EMPLOYMENT CREATION POTENTIAL IN MANUFACTURING, AGRICULTURE & TOURISM SECTORS AND YOUTH LABOUR FORCE SKILLS AUDIT:
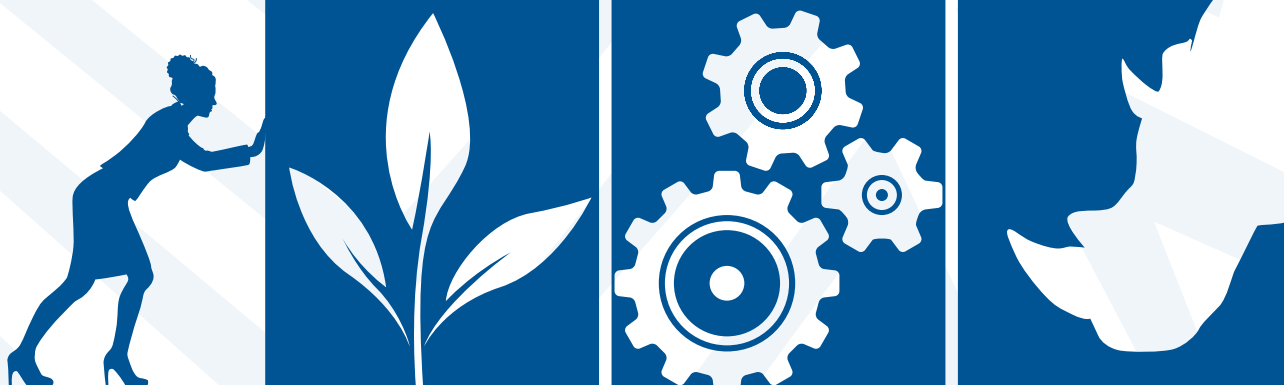A Botswana Case Study.

ACRONYMS

ILES	Institute for Labour and Employment Studies
FES	Friedrich Ebert Stiftung
ICT	Information and Communication Technology
GDP	Gross Domestic Product
MPC	Monetary Policy Committee
Mo-PR	Monetary Policy Rate
NEET	Share of youth which are neither in employment nor in education or training
WDI	World Development Indicators
ILO	International Labour Organization
LFPR	Labour Force Participation Rate
CBMS	Community Based Monitoring System
IWOSS	Industries without Smokestacks
IHLCS	Integrated Household Living Condition Survey
QMTS	Quarterly Multi-Topic Survey
CMTHS	Continuous Multi-Topic Household Survey
TVET	Technical Vocational Education and Training
USP	Unique Selling Point
HRDC	Human Resource Development Council

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION

1.0   Context

Since gaining independence in 1966, Botswana has experienced rising economic growth rates. However, the sustained impressive economic growth obtained in Botswana has not been accompanied by similar improvements in employment opportunities. Unemployment in Botswana has always been attributed to the lack of economic diversification from the capital intensive mining sector. The heavy reliance on the mining sector has dwarfed other labour intensive sectors of the economy, such as the manufacturing, agriculture and tourism sectors. Furthermore, realization that diamond revenues have a finite lifespan, has underpinned the drive for economic diversification in Botswana. The country's unemployment rate has been increasing from year to year as indicated by reports from Statistics Botswana (2021) an official publication in Botswana that presents information on employment, unemployment, wages from the formal sector, youth employment and unemployement, disability employment and other labour force indicators. The quarterly report indicates that youth labour force decreased by 4.4 percent between quarter 4 2020 and quarter 4 of 2021, from 509,195 to 486,706. Youth unemployment rate went up by 2.0 percent over this period, from 32.4 to 34.4 percent.

A cruciual structural issue of the labour market is job matching, and it deals with the process of allocating individuals to jobs. Matching causes transactional costs because it takes time for a firm with a vacant job to find the right worker or for a given worker to find a suitable job. Success in matching depends on two factors: firstly, search efforts of both sides of the market, and secondly, correspondence of job characteristics on the one hand and profiles of workers on the other hand. Mismatch can be described as "a situation where industries, occupations, locations or groups with different levels of education/skill diverge over time in the unemployment to vacancies ratio" Cedefop (2015, p. 27).. Skill mismatch is one particular form of labour market mismatch and it is "a situation where there is a (qualitative) discrepancy between the qualifications and skills that indi-viduals possess and those that are needed by the labour market" Cedefop (2015, p.27). Many instances can lead to skill mismatch (Walwei, 2016).

To make an inference on unemployment rate by age and gender, it is vital to consider both the development and changes in the labour market over time. Youth unemployment in Botswana surpassed total unemployment in 2016. Diversification and investment in labour intensive industries[1] should therefore be a priority (Matandare,

---

[1]   Labour Intensive Industries refers to processes or firms that require large amounts of labour to produce goods and services.

2018). Botswana's economic growth has not been creating jobs required to reverse the socio-economic tragedy of youth unemployment that the country is currently battling. In the absence of employment creation by the mining sector, it is important for the country to diversify and explore other sectors which are better suited to create jobs and reduce unemployment. A related study by Siphambe H. K. (2003) states that on the demand side, responses of employment to changes in output are quite significant. These results indicate that increasing non-mining GDP is a good way to generate employment. Most of these sectors are labour intensive and therefore have significant employment elasticity vis-a-vis output. The highest response of employment is commerce, which is one of the potential sectors for economic diversification, especially tourism. In recognition of employment and other problems associated with the dominance of diamond mining, economic diversification has always been in the forefront of Botswana Government's development strategy, as indicated by the successive themes of the National Development Plans. Economic diversification has, however, not progressed as fast as anticipated. It is therefore necessary to emphasize and support investment projects that are more labour intensive and have relatively strong links with the rest of the economy.

Botswana's labour market indicates an oversupply of graduates with tertiary education qualifications. Statistics conducted in 2019 indicate that 11,963 individuals graduated from tertiary education institutions in Botswana. Furthermore, formal sector employment by industry recorded by Statistics Botswana (2021), indicate that Public Administration is the largest employer at 22.9 percent, indicating a weak demand for labour by the private sector. Coordination and promotion of employment creation that matches the

qualifications and skills that the youth already obtained helps to reduce unemployment rates and ensures the productive engagement of the youth in the labour market. There is a need to transform the structure of the economy of Botswana to a well-functioning labour market that drives towards inclusive growth that yields productive and sustainable youth employment from low growth and low youth labour absorbing sectors to high growth and high youth labour absorbing sectors.

It is against this background that, FES commissioned ILES to carry out a research study on Em-ployment Creation Potential in Manufacturing, Agriculture & Tourism Sectors and Youth Labour Force Skills Audit: A Botswana Case Study. This study provides an empirical analysis of em-ployment creation potential in manufacturing, agriculture and tourism sectors in Botswana. Fur-thermore, it investigates the potential for growth and youth employment by these sectors through skills audits to establish skills gaps. In addition, it explores ICT skills requirements to estimate inclusive future growth and enhance the participation of youth in the labour force.

1.1 Botswana's Socio-economic Overview

Botswana has been among the world's fastest growing economies over the past 40 years, with an impressive record of prudent macroeconomic policies, which moved the country from being one of the poorest in the world at independence in 1966 to the current rating of upper-middle income range. Real GDP growth averaged 9 percent between 1965/66 and 2005/06, an outstanding and uncontested economic performance record of any country in the world. GDP per capita in current prices in Botswana from 1990-2022, has

also been indicating an upward growth and was 2.94 USD Billion in 1990, 3.17 USD Billion and 6.35 USD Billion in 2005 and 2020 respectively. Pro-jections according to the IMF indicate that GDP per capita at current prices is expected to reach 7.35 USD Billion by the end of 2025 (see Figure 1).

The country is one of the longest liberal democracies in Africa with good governance in comparison to other countries in the region and a market-based economy that has very strong checks and balances, notably for ensuring public accountability and rules for both public spending and general economic management. Known for huge reserves of mineral wealth, especially diamonds, which are the main engine of economic development, the country's economic growth has been steered in a manner that has largely avoided both the resource curse[2] and "mineral-led economy syndrome"- the Dutch disease. However the country's exceptional real GDP growth rate, sustained since inde-pendence in 1966, has had limited impact on economic diversification and, most importantly, on alleviating high unemployment/poverty levels which are relatively high for a country with this level of GDP per Capita income (Maipose, 2008).

**Figure 1:** Gross Domestic Product (GDP) in Current Prices
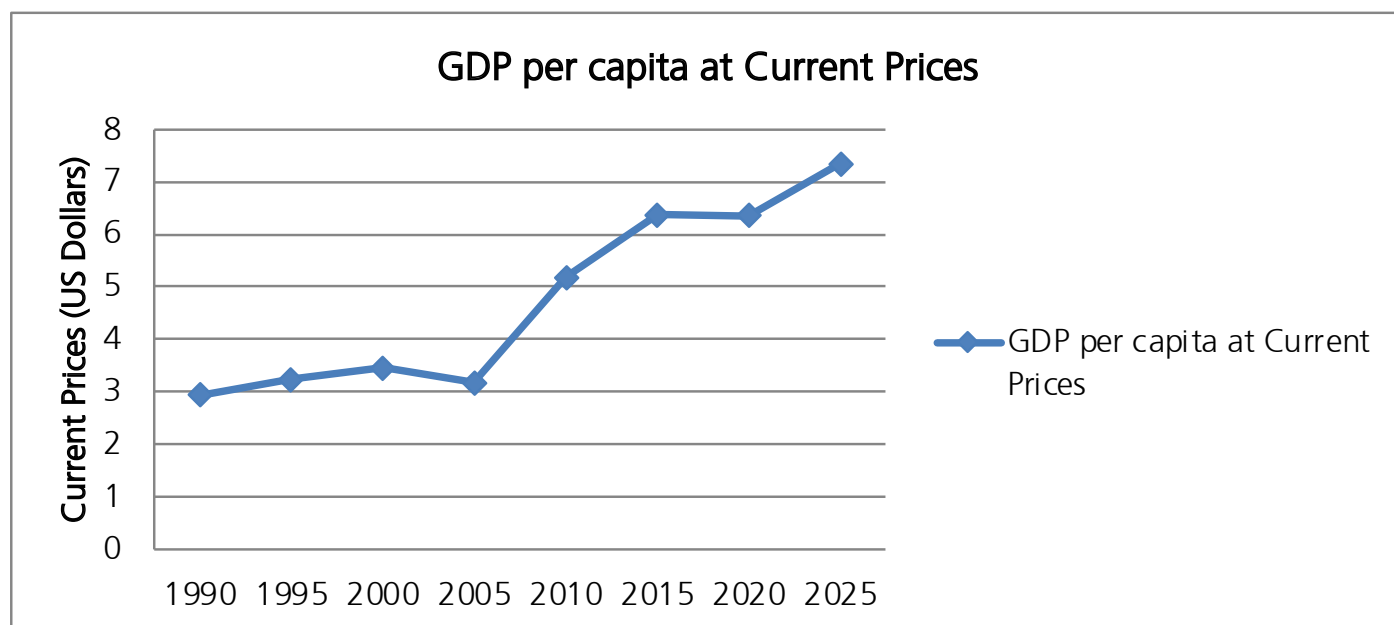
Source: Modeled from International Monetary Fund (IMF), DATAMAPPER October 2022

_____

2   Resource Curse, also known as the paradox of plenty, is a phenomenon of countries with an abundance of natural resources having less economic growth, less democracy, or worse development outcomes than countries with fewer natural resources.

