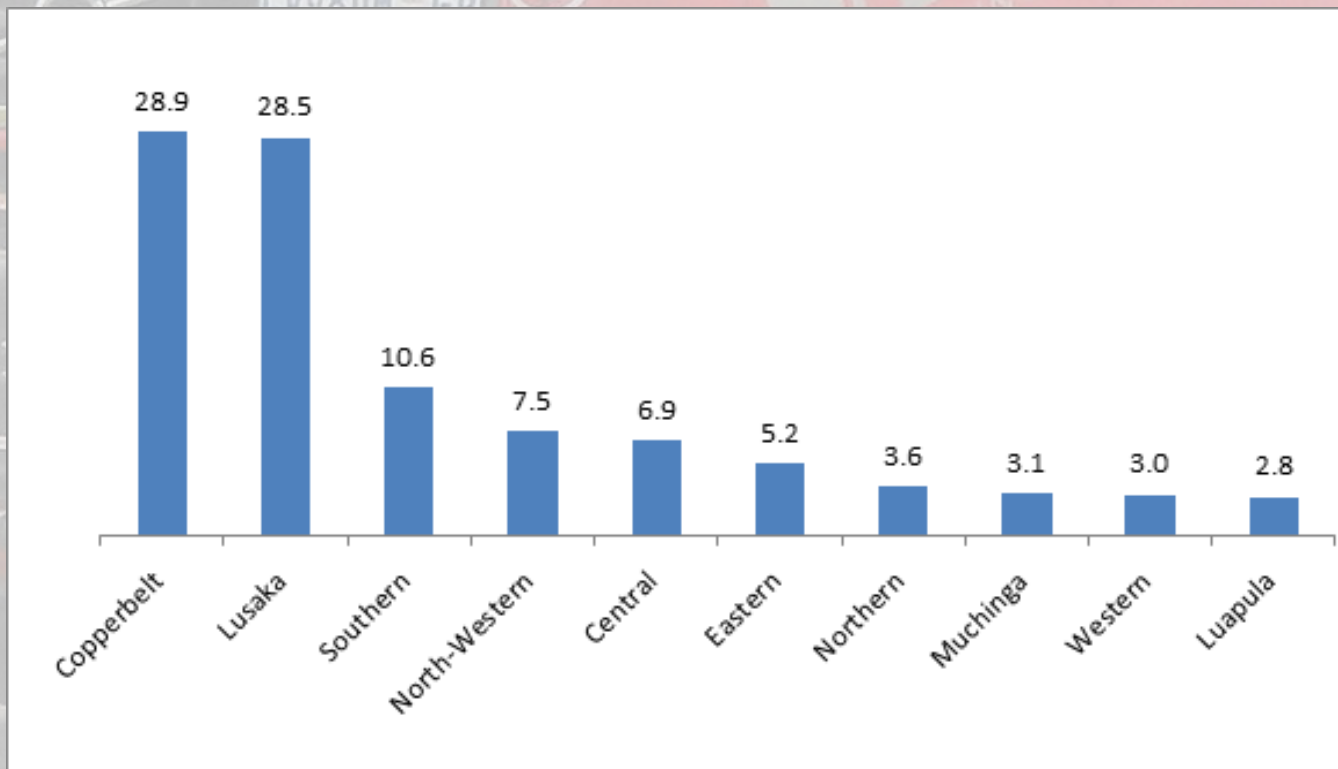


Table 8: Provincial Gross Value Added by production at current prices (K' Million), 2015.