Figure 2: Value Added to GDP by Economic Activity at Current Prices (2019-2021)
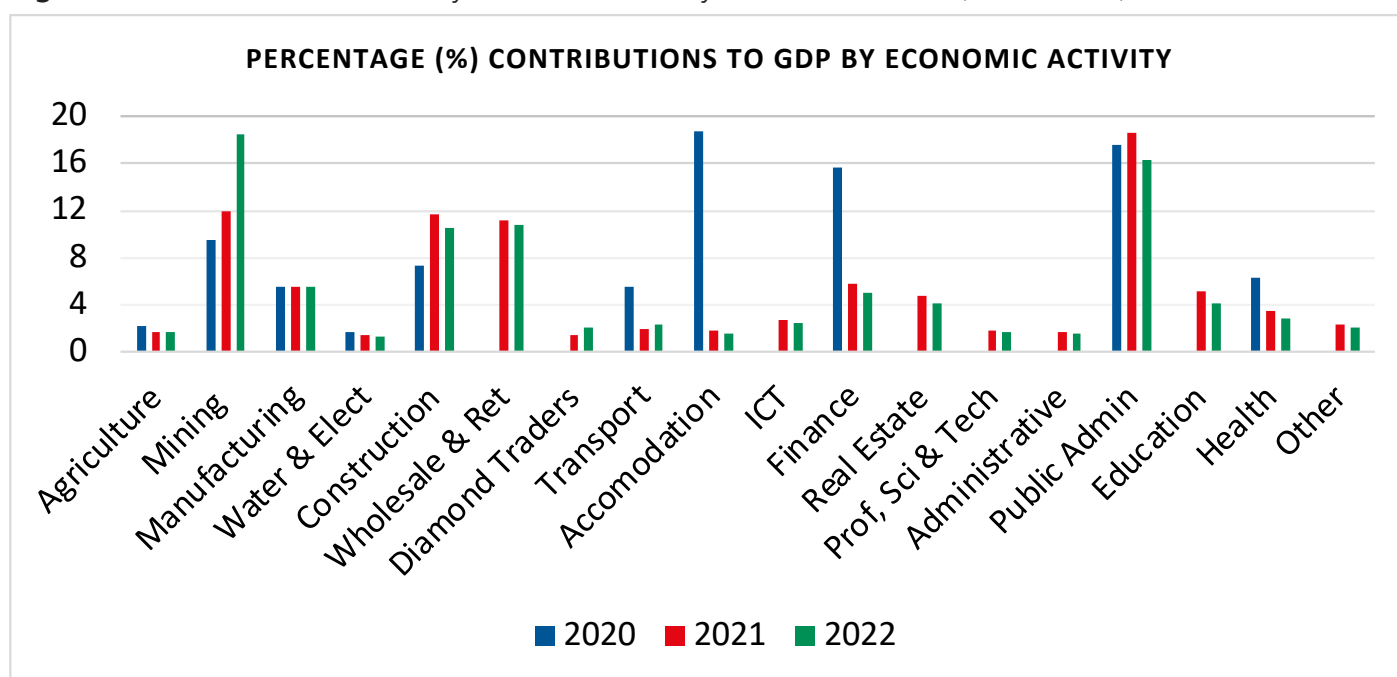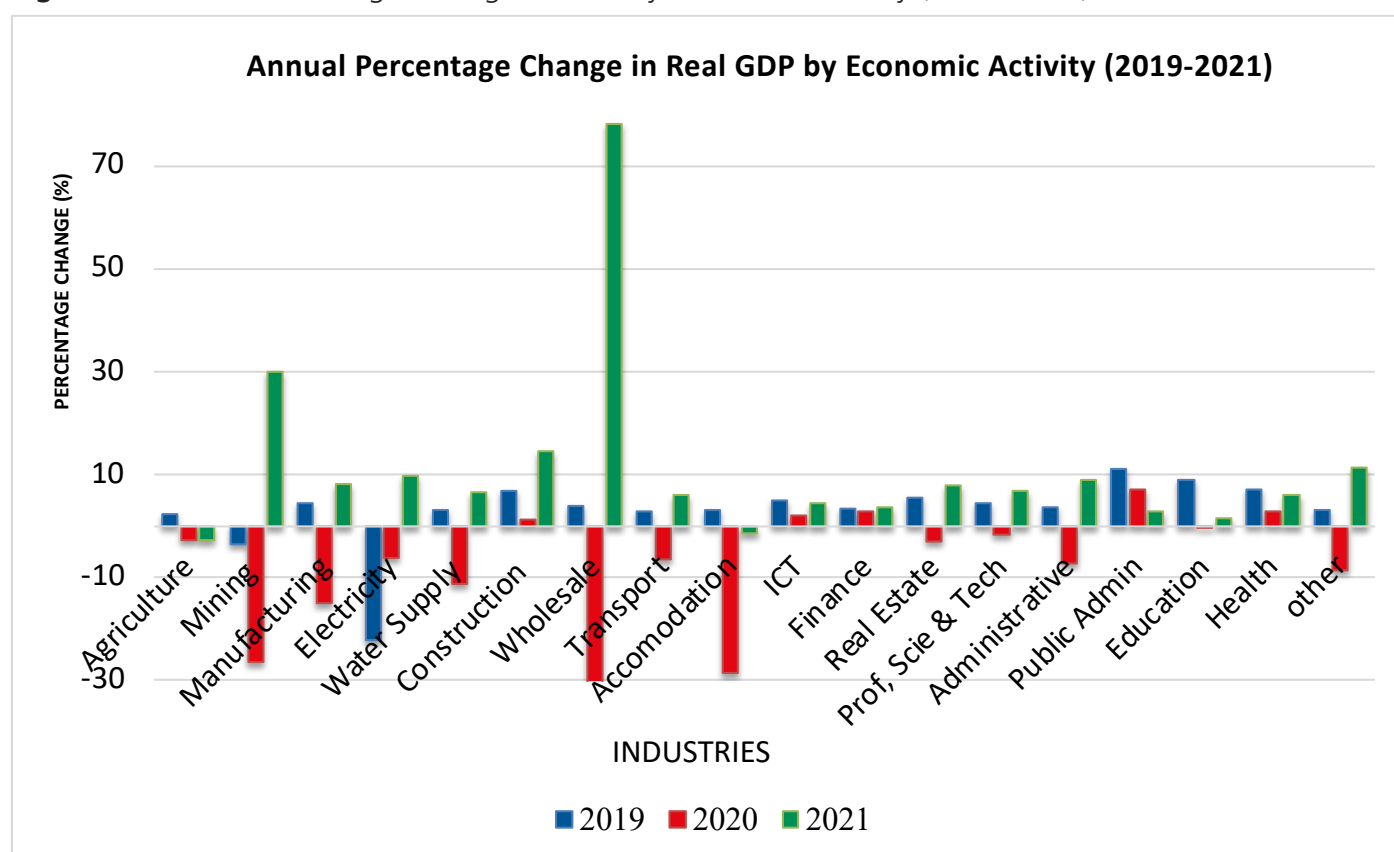

Source: Modeled from; Statistics Botswana, Gross Domestic Product Report Q3, 2020,2021&2022

Contribution to GDP by industry is shown on Figure 2. In 2021, Public Administration & Defence Sector remained the major contributor to GDP at 18.8 percent followed by Construction, Wholesale & Retail and Mining & Quarrying by 11.6, 11.5 and 11.4 percent respectively (Statistics Botswana, 2021).

Due to measures put in place to combat Covid-19, real GDP declined by 8.7 percent in 2020 but rose again by 11.4 percent in 2021. As shown in Figure 3 the growth can mainly be attributed to real value added of Diamond Traders, Mining & Quarrying and Wholesale & Retail which in-creased by 78.0, 29.9 and 14.6 percent respectively. The positive growth is due to higher demand for diamonds on global markets and sales appetite during the year 2021. The increase of 29.9 percent in the real value added of the Mining and Quarrying industry was mainly due to the significant growth in the real value added of Diamond by 31.4 percent. Recently high inflation posed further challenges for Botswana. Inflation increased from 12.7 percent in June 2022 to 14.3 percent in July 2022, the highest value since the December 2008 figure of (13.7 percent), remaining above the medium term objective range of 3-6 percent. The latest in-crease in inflation was broad-based across all categories of goods and services and was especially pronounced in domestic fuel prices and Air Botswana passenger fares. The Monetary Policy Committee (MPC) projects that inflation will remain above the range over the medium term but trend downward from the fourth quarter of 2022 and fall within the objective range from the third quarter of 2024. This represents a revision of the trajectory for inflation from the June forecast, in-fluenced, in part, by subsequent increase in fuel prices. The projected decrease in inflation in the medium term is due to the dissipating of an earlier increase in administered prices, anticipated de-crease of inflation in trading partner countries, falling international commodity prices, and higher cost of global credit. The Bank of Botswana, Monetary Policy Committee (2022) further states that, there is a significant risk that inflation could

Figure 3: Annual Percentage Change in GDP by Economic Activity (2019-2021)

Source: Modeled from; Statistics Botswana, Gross Domestic Product (GDP) Report Q3, 2022

remain elevated due to factors that include: the potential increase in international commodity prices beyond current forecasts, persistence of supply and logistical constraints to production, the economic and price effects of the ongoing Russia-Ukraine war, the uncertain COVID-19[3] profile and the escalating tension between China and Taiwan. On the domestic front, the risk of higher inflation than currently projected relate to possible annual administered price adjustments, short-term unintended consequence of import restrictions, second-round effects of the recent increase in administered prices, upward pressure on wages across the economy emanating from increase in public services salaries, and entrenched expectations for higher inflation, which could lead to general higher price adjustments.

1.2 Botswana's Labour Market Overview

Labour force consists of individuals of working age who are either employed or actively seeking work. It excludes individuals of working age who do not work or are not seeking work because they engage in other activities or do not find employment opportunities that meet their demands or expectations, often referred to as discouraged. Given a labour force of 710,600 and a total popula-tion of approximately 1.8 Million in 2016, the data implies that a working member of the labour force sustains, on average, 3.5 other individuals who are not earning an income.

The Labour Force Participation Rate (LFPR) is the proportion of the population aged 15-64 that is

---

3   COVID-19 is an infectious disease caused by the SARS-CoV-2 virus, infected individuals experience mild to moderate respiratory illness.

economically active during the specified period. World Development Indicators (WDI) figures modelled by ILO, show the LFPR[4] in Botswana from 1990 to 2020. For most years from 1990 to 2017 an upward trend of the LFPR was recorded for Botswana. Recently, from the year 2018-2020 the LFPR indicated a downward trend as shown in Figure 4. If the working age is narrowed to between 20 and 60 years of age, 80 percent of this group was in the labour force in 2006, a higher share than in surrounding countries. Among individuals who are not in the labour force or inactive, approximately half are considered discouraged workers.

In 2006, 17.5 percent of the labour force was unemployed, a decrease from 21.5 percent in 1995-96. In terms of employment, approximately 82.5 percent of people over 12 years of age who wanted to work were actually employed in 2006 (this excludes the discouraged workers). Clear gender differences exist; 72 percent of working age men is employed compared to 65 percent of women. Employment, and to a slightly lesser extent unemployment, is fairly evenly distributed between ru-ral and urban areas. A bit less than

half of the employed reside in rural areas, a proportion that has remained stable since 1995-96, whereas the majority of the unemployed, 57 percent, are located in urban areas. However, underemployment is a more serious issue in rural areas (Tazeen Fasih, 2010).

Statistics indicate that individuals with no training are the most employed in Botswana with a representation of 424,492 individuals having been employed formally, followed by those trained in the field of Business Administration with a representation of 76,104 employed (see Figure 5). Individ-uals trained in the field of Veterinary studies and Maths & Statistics are the least employed with 102 and 457 respectively. As shown in Figure 6 the highest number of currently unemployment individuals by subject of training was recorded by individuals with no training at 201 702 persons, followed by those trained in the field of Building and Construction at 8270. Statistics indicate that individuals trained in the field of Maths & Statistics and Transport were the least unemployed, with 17 and 197 individuals respectively represented in the labour force.

Figure 4: Labour Force Participation Rates (LFPR) (1990-2020)
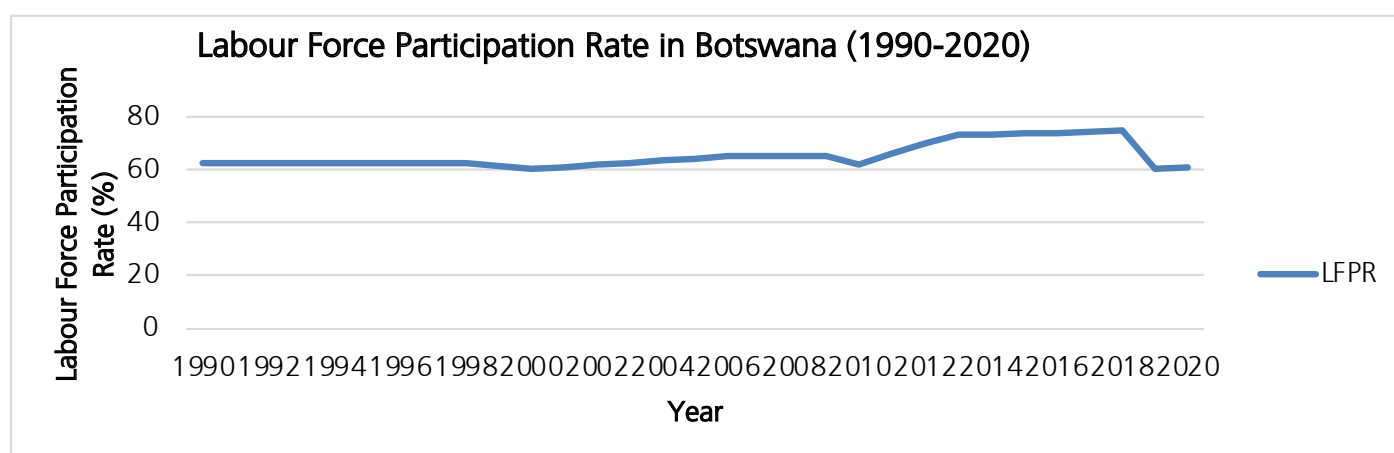
Source: World Development Indicators (The World Bank Group)

---

4   Labour Force Participation Rates (LFPR) is an indication of the supply of labour available to engage in the pro-duction of goods and services, relative to the population of the working age. It is calculated by expressing the number of persons in the labour force as a percentage of the working age population

Figure 5: Formal Sector Employment by Industry (2019-2021)
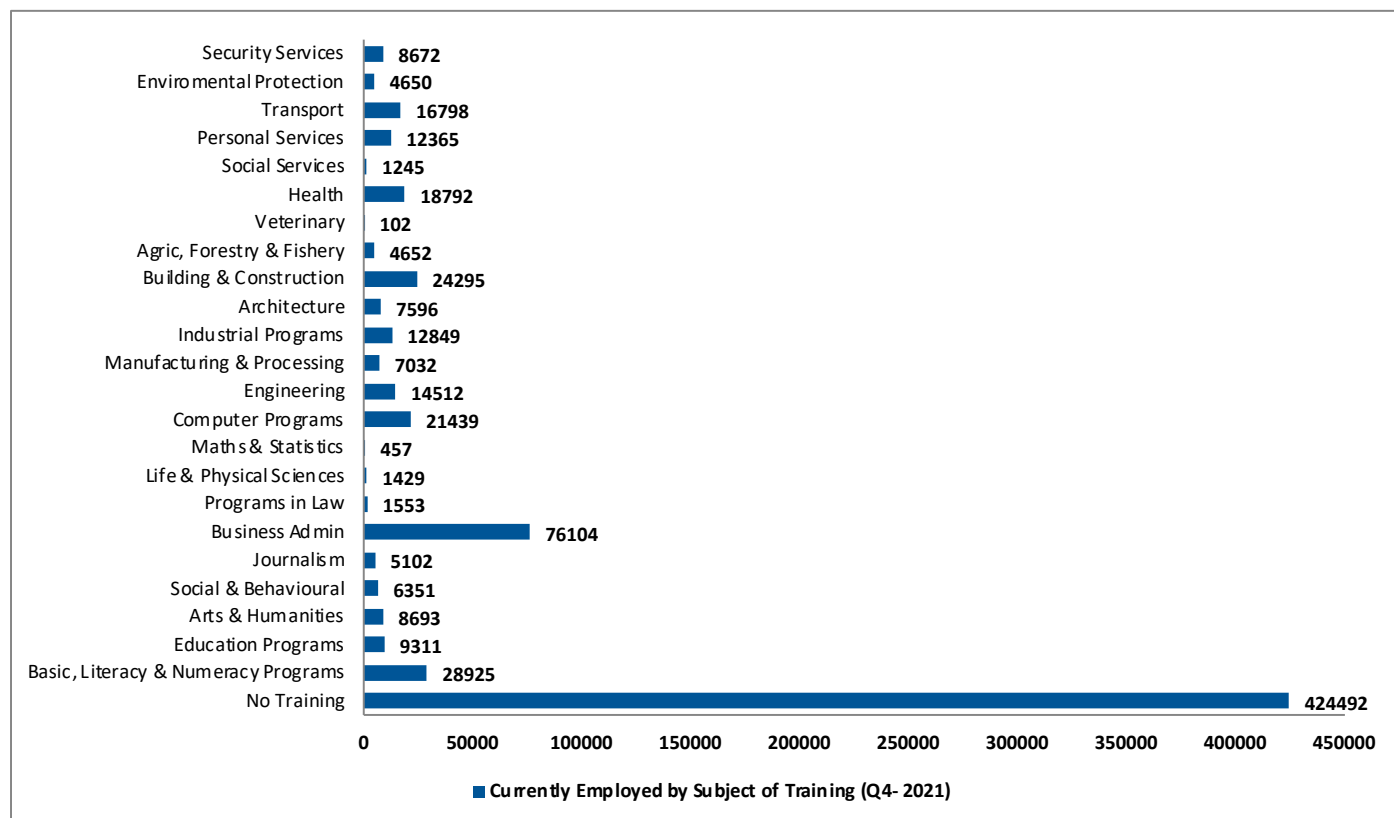
Source: Modeled from; Statistics Botswana, Quarterly Multi-Topic Survey Report Q4, 2021

Figure 6: Formal Sector Employment by Age Group (2021)
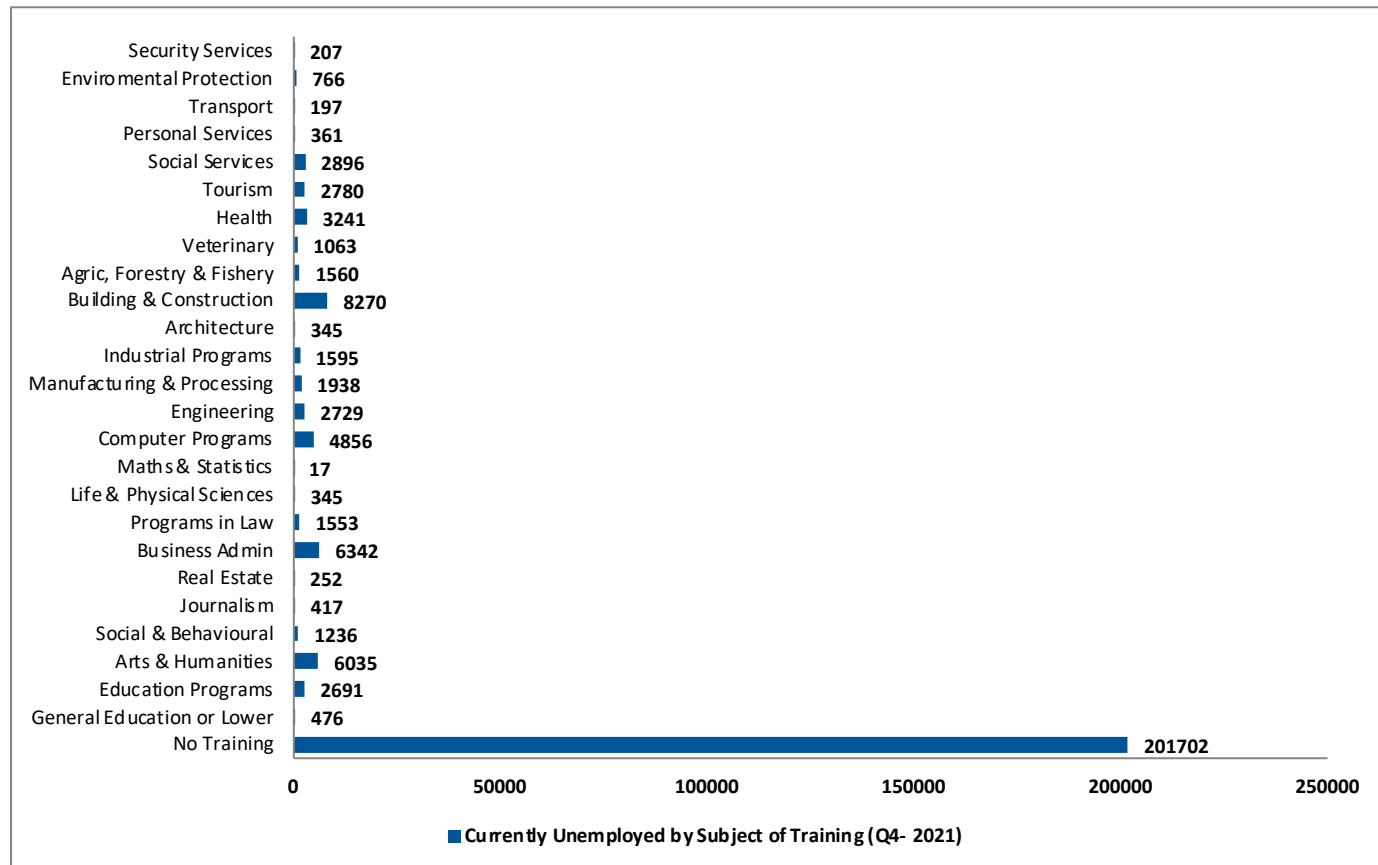
Source: Modeled from; Statistics Botswana, Quarterly Multi-Topic Survey Report Q4, 2021

Education and training play an important role in the labour force. It equips individuals with the skills and knowledge required to participate meaningfully in the labour market. As the economy grows and diversifies, the labour force should also evolve to meet the requirements of the demand side of labour. An analysis of the unemployed persons by the level education in Botswana indicates that the majority are secondary education holders, constituting 65.1 percent of the unemployed, followed by primary school holders and university graduates with 11.5 percent and 8.6 percent respectively.

Statistics show that individuals with an apprentice qualification are the least unemployed at 0 percent followed by those trained in health sciences and those with non-formal education at 0.1 and 0.8 percent respectively. University graduates, those who never attended school, and those with Technical/Vocational training recorded 8.6, 3.8 and 3.7 percent respectively.