Industry	Central	Copper-belt	Eastern	Luapula	Lusaka	Muchinga	Northern	N/Western	Southern	Western	Total
Agriculture, forestry and fishing	1,841.4	1,869.3	1,370.1	462.2	396.3	496.5	744.2	293.4	1,323.8	336.7	9,133.9
Mining and quarrying	4.7	13,572.5	0.0	0.0	396.3	0.0	0.0	9,185.1	85.6	0.0	23,244.2
Manufacturing	83.3	6,745.6	3.1	0.0	5,982.2	0.0	1.2	0.7	978.1	0.4	13,794.5
Electricity generation	117.1	159.6	0.0	10.2	1.2	0.0	11.8	7.1	5,356.0	1.4	5,664.4
Water supply; Sewerage	18.1	206.0	6.7	2.8	93.7	4.1	8.3	6.0	22.0	5.6	373.2
Construction	1,129.8	3,148.8	1,339.6	968.3	7,495.8	1,031.0	565.3	552.8	1,642.8	771.4	18,645.6
Wholesale and retail trade;	4,087.3	9,369.6	2,536.3	1,483.3	13,112.8	1,284.0	2,666.8	1,008.3	3,506.9	1,805.7	40,861.1
Transportation and storage	334.3	3,754.2	25.6	0.0	2,965.1	0.0	0.0	0.0	187.5	0.2	7,266.9
Accommodation and food service	34.3	184.8	42.4	6.1	2,234.3	0.0	5.7	2.9	562.1	2.4	3,075.0
Information and communication	460.6	1,478.1	192.1	0.0	1,935.2	166.4	0.0	150.2	737.6	209.6	5,329.8
Financial and insurance activities	487.7	2,348.0	305.2	172.7	3,074.2	132.1	0.0	119.3	292.9	166.5	7,098.7
Real estate activities	893.3	1,306.5	1,023.6	592.2	1,746.5	505.6	699.6	451.3	1,048.6	573.5	8,840.7
Professional, scientific	4.9	209.4	36.5	0.0	2,220.7	0.0	0.0	149.7	20.7	0.0	2,641.9
Administrative and support	55.2	472.1	138.1	26.0	761.6	59.8	14.6	54.0	44.2	12.6	1,638.1
Public administration and defence;	515.6	2,482.1	322.7	273.8	2,089.1	977.7	306.4	252.3	619.3	264.0	8,103.1
Education	1,368.7	2,787.6	1,251.8	670.9	3,412.8	541.9	792.4	1,004.5	1,833.8	718.8	14,383.2
Human health and social work	155.3	427.2	194.4	47.1	759.1	132.2	87.9	228.0	266.5	106.0	2,403.7
Art, entertainment and recreation	0.0	165.5	0.0	0.0	309.5	37.2	0.0	16.8	41.3	0.0	570.4
Other service	89.4	130.8	102.5	59.3	174.8	50.6	70.0	45.2	105.0	57.4	885.0
Total for the economy	11,681.0	50,817.6	8,890.5	4,775.0	49,161.2	5,419.2	5,974.3	13,527.5	18,674.8	5,032.2	173,953.3
Taxes less subsidies on products	943.1	2,161.8	585.2	342.2	3,025.5	296.3	615.3	232.6	809.1	416.6	9,427.7
Gross Domestic Product (GDP) at Market prices	12,624.1	52,979.4	9,475.7	5,117.2	52,186.7	5,715.5	6,589.6	13,760.1	19,484.0	5,448.8	183,381.1

4.1 Percentage Distribution of Industrial Activities across Provinces, 2015.

Results from tables 9 show that Copperbelt and Lusaka dominated most industries. However, the Agriculture, Forestry & Fishing industry was largely dominated by Copperbelt, Central, Eastern and Southern Provinces contributing 20.5 percent, 20.2 percent, 15.0 percent and 14.5 percent respectively. The Mining was driven by Copperbelt and North-Western Provinces contributing 58.4 percent and 39.5 percent respectively.

Table 9: Percentage Distribution of Industrial Activities across Provinces, 2015.