Figure 7: Youth Unemployment Rates in Botswana (1999-2021)
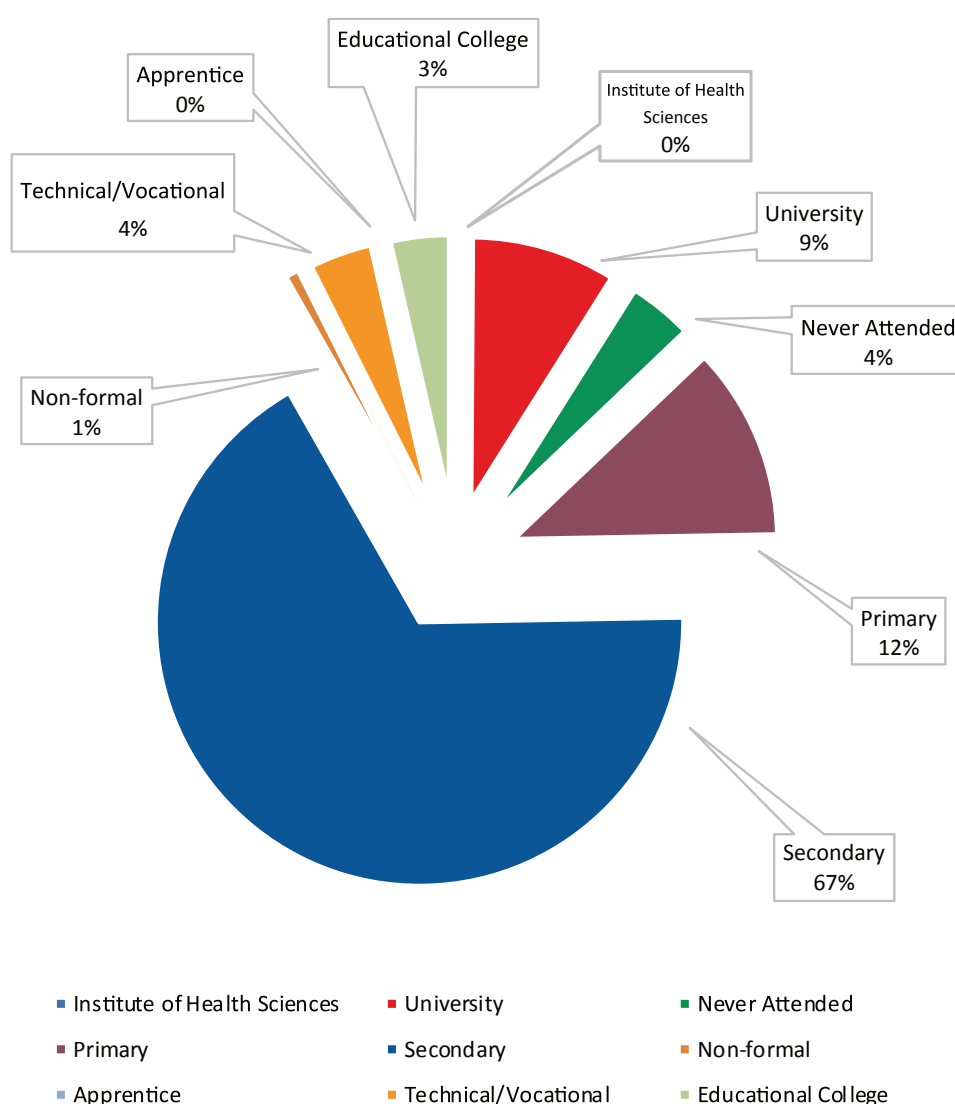
Source: Modeled from; Statistics Botswana, Quarterly Multi-Topic Survey Report Q4, 2021

1.3   Youth Unemployment

Rising youth unemployment is a major challenge in Botswana, which translates into increasing poverty among this group. Youth unemployment rate went up by 2.0 percent over that period, from 32.4 to 34.4 percent. Unemployment rate (persons aged 15 years and above) went up by 1.5 per-centage points, from 24.5 percent in the fourth quarter of 2020, to 26.0 percent in fourth quarter of 2021. The share of young people who are not in education, employment or training (NEET rate %) went up from 37.5 to 39.4 percent between the two periods, an increase of 1.9 percentage points.

Females recorded an unemployment rate of 38.1 percent compared to 30.6 percent recorded for their male counterparts. Unemployment rates are highly concentrated in the youngest group, 15-17 years old, with a record of 77.6 percent, the age group 18-19 years old recorded 55.5 percent, followed by age group 20-24 years old with 45.1 percent. Youth unemployment has been indicating a rising trend since 2008, with the highest rate recorded in 2020.

This is attributed to the failure of the economy to create jobs, the lack of job experience among young people, as well as inadequate employment opportunities CSO (2006). The size and nature of a youthful population puts pressure on the country's economy in terms of resource allocation and the provision of social services like health, housing and education. More importantly, a youthful age structure has implications for the provision of employment. The population of Botswana has a relatively young age structure with the majority of people (46.5 percent) between the ages of 12 and 35 years.

Figure 8: Currently Unemployed Population by Education Level
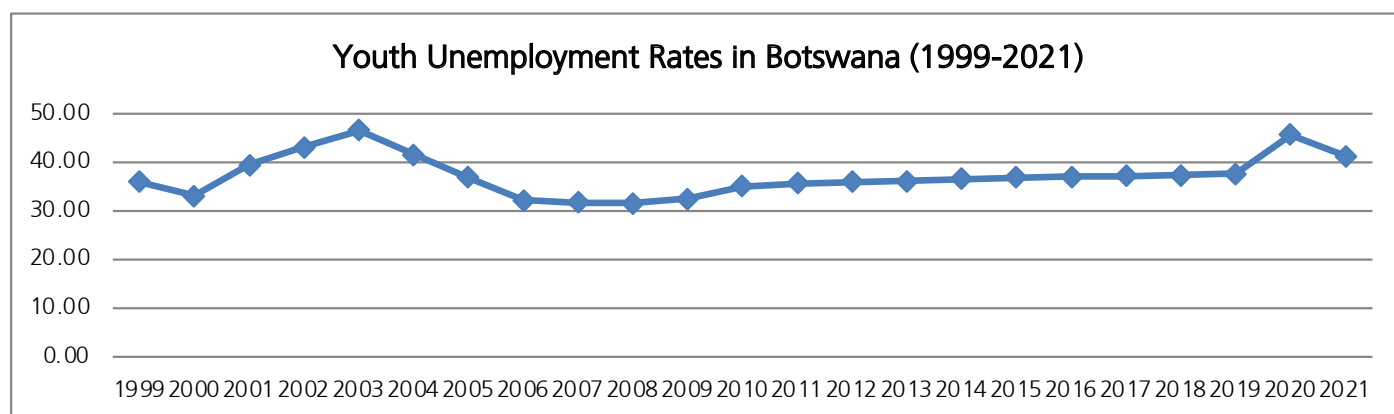
Source: Modeled from; ILO Estimates 2021

In terms of education, 62.7 percent of young people reported to have left school, 34.3 percent are still at school and 3 percent have never attended school. Most of those who reported that they were still in school were between 12 and 19 years. Of those who attended school, 18.3 had primary edu-cation, 63 percent had secondary education, 8.6 percent held diplomas and 8.6 percent had certificates and 1.1 percent indicated that they had degrees or post graduate training Keetile, (2014). Despite the government's proclamation of universal education for the first ten years of schooling, there were a few youths who have never been to school. The number of youths who have never been to school is higher among males than females. The educational level of the youth

is important because it indicates the progress of a population in terms of their knowledge, skills and expertise. The level of education also determines their level of participation in the labour force (Lesetedi, 2018). Furthermore, findings of Siphambe H. K. (2000) suggest that there are positive returns to education. Additionally, he states that the returns to education are higher in the private sector than in the public sector, which supports the productivity-enhancing role of education in the private sec-tor, while some screening roles and compressed pay structures prevail in the public sector.

An analysis by education level, displayed in Figure 9, shows that most of the youth labour force employed had completed secondary education. These were followed by the youth who completed University and Education College with 14.6 and 6.3 percent respectively.

Service/Sales Workers and Elementary occupations represented the most employed youth accord-ing to recent statistics with a record of 30.6 and 29.1 percent respectively. Craft and Related Trade Workers and Associated Professionals indicated 9.5 and 8.2 percent employed youth respectively. Skilled Agricultural Forestry & Fishery Workers and other Specialized Professionals indicated the least employed youth with a representation of 0.8 and 0.1 percent respectively from the entire employed youth population.

Figure 9: Graduates by level of Qualification (2019/2020)
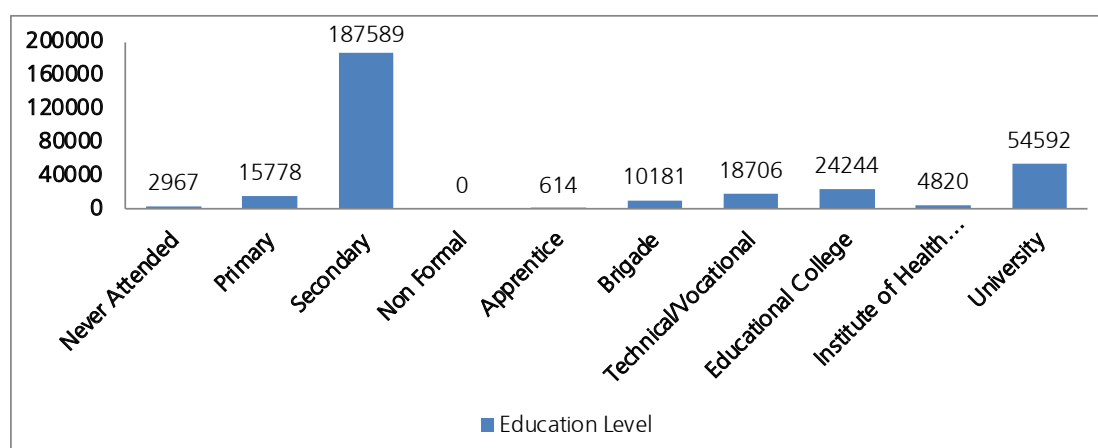
Source: Modeled from; Statistics Botswana, Quarterly Multi-Topic Survey Report Q4, 2021

Figure 10: Graduates by Field/Area of Education (2019/2020)
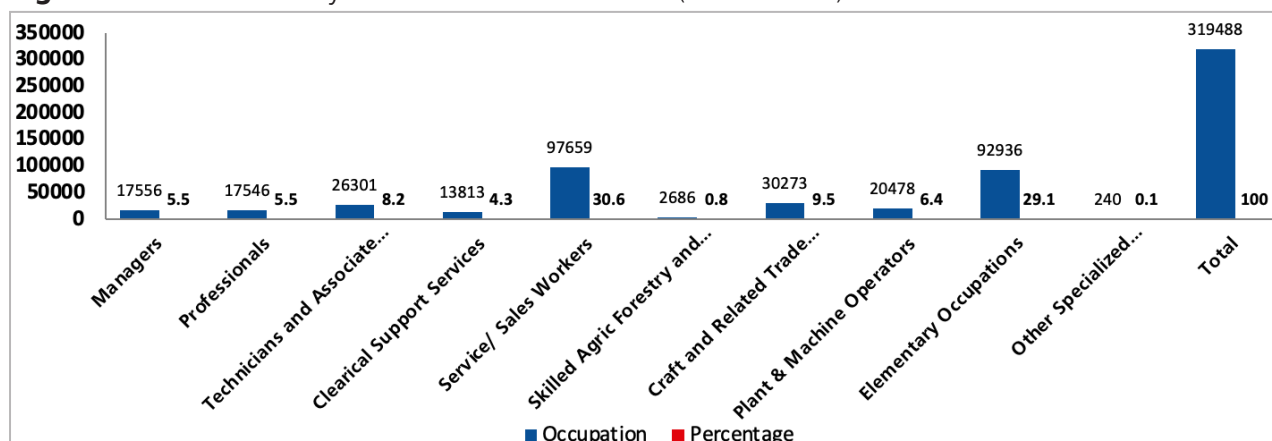
Source: Modeled from; Statistics Botswana, Quarterly Multi-Topic Survey Report Q4, 2021

CHAPTER 2: LITERATURE REVIEW

2.0   Theoretical Literature Review

Researchers have published socio-economic literature that investigated dynamics of labour participation in labour markets in Botswana and globally. In recent years many significant developments have taken place in the analysis of labour markets at both theoretical and empirical level. Increasing importance has been attached to the dynamics of labour supply and demand in explaining disequilibrium behaviour that exists in most economies.

Siphambe et al. (2020) investigated determinants of unemployment and labour-market transitions for youth in Gabane village in Botswana. The study adopted the Markov transition probabilities theory[5] to measure the extent of the transition of the youth, followed by multiple regression analysis using the multinational logit model[6] . Data was collected using Community-Based Monitoring System (CBMS) from all households in Gabane. Findings from the study indicated that the individual characteristics of the Gabane youth play a role in determining their transition probabilities across the labour market outcomes. Notably, the relative probability of being employed or moving from the unemployment to employment state is higher for men than for women and increases with age.

A similar study by Siphambe H. K. (2003), focused on Botswana's supply and demand side of the labour market. The supply side analysis involved using the original 1995/96 Labour Force Survey Data to understand the unemployed. Part of the process involved specifying a probit function to determine precisely the factors determining unemployment. The paper also looked at the demand for labour by various key sectors of the economy, and tried to determine the quantitative relationship between employment and its major determinants. The study concluded that unemployment is still quite high in Botswana, especially if one considers the discouraged and underemployed sections of the society. Furthermore, the study postulated that unemployment exists side by side with job vacancies, because of issues of appropriateness of the education system i.e., whether it is producing the right skills for the labour market.

Another case study indicated that sector productivity growth reflects improvements in human capital, investments in physical capital, technological advancements, or the allocation of resources from the least to the most productive firms within each sector. The model by Baumol (1967) and its extension by Baumol et al. (1985) directly address the question of the evolution of

---

5   Markov Transition Probability Theory is a stochastic model that describes a sequence of possible events in which the probability of each event depends only on the state attained in the previous event.

6   Multinomial Logit Model is a model that assumes that data is case specific, that is, each independent variable has a single value for each case.

the service sector employment. In a simple model of two sectors, in which one has a permanently higher rate of productivity growth and wages are forced to rise in line with its productivity, Baumol shows how the less productive sector must vanish. Unless, of course, a high elasticity of income keeps demand for low and high productivity goods or services at a fixed ratio, in which case all employment must eventually concentrate in the sector with low-productivity growth to maintain its output growth rate (Wachter, 2001).

The relationship between output growth and employment has been widely studied based on what is known as Okun's law. Okun (1962) defines a coefficient that gives the rate of change of real output for a given change in the unemployment rate. This coefficient postulates a specific empirical relationship between economic growth and the change of real output for a given change in unemployment rate. This implies that the rate of GDP growth must be equal to its potential growth just to keep the unemployment rate constant. To reduce unemployment, therefore, the rate of GDP growth must be above the growth rate of potential output (Yinusa, 2011).

2.1   Empirical Literature Review

Twum (2022) examined employment dynamics in Rwanda by assessing the potential of an IWOSS[7] - economic driven path. The paper analysed patterns of growth, employment and job crea-tion. Integrated Household Living Conditions Survey (IHLCS) was used in this study, which is a cross-sectional survey based on a sample of respondents stratified at district level. The study used a conceptual paper by Bhorat et al. (2019) as basis of their methodology for estimating labour demand, supply, and skills gaps. The study concluded that the government must rapidly invest in its workers and innovation to sustain its growth momentum, lest the lack of skilled workers and professionals become a brake on growth.

Caitlin Allen et al. (2021) considered whether specific IWOSS sectors can drive structural transformation that is inclusive and able to generate employment across different skill sets. They also considered the skill requirements necessary to realize the potential of these sectors. The paper used labour force survey data to provide projections of employment for various IWOSS sectors and provide estimates of skills gaps in the youth population in line with these projections. Firm surveys were also conducted and allowed for deeper insight into skill profiles than is available through labour surveys. Where appropriate, these surveys were used to gauge the potential for employment growth in different IWOSS sectors in South Africa. The findings from the study suggested that IWOSS sectors may be better placed than non-IWOSS ones to provide jobs for low-skilled unemployed people in South Africa, while still providing jobs that can accommodate the higher-skilled among the labour force as well.

Watcher (2001) indicated in their working paper that sectors that have a high growth rate of labour productivity also tend to have high growth rates of capital-labour ratio. They stated that it is natural to ask to what extent differences in capital growth

---

7   IWOSS (Industries without smokestacks) refers to industries that produce in large quantities or inputs into other industries, usually labour intensive.

rates can explain differences in labour productivity growth across countries. An alternate source for labour productivity growth is technological progress, or general improvements in efficiency. The paper adopted a growth accounting and bi-ased technological change in their analysis assuming that economies and sectors production processes can be captured by a production function with constant returns to scale. Facts that emerged from the analysis were that differences in the growth rates of service sectors that underlie the differences in output growth rates of labour productivity, employment, and capital across countries.

Kapsos (2005) studied the employment intensity of growth: trends and macroeconomic determinants in their employment strategy paper. They stated that employment-related economic indicators, particularly those that measure the ability of economies to generate sufficient employment opportunities for their populations, often provide valuable insights into economies' overall macroeconomic performance. They further indicated that the most widely published indicators in this respect include unemployment rates, employment-to-population ratios, and labour force participation rates. Another labour market indicator that, perhaps owing to its somewhat less accessible title, receives less attention is employment intensity of growth, or elasticity of employment with respect to output. They concluded by stating that there is a danger in terms of assuming favourable trends in em-ployment intensity as they are indicative of positive overall macroeconomic performance in a given country or region. In addition, they concluded that it is crucial to get the employment side of the macroeconomic picture right, success in this regard by no means automatically translates

into other favourable outcomes, such as poverty alleviation.

Yinusa (2011) analysed employment intensity of sectoral output growth in Botswana, and used two basic methods to estimate employment elasticity of output. They used the simple arithmetic method of finding the most convenient measure of the employment intensity of growth provided by the elasticity of employment with respect to output growth. They concluded that this methodology was computationally very simple, and discovered a weakness inherent in simple two-point calculations that called into question the usefulness of the elasticity obtained for forecasting purposes. The discovered abnormalities from a base year tend to be accentuated by the small size of the industrial base, because establishments of, say, a highly capital-intensive plant could significantly alter the factor intensity of an entire sector. They indicated that problems are multiplied when the calculation is for a group of industries, because a normal year for one industry may not be normal for another. They resorted to applying the econometric method of regression analysis where a functional rela-tionship between employment and output is postulated and estimated. They concluded that this method becomes appropriate when dealing with lengthy and reliable time-series data.

CHAPTER 3: METHODOLOGY AND DATA

3.0   Data Type and Source

This study used data sourced from Statistics Botswana, Quarterly Multi-Topic Survey Reports and Quarterly Domestic Product Reports. The QMTS is a household-based sample survey conducted by Statistics Botswana which collects data mainly on labour market activity of individuals aged 15 years and above in the country. The main objective of the Continuous Multi-Topic Household Survey (CMHTS) is to collect quarterly information about persons in the labour market, i.e. those who are employed, those who are unemployed and those who are not economically active. The essence of the quarterly period is to monitor the change of the labour trends between quarters in the country (Statistics Botswana, 2021).

To understand the in-depth supply and demand side of the youth labour market, primary data was collected, using findings of interview surveys conducted using questionnaires designed and administered to the target population, youth labour force and firms, labour intensive firms; Manufacturing, Agriculture and Tourism. Locations for administering the questionnaires were chosen based on the high unemployment rates recorded in villages, towns and cities in Botswana according to the 2022 Population and Housing Census recently conducted. The questionnaires comprised of a mixture of closed-ended and open-ended questions, designed to capture age, gender, educational attainment, employment status, and location of the youthpopulation. The approach

employed was a case study based and aimed to generate insights to a broad scale in these labour intensive sectors under consideration. In order to identify the demand for youth labour in these sectors, an occupational requirement survey was designed and conducted among firms operating in these labour intensive sectors. The rationale of this interview was to demonstrate the skills that are in demand and where shortages are evident. Results from these surveys are representative of all firms in these sectors under consideration. For in-depth analysis of the supply side, youth labour force skills audit survey questionnaires were designed and administered to 20 youth that are employed by these labour intensive sectors. Furthermore, secondary data was incorporated into the research study. A literature review taking into account relevant documents including but not limited to: Labour market assessments reports, National Development Plans, Socio-economic reports (local and internation-al), Socio-economic policies in response to the Covid-19 pandemic, existing academic literature, and country briefs were studied.

3.1   Estimation Techniques

An empirical methodology was used to estimate potential job creation for youth labour force participation. Trends in the occupational distribution of the sectors were investigated to obtain a distribu-tion of occupations for the

projected employment. Employment potential was quantified, and varying estimates calculated for employment potential in labour intensive sectors, furthermore, estab-lishing skills gaps among the youth population. Similarly, the methodology was adopted and used by Haroon Bhorat et al. (2019) to study the potential for employing youth in the manufacturing sector in South Africa.

Firm and industry expert interviews were conducted to provide an in-depth analysis of employment potential and skills gaps in labour intensive industries. Sectoral employment elasticity for growth was also calculated and current trends of the employment growth rate in Botswana and their role in potential youth employment were considered.

3.1.0 Sectoral Employment Intensity for Growth in Botswana

This measure of employment intensity was used to calculate the projections for sectors analyzed here to establish their potential to create new employment opportunities for the youth over the next years on the current growth path. Constant linear growth rates were applied to estimate employment based on the current growth trends and patterns. Projected employment data of all sectors was developed using a conceptual framework that divides industry employment between occupations based on expected, structural changes in the demand for those occupations within a specific industry.

To project these changes in occupational demand, qualitative sources such as reports, journal articles, expert interviews, historical data and externally produced projections were incorporated. The total employment shares of all occupations in sectors were calculated such that they add up to 100 percent for the occupational employment within a sector to match the overall sector's projected employment. To prevent unintended changes, the scaled shares of sector employment were reviewed extensively to ensure that changes in each sector are consistent with each other and that individual changes support the broader sector's narrative and projection.

Employment intensity for growth also referred to as employment elasticity of economic growth is calculated as the percentage change in the number of employed persons in an economy associated with a percentage in economic output, measured by GDP. This is a tool commonly used by policy makers since it provides valuable insights into the labour market and overall macroeconomic per-formance of an economy. This measure of employment intensity of growth provides the elasticity of employment with respect to output growth, which is obtained by a ratio of proportionate change in employment and proportionate change in output during a given period, usually a year. Employment elasticity shows the percentage change in employment accompanied by a 1 percentage change in GDP. Employment elasticity can be calculated using a common and simple descriptive method which calculates the arc elasticity[8] .

Where:
Numerator; percentage change in Employment (E), between periods t and t-1
Denominator; corresponding percentage change in output (Y), between periods t and t-1

---

8   Arc Elasticity is the difference between two points in time.

$$\varepsilon = \frac{\dfrac{[E_t - E_{t-1}]}{E_t}}{\dfrac{[Y_t - Y_{t-1}]}{Y_t}}$$

Statistics Botswana (2021) reports were modeled and used to calculate employment intensity for growth for key sectors that contribute to the country's GDP and have a share in employment of individuals in the country. Future growth in employment in the country was projected using this employment intensity of growth estimation method also known as the sensitivity of employment to output growth. The results from this estimation technique indicates the ability of the economy to generate employment or increase labour demand as the country's growth (Development) increases by 1%.