Industry	Central	Copper-belt	Eastern	Luapula	Lusaka	Muchinga	Northern	N/Western	Southern	Western	Total
Agriculture, forestry and fishing	20.2	20.5	15.0	5.1	4.3	5.4	8.1	3.2	14.5	3.7	100.0
Mining and quarrying	0.0	58.4	0.0	0.0	1.7	0.0	0.0	39.5	0.4	0.0	100.0
Manufacturing	0.6	48.9	0.0	0.0	43.4	0.0	0.0	0.0	7.1	0.0	100.0
Electricity generation	2.1	2.8	0.0	0.2	0.0	0.0	0.2	0.1	94.6	0.0	100.0
Water supply; Sewerage	4.9	55.2	1.8	0.8	25.1	1.1	2.2	1.6	5.9	1.5	100.0
Construction	6.1	16.9	7.2	5.2	40.2	5.5	3.0	3.0	8.8	4.1	100.0
Wholesale and retail trade;	10.0	22.9	6.2	3.6	32.1	3.1	6.5	2.5	8.6	4.4	100.0
Transportation and storage	4.6	51.7	0.4	0.0	40.8	0.0	0.0	0.0	2.6	0.0	100.0
Accommodation and food service	1.1	6.0	1.4	0.2	72.7	0.0	0.2	0.1	18.3	0.1	100.0
Information and communication	8.6	27.7	3.6	0.0	36.3	3.1	0.0	2.8	13.8	3.9	100.0
Financial and insurance activities	6.9	33.1	4.3	2.4	43.3	1.9	0.0	1.7	4.1	2.3	100.0
Real estate activities	10.1	14.8	11.6	6.7	19.8	5.7	7.9	5.1	11.9	6.5	100.0
Professional, scientific	0.2	7.9	1.4	0.0	84.1	0.0	0.0	5.7	0.8	0.0	100.0
Administrative and support	3.4	28.8	8.4	1.6	46.5	3.6	0.9	3.3	2.7	0.8	100.0
Public administration and defence;	6.4	30.6	4.0	3.4	25.8	12.1	3.8	3.1	7.6	3.3	100.0
Education	9.5	19.4	8.7	4.7	23.7	3.8	5.5	7.0	12.7	5.0	100.0
Human health and social work	6.5	17.8	8.1	2.0	31.6	5.5	3.7	9.5	11.1	4.4	100.0
Art, entertainment and recreation	0.0	29.0	0.0	0.0	54.3	6.5	0.0	2.9	7.2	0.0	100.0
Other service	10.1	14.8	11.6	6.7	19.8	5.7	7.9	5.1	11.9	6.5	100.0
Total for the economy	6.7	29.2	5.1	2.7	28.3	3.1	3.4	7.8	10.7	2.9	100.0
Taxes less subsidies on products	10.0	22.9	6.2	3.6	32.1	3.1	6.5	2.5	8.6	4.4	100.0
Gross Domestic Product (GDP) at Market prices	6.9	28.9	5.2	2.8	28.5	3.1	3.6	7.5	10.6	3.0	100.0

4.2 Percentage Distribution Of Industrial Activities Within Each Province, 2015.

Table 10 shows the industrial specialization within the provinces. The results show that in most provinces, Wholesale & retail trade industry was the major industry contributing more than 20 percent to the respective Provincial GDPs except for Copperbelt, North-Western and Southern Provinces. Copperbelt and North-Western provinces were dominated by Mining and quarrying contributing 25.6 and 66.8 percent to their provincial GDP respectively while Southern province was dominated by Electricity and gas at 27.5 percent.

Other Notable industries contributing to GDP within the Provinces were Agriculture, Fishing & Forestry, Construction and Education

In Central and Eastern Provinces the second major industry following Wholesale & retail trade was Agriculture, Fishing & Forestry industries with a contribution of 14.6 and 14.5 percent to their provincial GDP respectively. In Luapula, Lusaka, Muchinga and Western provinces, construction was the second major industry contributing 18.9 percent, 14.4 percent, 18.0 percent and 14.2 respectively. The next important industry in Northern Province was Education contributing 12.0 percent.

Table 10: Percentage Distribution of Industrial Activities within Each Province, 2015.