Indicators from this estimation method is such that;

• **Employment elasticity 1**: Indicates growth in employment at the same rate as economic growth.

• **Employment elasticity 0**: Indicates that employment does not grow at all, disregarding economic growth.

• **Empolyment Elasticity less than 1 (Negative)**: Indicates a decline in employment declines as the economy grows.

Table 1: Sectoral Employment Intensity for Growth in Botswana; Key Sectors

Sector	Annual Percentage Change in Industry Contribution to GDP & Employment				
		2020	2021	2022	Employment Intensity of Growth (Elasticity)
Agriculture	• Annual (%) change in Real GDP	-2.7	-1.0	0	0.000
	• (%) Change in Employment by Industry	*	8.9	15	
Mining	• Annual (%) change in Real GDP	-26.5	-29.8	0.5	0.007
	• (%) Change in Employment by Industry	*	-13.6	64.7	
Manufacturing	• Annual (%) change in Real GDP	-14.9	8.1	0	0.000
	• (%) Change in Employment by Industry	*	3.4	18	
Construction	• Annual (%) change in Real GDP	-11.4	6.5	-0.1	0.007
	• (%) Change in Employment by Industry	*	-9.5	-15.3	
Accommoda-tion (Tourism proxy)	• Annual (%) change in Real GDP	-28.5	-1.5	-0.1	0.0010
	• (%) Change in Employment by Industry	*	30.9	-9.9	
ICT	• Annual (%) change in Real GDP	2.0	4.4	-0.1	-0.011
	• (%) Change in Employment by Industry	*	3.2	8.6	
Prof, Sci & Tech	• Annual (%) change in Real GDP	-1.8	6.8	-0.1	-0.004
	• (%) Change in Employment by Industry	*	-15.2	21	
Public Admin & Defence	• Annual (%) change in Real GDP	7.0	4.5	-0.1	0.004
	• (%) Change in Employment by Industry	*	12.3	-21.4	
Education	• Annual (%) change in Real GDP	-0.1	1.9	-0.1	-0.333
	• (%) Change in Employment by Industry	*	14.6	0.3	
*No data available					

Source: Modeled from; Statistics Botswana, Quarterly Multi-Topic Survey Report Q4, 2021

Employment elasticities of sectoral output and employment growth in the Agricultural, Mining, Manufacturing, Construction, Accommodation & Public Administration & Defense sectors estimated employment elasticities to be between 0 and 1, indicating a projected growth in employment at the same rate as economic growth according to the estimation model. Accommodation and Food Services (Tourism proxy) sector estimations projected the most ability to generate growth in employment or increase labour demand in future. Employment elasticities for the Agricultural, Manufacturing, and Accommodation & Food Services sectors could be an indication of effects of structural changes and improvements in these sectors, confirming a potential for the economy to absorb labour.

An economy with a increasing GDP growth such as Botswana, a negative employment elasticity indicates a decline in employment as the economy grows. Negative employment elasticities were estimated from the Information & Communication Technology, Professional, Scientific & Technical Activities and the Education sectors. The Professional, Scientific & Technical Activities sector estimated the least potential to create employment as the economy grows.

Labour intensive sectors under analysis (Manufacturing, Agriculture and the Tourism Sectors) all indicated positive employment growth. Siphambe H. K. (2003) in his paper "Understanding Un-employment in Botswana" examined the determinants of employment from a demand side, in terms of output growth, structural change and technical change. Sectors that make relatively large contri-butions to employment in Botswana are Agriculture, Construction, Wholesale and Retail, and Manufacturing. He further stated that

employment is responsive to real non-mining output in all four sectors except for Agriculture. The biggest elasticity was found in commerce during his study, where a 10 percent increase in non-mining GDP increases employment by 3.5 per cent. A 10 percent increase in non-mining GDP increased employment by 2.6 and 2.5 percent for Manufacturing and Construction, respectively. For the Agricultural sector, changes in non-mining GDP have no significant impact on employment in that sector. In conclusion, he stated that in the absence of employment creation by the mining sector, it is important for the country to diversify and explore other sectors, which are better suited to create jobs and reduce unemployment. On the demand side, responses of employment to changes in output are quite significant. These results indicate that in-creasing non-mining GDP is a good way to generate employment. Most of these sectors are labour intensive and therefore have significant employment elasticity vis-a-vis output.

Interpretation of sectoral employment elasticity indicates a relationship between employment elasticity, actual employment growth and productivity growth. Manufacturing, Agricultural, and Tourism sectors indicated a positive sectoral employment and output growth elasticity, with elasticity outcomes of 0.000, 0.000 and 0.010 respectively indicating employment and productivity growth for these sectors. This is an indication that these sectors have the potential to create enough jobs for the youth labour force in the future.

Table 2: Sectoral Employment Elasticity Summary for Labour Intensive Sectors

Sector	Sectoral Employment Elasticity	Employment Growth	Productivity Growth
Manufacturing	0.000	Positive	Positive
Agriculture	0.000	Positive	Positive
Tourism	0.010	Positive	Positive

3.1.1 Sectoral Current Employment Growth Trends in Botswana

Wholesale & Retail Trade and Public Administration Industries recorded declines in employment. Wholesale & Retail Trade decreased from 20.1 percent in Q4, 2020 to 18.7 percent in Q4, 2021 while Public Administration declined from 18.1 percent in Q4, 2020 to 15.8 percent in Q4, 2021. Educational industry increased from 10.0 percent in Q4, 2020 to 10.6 percent in Q4, 2021. Recent statistics indicate that persons with Secondary education constituted the largest share of the em-ployed persons, accounting for 46.7 percent, followed by those with university education with 18.2 percent while those with primary education were third with 11.0 percent. Furthermore, comparisons of employed population by education level for Q4, 2020 and 2021 showed that persons who had general education constituted the highest portion in overall employment. This group reported to have no training. This could explain to some extent the high number of employment in elementary occupations[9].

Formal Sector Employment by Industry showed that Public Administration had the largest propor-tion of employment at 22.9 percent, followed by Education with 15.1 percent and Wholesale, Retail & Repair of Motor Vehicles at 13.8 percent of total employment. At the industry level, Education had employed more females, accounting for 73.8 percent of employees working in the industry, followed by Other Service Activities with 71.8 percent. Real Estate Activities and Construction Activities were the two industries which had employed the lowest proportion of females, recording 13.4 percent and 15.6 percent respectively.

Modeled employment growth trends and forecasts setting 2019 as a base year revealed an increase in employment for all the labour intensive sectors. This indicates that the employment in the Agri-cultural Sector is projected to increase by 27.2 percent in 2023, 45.5 and 63.8 percent in 2026 and 2029 respectively. Manufacturing indicates an impressive positive growth of 47.2 percent in 2023, 91 and 134.8 percent in 2026 and 2029 respectively. For the Tourism sector, for which Accommo-dation is a proxy, a decline of 91.5 percent is anticipated for the year 2023, -213.9 and -336.6 per-cent in 2026 and 2029 respectively.

Sectoral forecasts of constant linear growth rates were calculated from the current growth trends on all sectors of the economy for a period of 10 years from 2020-2029. The established trends

---

9   Elementary Occupations consist of simple and routine tasks which mainly require the use of hand-held tools and often some physical effort.

inform on the anticipated employment prospects across sectors. Quarter 4 - 2019 from Statistics Botswana, Quarterly Labour Force Module Reports, was set as the base year and percentage changes in employment across sectors and preceding projections were used. Manufacturing is projected to have a positive change with an increase of 47.2 percent employment in 2023, and 134.8 percent increase in year 2029. For the Agricultural sector, 27.2 percent increase is projected in employment in 2023 and 63.8 percent in 2029. The Tourism sector, which is proxied with Accommodation, projected a decreasing trend, with a -91.5 percent decrease in the 2023, followed by a projected decrease in employment of -336.3 percent in 2029.

Table: 3: Projected Percentage Change in Employment

Sector	Projected Percentage (%) Change in Employment										
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Agriculture	8.9	15	21.1	27.2	33.3	39.4	45.5	51.6	57.7	63.8	69.9
Mining	-13.60	64.7	143	221.3	299.6	377.9	456.2	534.5	612.8	691.1	769.4
Manufacturing	3.4	18	32.6	47.2	61.8	76.4	91	105.6	120.2	134.8	149.4
Electricity	-25	49.6	124.2	198.8	273.4	348	422.6	497.2	571.8	646.4	721
Construction	-9.5	-15.3	-21.1	-26.9	-32.7	-38.5	-44.3	-50.1	-55.9	-61.7	-67.5
Wholesale	11.2	3.9	-3.4	-10.7	-18	-25.3	-32.6	-39.9	-47.2	-54.5	-61.8
Diamond Traders	0	0	0	0	0	0	0	0	0	0	0
Transport	-14	19	52	85	118	151	184	217	250	283	316
Accomodation	30.9	-9.9	-50.7	-91.5	-132.3	-173.1	-213.9	-254.7	-295.5	-336.3	-377.1
ICT	3.2	8.6	14	19.4	24.8	30.2	35.6	41	46.4	51.8	57.2
Finance	-3.9	2.5	8.9	15.3	21.7	28.1	34.5	40.9	47.3	53.7	60.1
Real Estate	-59.7	411.9	883.5	1355.1	1826.7	2298.3	2769.9	3241.5	3713.1	4184.7	4656.3
Professional, Scie & Tecl	-15.2	21	57.2	93.4	129.6	165.8	202	238.2	274.4	310.6	346.8
Administrative	-2.7	5.2	13.1	21	28.9	36.8	44.7	52.6	60.5	68.4	76.3
Public Admin & Defence	12.3	-21.4	-55.1	-88.8	-122.5	-156.2	-189.9	-223.6	-257.3	-291	-324.7
Education	14.6	0.3	-14	-28.3	-42.6	-56.9	-71.2	-85.5	-99.8	-114.1	-128.4
Health	13.7	23	32.3	41.6	50.9	60.2	69.5	78.8	88.1	97.4	106.7
Arts & Enter	-16	-12	-8	-4	0	4	8	12	16	20	24
Other Services	-28	-19	-10	-1	8	17	26	35	44	53	62

Source: Modeled from; Statistics Botswana, Quarterly Multi-Topic Survey Report Q4, 2019, 2020 & 2021

3.1.2 Youth Employment by Occupation: Current And Expected

In order to discuss future employment potential for youth in Manufacturing, Agriculture and Tourism Sectors, roles that the youth already occupy were studied and projections made from the cur-rent growth path.