Industry	Central	Copper-belt	Eastern	Luapula	Lusaka	Muchinga	Northern	N/Western	Southern	Western	Total
Agriculture, forestry and fishing	14.6	3.5	14.5	9.0	0.8	8.7	11.3	2.1	6.8	6.2	5.0
Mining and quarrying	0.0	25.6	0.0	0.0	0.8	0.0	0.0	66.8	0.4	0.0	12.7
Manufacturing	0.7	12.7	0.0	0.0	11.5	0.0	0.0	0.0	5.0	0.0	7.5
Electricity generation	0.9	0.3	0.0	0.2	0.0	0.0	0.2	0.1	27.5	0.0	3.1
Water supply; Sewerage	0.1	0.4	0.1	0.1	0.2	0.1	0.1	0.0	0.1	0.1	0.2
Construction	8.9	5.9	14.1	18.9	14.4	18.0	8.6	4.0	8.4	14.2	10.2
Wholesale and retail trade;	32.4	17.7	26.8	29.0	25.1	22.5	40.5	7.3	18.0	33.1	22.3
Transportation and storage	2.6	7.1	0.3	0.0	5.7	0.0	0.0	0.0	1.0	0.0	4.0
Accommodation and food service	0.3	0.3	0.4	0.1	4.3	0.0	0.1	0.0	2.9	0.0	1.7
Information and communication	3.6	2.8	2.0	0.0	3.7	2.9	0.0	1.1	3.8	3.8	2.9
Financial and insurance activities	3.9	4.4	3.2	3.4	5.9	2.3	0.0	0.9	1.5	3.1	3.9
Real estate activities	7.1	2.5	10.8	11.6	3.3	8.8	10.6	3.3	5.4	10.5	4.8
Professional, scientific	0.0	0.4	0.4	0.0	4.3	0.0	0.0	1.1	0.1	0.0	1.4
Administrative and support	0.4	0.9	1.5	0.5	1.5	1.0	0.2	0.4	0.2	0.2	0.9
Public administration and defence;	4.1	4.7	3.4	5.4	4.0	17.1	4.6	1.8	3.2	4.8	4.4
Education	10.8	5.3	13.2	13.1	6.5	9.5	12.0	7.3	9.4	13.2	7.8
Human health and social work	1.2	0.8	2.1	0.9	1.5	2.3	1.3	1.7	1.4	1.9	1.3
Art, entertainment and recreation	0.0	0.3	0.0	0.0	0.6	0.7	0.0	0.1	0.2	0.0	0.3
Other service	0.7	0.2	1.1	1.2	0.3	0.9	1.1	0.3	0.5	1.1	0.5
Total for the economy	92.5	95.9	93.8	93.3	94.2	94.8	90.7	98.3	95.8	92.4	94.9
Taxes less subsidies on products	7.5	4.1	6.2	6.7	5.8	5.2	9.3	1.7	4.2	7.6	5.1
Gross Domestic Product (GDP) at Market prices	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

5.0 CONCLUSION

Results show that Copperbelt and Lusaka Provinces accounted for more than half of the National GDP at current prices in 2014 and 2015. Luapula and Muchinga Provinces had the least share of the National GDP contributing 2.7 percent and 3.1 percent, respectively in 2014 while Luapula and Western Provinces had the least share of the National GDP contributing 2.8 percent and 3.0 percent, respectively in 2015.

The major industry contributing to provincial GDP is wholesale and retail trade. Other notable industries are Agriculture, Forestry & Fishing, Mining, Construction, Education and Electricity generation. Conceptual difficulties outlined in this paper partially explain why no country establishes a complete SNA accounts for every region. Regional accounts are usually limited to recording production activities by industry. Despite the limitations mentioned above, Regional/Provincial GDP Estimates are a very useful tool for economic policy.

In order to make the compilation of regional GDP easier, there may be need to revise the Accounting Law and the Statistics Act so that companies are compelled to produce establishment level accounts.

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