An insight of youth employment projections by occupation indicated that from the current growth path, Botswana projects to have an overall decrease in total youth employment, projections indicat-ing -36 and -73 percent in 2025 and 2030 respectively. Plant & Machine Operators projects to create the highest percentage of youth employment with a projection of 106 and 223 percent increase in 2025 and 2030 respectively, followed by Professionals with a percentage increase of 60 and 133 percent for the projected years. Plant & Machine Operators and Professionals are the only occupations which are projected to increase youth employment. Skilled Agric, Forestry and Fishery, Craft and Related Trade Workers &

Table: 4: Youth Employment Projections by Occupation

Occupations	Employment Levels ('000)			Percentage (%) Change in Employment		Projected Percentage (%) Change in Employment	
	2019	2020	2021	2020	2021	2025	2030
Managers	16734	18369	17556	10%	-4%	-61%	-132%
Professionals	20045	17346	17546	-13%	1%	60%	133%
Technicians and Associate Professionals	24662	25053	26301	2%	5%	19%	36%
Clerical Support Services	23499	19648	13813	-16%	-30%	-83%	-149%
Service/Sales Workers	94749	105213	97659	11%	-7%	-80%	-171%
Skilled Agric. Forestry and Fishery	5350	4553	2686	-15%	-41%	-145%	-276%
Craft and Related Trade Workers	32715	36638	30273	12%	-17%	-135%	-282%
Plant & Machine Operators	19924	18019	20478	-10%	14%	106%	223%
Elementary Occupations	99806	96000	92936	-4%	-3%	-1%	2%
Other	279	411	240	47%	-42%	-397%	-842%
Total	337763	341250	319488	1%	-6%	-36%	-73%

Source: Modeled from; Statistics Botswana, Quarterly Multi-Topic Survey Report Q4, 2021

Clerical Support Services Occupations projected to have a decline in youth employment at -145, -135 and -83 percent respectively in the year 2025. Service and Sales Workers occupations, Managers, and Elementary occupations projected a decline in projected percentage change in youth employment by -80, -61 and -1 percent respectively.

3.1.3 Occupational Requirements Survey Results

Formal education requirements are used as a preliminary proxy for the level of skills required in order to provide a comparable measure of skill levels. Beyond formal education, it is important to understand occupational skill requirements aggregated by soft and hard skills, inclusive basic and social skills required etc. Respondents interviewed were mostly from the human resource or em-ployment relations departments of these labor-intensive firms. They are assumed to have sufficient knowledge and understanding of skill requirements. Respondents estimated the youth skills gaps for each skill category. Results from the survey are assumed to provide insights for those particular firms but also include implications for other firms. The study then continues to discuss current and future employment in these sectors, followed by qualifications required, and the current skills deficits.

The occupations and skills mainly demanded in the Manufacturing Sector were mostly elementary occupations involving simple, routine tasks that mainly require manual tools and some physical effort such as Plant and Machine Operations, Production, Drivers and Front Office Stuff etc. These occupations comprise the majority of the Manufacturing Sector and are reflected in the Occupational Survey and the QMTS with a record of 29.1 percent of youth employed in the country. Occupational requirement surveys indicate that the Agricultural Sector employs youth with no or minimal skills, mostly required for production purposes. From the QMTS 0.8 percent youth with skills in Agriculture were employed in 2021. Employers in these sectors indicate that technical skills are of high importance for their firms as their businesses operate potentially dangerous machines and use toxic chemicals. QMTS reports indicate that of the total youth employment in the country, 8.2 percent have technical skills. Similarly, to the Manufacturing Sector, Tourism mostly employs elementary skilled occupations, such as Housekeeping, Landscaping and Security

etc. Service skills are also required in this sector and accounts with 30.6 percent for the largest occupation that employs youth in the country . Majority of skills asked from young employees is to have some level of digital skills and the ability to use digital devices, communication applications and networks to access and manage information. Most respondents indicated that digital skills are important considering the current economic outlook and future operations of their firms. Respondents in the tourism sector indicated that systems to capture and monitor payments as well as track and monitor housekeeping activities are becoming increasingly important across the majority of firms, hence the need for digital literacy requirements in the sector.

In order to understand the demand for youth labour in the sectors under investigation, an occupational requirements survey is required. These were designed and administered to firms that operate within the scope of these labour intensive sectors. The rationale of this interview was to reveal the skills that are in demand and where shortages are evident. 20 questionnaires were administered to firms that operate within these labour intensive sectors. Results are assumed to be representative for all firms in these sectors under consideration, with a response rate of 80 percent completed questionnaires by these firms. Considered are occupations that youth tend to be employed in, whether there are any business expansion plans that could lead to future employment, and current gaps in the skills of young people required by these firms.

Table 5: No. of Interviews Conducted by Sectors

Sector	No. of Interviews
Agriculture	6 firms
Manufacturing	5 firms
Tourism	5 firms
Total	16 responses

Occupational requirements of firms that operate in these sectors were conducted for more insights into the skills profile. In total, 37.5 percent response was from the Agricultural sector, 31.3 percent from the Manufacturing sector and 31.3 percent from the Tourism sector. Occupational requirements survey used ratings ranging across a 4-point scale, with rating (1) indicating no skills required and (4) indicating expert skills required. The Table below indicates averaged results from the survey.

Table 6: Occupational Requirements Survey Results

	Skills Requirements		
	Manufacturing	Agriculture	Tourism
Basic Skills	3.2	3.3	2.0
Social Skills	3.4	1.7	4.0
Resource Management Skills	3.0	2.0	4.0
Team Work Skills	3.0	2.7	4.0
Problem Solving Skills	3.4	2.7	4.0
Digital/ ICT Skills	2.8	1.3	2.0
Aggregate	**3.1**	**2.3**	**3.3**

3.1.4 Youth Labour Force Skills Audit Survey Results

The supply side involved conducting skills audits of the population employed in these labour inten-sive sectors. Results from these surveys are assumed to be representative for youth employed in the considered sectors. 20 youth labour force skills audit surveys were administered to the target population with a response rate of 80 percent completed questionnaires by the target population. Results presented indicate that skills of the employed youth in these labour intensive sectors should be taken into account. Quarterly Labour Force Module Reports were incorporated to estimate the stock of skills for youth employed in these sectors. Primarily, the quantitative approach undertaken relied on historical data, which is limited in its ability to explain future trends in the stock of skills. To address this challenge, the youth labour force skills survey identified the following stock of skills for the youth employed.

Stock of skills rating used for this section ranges across a 4-point scale, with rating (1) indicating no skills available for the roles and (4) indicates expert skills available. Table 7 shows averaged results from the survey.

Table 7: Estimation of Stock of Skills for Employed Youth Labour Force

Skills Group	Skills Stock Manufacturing	Agriculture	Tourism
Basic Skills	3.3	3.1	4.0
Social Skills	3.3	2.9	4.0
Resource Management Skills	3.3	2.9	4.0
Team Work Skills	3.3	3.6	4.0
Problem Solving Skills	3.3	3.0	4.0
Digital/ ICT Skills	2.0	1.9	3.8
Aggregate	**3.1**	**2.9**	**4.0**

3.1.5 Skills Deficits of the Employed Youth Labour Force

The measure of stock of skills and the measures of occupational skills requirements is a method that identifies skills gaps. The motivation of these surveys was to demonstrate the skills that are in supply and demand, i.e., the youth labour force stock of skills and the occupational requirements. Results presented consider the occupations that youth tend to be employed in, whether there are any potential business expansion plans that may expand youth employment opportunities in the future; and the current gaps in skills among the youth.

Survey tools comprised of a mixture of closed-ended and open-ended questions that provide: or-ganizational profiles, main occupations required by the firms, expansion plans of the firms, skills required, and ICT skills required to promote inclusive future growth. Skills deficits were obtained from by subtracting occupational skills requirements from each type or level of skills identified among the youth employed.

Table 8: Skills Deficits of the Employed Youth Labour Force

Skills Group	Skills Deficits		
	Manufacturing	Agriculture	Tourism
Basic Skills-Speaking, writing, reading	-0.1	0.2	-2.0
Social Skills-Negotiation, Coordination	0.1	-1.2	0
Resource Management Skills- Time Management, Material resources	0.3	0.9	0
Team Work Skills- Coordinating, Instructing	0.3	2.1	0
Problem Solving Skills-Identifying problems, Implementing solutions	0.3	-0.3	0
Digital/ ICT Skills-Word processor, spreadsheets, email, Social media platforms	0.8	-0.6	-1.8
Aggregate	0.2	1.1	-3.8

Occupational survey responses and skills audits of the youth employment in these sectors indicate skills gaps relating to the soft skills[10] and hard skills[11] . Results are indicate that young employees have acquired the required formal education by these firms and skills deficits are mostly reflected in competencies.

The skills deficits of the employed youth is larger in the Tourism Sector with a score of -3.8 out of 4 including both soft and hard skills and Digital/ICT skills which are required in the sector. The results highlight that young workers have the educational requirements but lack the technical exper-tise and therefore have to undergo training once they are employed. Responses on Occupational skills indicate that skills deficits can be attributed to a lack of practical application and experience obtained in the current education system, resulting in individuals who have the required educational attainment level, but are unable to cope with practical problems on the job. Tourism Sector is cus-tomer facing in nature, therefore the deficits presented in social skills are of great concern.

The Manufacturing Sector recorded the second highest skills deficits in the survey results, with a score of 0.2 out of 4. This is mostly attributable to deficits in social and problem-solving skills, as the Manufacturing Sector involves the use of heavy plant machinery that requires informed re-sponses to avoid accidents in situations that may occur on the job. The Agricultural Sector recorded the least skill deficiency score in the survey with a score of 1.1 out of 4, mostly attributable to basic skills, teamwork and problem-solving skills. The level of this skills deficit is similar to that of the Manufacturing Sector, further highlighting the lack of practical skills that are mostly learned on the job in these sectors.

---

10   Soft Skills are non-technical skills that relate to how an individual works. They include interactions with co-workers and how and individual manages and solves work related problems.

11   Hard Skills are job-specific abilities or knowledge learnt through education, experience, or training.

CHAPTER 4: POLICY RECOMMENDATIONS

Botswana's macroeconomic performance has been marred by socio-economic challenges with high youth unemployment rate being a major concern that has been proving difficult to deal with. This study investigated employment creation potential in the manufacturing, agriculture and tourism sec-tors, and researched skills of the young labour force to provide insight into the structural issue of the country's labour market and enhance job matching for the youth population and labour inten-sive industries. Diversification and investment in labour intensive industries continues to be a pri-ority with potential to create youth employment.

Results from the study indicate that Manufacturing, Agriculture and the Tourism Sectors mostly favour low skilled employment, which is not formally obtained but mostly learned on the job. This adds to the surplus of youth with tertiary education training. In order to achieve a sustainable supply and demand on the job market for the youth, a demandled approach to the attainment of qualifications requires collaboration between employers and educational institutions. Firms in these sectors should provide input regarding their skill requirements so that the youth can obtain the qualifications required by these labour intensive sectors.

Botswana's education system needs to be designed appropriately with education policies and programs that encourage job skills development. More focus needs to be shifted to Technical and Vocational Education Training (TVET) as this appears to have the most potential to provide skills required by labour intensive industries. Vocational skills training needs effective policy interventions to address the identified skills mismatches to match labour demands, taking into account the impact of these labour intensive sectors on economic growth, productivity levels, and technological changes. Occupational requirements survey results indicated that, in addition to formal education, measures need to be put in place in order to enhance hard and soft skills that are required by firms. This can be done by encouraging and promoting voluntarism by youth in these firms, during and post formal training. Employers in these sectors should also be encouraged to develop mentorship and on the job training programs such as internships. This can be done by introducing regulatory laws for mandatory paid internship programmes for all employers. This initiative has the potential to strengthen and highlight skills that are required and could not have been developed through for-mal education of the youth population.

The weak demand for youth labour in Botswana especially from the private sector, that does not create enough jobs to accommodate all new entrants in the labour market, is a challenge for the employment of youth. A review of the country's minimum wage, as well as coordination and promotion of employment creation commensurate with qualifications and skills that the youth have already obtained, will help to

reduce unemployment rates and ensure productive engagement of the youth workforce. This requires to transform the structure of the economy to a well-functioning labour market that drives towards inclusive growth that yields productive employment from low growth and low labour absorbing sectors to high growth and high labour absorbing sectors. Key niche industries that have a unique selling point (USP) and advantages in the region need to be increasingly invested in and leveraged for potential growth that will contribute to the country's socio-economic growth in the short-term, with a particular focus on Agriculture, Manufacturing, Tourism, Renewable Energy, and Financial Services Sectors. In addition, there is need for a review of Botswana's taxation policy, which should be designed and implemented in a way that encourages job creation and increased youth employment. Implementation can be in the form of tax exemptions for a period of at least 2 years to entities that absorb a certain number of youths.

Entities in the Agricultural Sector should be encouraged by the government to employ young workers through subsidies for high input costs, which could potentially contribute to the sector's growth and thereby create employment opportunities. A coherent policy framework that promotes transformation towards an inclusive post-production value chain of agricultural products has the potential to provide more employment opportunities for the youth. This can be facilitated by gov-ernment interventions such as the provision of incentive programmes and trainings for technology skills of post-production value addition processes required by the sectors. The Agricultural sector needs sufficient financial aid allocation and support in order to mitigate shocks such as natural dis-asters and changing climatic

conditions and to increase both productivity and youth employment.

The Government of Botswana should implement the National Employment Policy approved by the National Assembly on the 2nd of September 2021, which provides a comprehensive response to the development challenge of youth unemployment faced by the country. Furthermore, the Human Resource Development Council (HRDC) requires to fully implement its development strategy and promote full employment for the country by matching the supply of skilled labour with demand in the labour market. In addition to old-age benefits that are provided by payouts from contributory (mandatory and voluntary) retirement pension funds in the country, Botswana should reform and implement parameters that are attractive for retirement. This could be in the form of a social welfare pension with high levels of benefits that encourage the elderly to retire and exit the job market, consequently adding to an increase of jobs available for young people in the labour market. Coordination of structures should be appropriately in place by mandated ministries and agencies, as well as policy coherence, monitoring and evaluation of intended objectives for job creation and youth ab-sorption in the job market in Botswana.

To conclude, it is crucial to highlight that the Government of Botswana, employers, academic institutions, and the youth workforce must all be held accountable. Employers and youth themselves are both responsible for upskilling the youth workforce. Employers are in charge of training their workforce, while the youth should actively participate in workshops and trainings that will improve their skills. Consequently, in order to eliminate the skills mismatch, both parties

should take responsibility and act proactively. The government should also be held accountable and foster a climate that promotes both youth recruitment and industry collaboration with academic institutions. Several studies show that the school curriculum is out-of-date, thus it is crucial that institutions also take action and update the curriculum so that course material matches the skills that employers require more closely.

List of Figures   Pages

List of Tables   Pages

References

2022 RSM International Association. (2022). *2022 RSM International Association*. Retrieved January 18, 2022, from rsm.global: https://www.rsm.global/botswana/insights/doing-business-botswana/employment

Afzal, M., Butt, A. R., Rehman, H. u., Begum, I., & Iqbal, M. (2009). *The Pakistan Development Review, 48*(4), 885-920.

Anand, S., & Ravallion, M. (1993). Human development in poor countries: on the role of private incomes and public services. *The Journal of Economic Perspectives*, 133-150.

Appleton, S., & Teal, F. (2005). *Human Capital and Economic Development.*

Bank of Botswana. (2021). *Monetary Policy Report.* Gaborone: Bank of Botswana.

Bank of Botswana. (2022). *Monetary Policy Committee Decision.* Gaborone: Bank of Botswana.

Botswana Society. (2014). Vol. 46, Special Issue on the 2011 Botswana Population and Housing Census. *The Botswana Society*, 58-71.

Caitlin Allen, Z. A. (2021). Employment Creation Potential, Labor Skills Requirements, and Skills Gaps for Young People: A South African Case Study. *Africa Growth Initiative*.

Cedefop. (2015). Vocational Pedagogies and Benefits for Learners: Practices and Challenges in Europe. *Cedefop Research Paper Paper; No 47*.

CEIC Data. (2020). *Botswana Labour Force Participation Rate*. Retrieved 2022, from CEIC: https://www.ceicdata.com/en/indicator/botswana/labour-force-participation-rate#:   :text=Botswana%20Labour%20Force%20Participation%20Rate%20dropped%20to%2069.4%20%25%20in%20Dec,an%20average%20rate%20of%2060.5%20%25%20.&text=Unemployment%20Rate%20of%20Botswa

Chikalipah, S., & Makina, D. (2019). Economic growth and human development: Evidence from Zambia. *Sustainable Development*. Retrieved 15, 2021, from wileyonlinelibrary.com/journal/sd

Chikalipah, S., & Okafor, G. (2019). Dynamic Linkage between Economic Growth and Human Development: Time Series Evidence from Nigeria. *Journal of International Development, 31*, 22-38. doi:10.1002/jid.3390

Costa, D. L., & Steckel, R. H. (1997). Long-Term Trends in Health, Welfare, and Economic Growth. *Health and Welfare during Industrialization*.

D. Contreras, L. d. (2011). The Determinants of Labour Force Participation and employment in Chile. *Applied Economics*.

Galanis, . O. (2012). Is Aggregate Demand Wage-Led or Profit-Led? National and Global Effects. *International Labour Organization* .

Globalization Partners. (2022). *Globalization Partners*. Retrieved January 18, 2022, from globalization-partners.com: https://www.globalization partners.com/globalpedia/botswana-employer-of-record/compensation/#gref

Goodwin, R. M. (2000). *Testing Goodwin: Growth cycles in the OECD countries.* Cambridge University Press.

Haq, M. u. (1995). *Reflections on Human Development.* Oxford University Press.

Haroon Bhorat, A. E. (2019). Economic Complexity and Employment Expansion: The Case of South Africa. *Development Policy Research Unit*.

Harvie, D. (2000). Testing Goodwin: gorwth cycles in ten OECD countries. *Cambridge Journal of Economics, Volume 24, Issue 3*, 349-376.

Hendry, M. P. (2000). *Forecasting non-stationery economic time series.* MIT Press.

Hipple, S. F. (2016). Labor force participation: what has happened since the peak. *Monthly Labour Review*.

Human Resource Development Council. (2020). *Tertiary Education Statistics 2020.* Gaborone: Human Resource Development Council.

ILO Employment Trends Unit. (2010). Trends in Econometric Models: A review of the Methodology. *International Labour Organization*.

Internation Labour Organization. (1998). *ILO Topic Portal on Maternity Protection.* Retrieved January 24, 2022, from International Labour Organization: https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_008009/lang--en/index.htm

International Labour Organisation & The Governmnent of Botswana. (2020). *Decent Work Country Programme for Botswana.* Gaborone: Ministry of Employment, Labour Productivity and Skills Development.

International Labour Organization. (2007, October). Growth and Employment Dynamics in Botswana: A Case Study of Policy Coherence. *Policy Integration and Statistics Department, Working Paper No. 82*.

International Labour Organization. (2022). *Social Protection & Labour: Labour Force Structure.* ILOSTAT Database.

International Labour Organization. (2022). *What is a minimum wage.* Retrieved April 10, 2022, from International Labour Organization: https://www.ilo.org/global/topics/wages/minimum-wages/definition/WCMS_439072/lang--en/index.htm

International Labour Organization, ILOSTAT Database. (2022, February 8). *Social Protection & Labour: Labour Force Structure.* Retrieved April 8, 2022, from The World Bank Group: https://data.worldbank.org/indicator/SL.TLF.CACT.ZS?locations=BW&view=chart

International Monetary Fund. (2014). Government Finance Statistics Yearbook and data files. *Government Finance and Statistics Manual.*

International Monetary Fund, International Financial Statistics and Data Files. (2022). *Financial Sector: Exchage Rates & Prices.* Retrieved April 8, 2022, from The World Bank Group: https://data.worldbank.org/indicator/FP.CPI.TOTL.ZG (a)

International Monetary Fund, International Financial Statistics and Data Files using World Bank data on the GDP deflator. (2022). *Financial Sector: Interest Rates.* Retrieved April 8, 2022, from The World Bank Group: https://data.worldbank.org/indicator/FR.INR.RINR (b)

Johansen, S. (1988). Likelihood‐based inference in cointegrated vector autoregressive models. *Econometric Theory, 14*(4), 517‐524.

Kapsos, S. (2005). The Employment Intensity of Growth: Trends and Macroeconomic Determinants. *International Labour Office.*

Kennedy, P. (2008). *A guide to modern econometrics* (5th ed.). Oxford, United Kingdom: Blackwell Publishing.

Kozlov, K. A. (2005). The Impact of Remittances on Labour Force in Bangladesh: An Emperical Analysis of Labour Participation and Employment. *Russian Management Journal.*

Leith, J. C. (2000). Why Botswana Prospered. *Canadian Economics Association.*

Lemieux, P. B. (1999). Evolution of Female Labour Force Participation Rate in Canada, 1976-1994: a Cohort Analysis. *Canadian Business Economics.*

Lesetedi, G. N. (2018). High Youth Unemployment in Botswana: A Case of Policy Failure or Poor Research. *Mosenodi Journal*, 127-136.

Lewbel, P.-A. C. (2015). Gary Beker's 'A Theory of the Allocation of Time'. *The Economic Journal.*

M. H. Pesaran, Y. S. (2001). Bounds Testing Approaches to the Analysis of Level Relationships. *Journal of Applied Econometrics Vol. 16(3)*, 289-326.

M. Hashem Pesaran, Y. S. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics/ Volume 16/ Issue 3*, p. 289-326.

Magidu, N. (2010). Socio-Economic Investigation into Determinants of Labour Force Participation in Labour Markets: Evidince from Uganda. *Economic Policy Research Centre.*

Maipose, G. S. (2008). Institutional Dynamics of Sustained Rapid Economic Growth with Limited Impact on Poverty Reduction. *United Nations Research Institute for Social Development.*

Maysami, R. C., & Koh, T. (2000). A vector error correction model of the Singapore stock market. *International Review of Economics and Finance, 9*(1), 79 96.

McNeill, D. (2007). Human Development :The Power of the Idea. *Journal of Human Development, 8*(1), 5-22.

Michael, B., Ranis, G., Frances, S., & Tavneet, S. (2003). Paths to success: The relationship between Human Development and Economic Growth.

Midgley, J. (1995). *Social Development: The Developmental Perspective in Social Welfare.* London, Thousand Oaks, CA and New Delhi: Sage.

Ministry of Finance and Economic Development. (2017). *National Development Plan.* Gaborone: Government of Botswana.

Motswapong, H. S. (2010). Female Participation in the Labour Market of Botswana: Results from the 2005/06 Labour Froce Survey Data. *Botswana Journal of Economics.*

National Development Plan 11. (2017). Gaborone, Botswana: Government of Botswana.

Nelson, C., & Plosser, C. (1982). Trends and random walks in macroeconmic time series: Some evidence and implications. *Journal of Monetary Economics, 10*(2), 139-162.

Ngwakwe, C. C. (2020). Measuring the Interdependence between Economic Growth and Human Development in South Africa. *Euro Economica, 2*(39), 94-103.

O'Neil, A. (2021). *Labour Force Participation Rate in Botswana 2019.* Statista.com.

Palley, T. I. (2013). A Kaldor-Hicks-Goodwin-Tobin-Kalecki model of growth and distribution. *METROECONOMICA*, 319-345.

Palley, T. I. (2013). A Kaldor-Hicks-Goodwin-Tobin-Kalecki model of growth and distribution. *METROECONOMICA: International Review of Economics*, 319-345.

Palley, T. I. (2013). A neo-Kaleckian-Goodwin model of capitalist economic growth: monopoly power, managerial pay, and labour market conflict. *Cambridge Journal of Economics*, 1483-1484.

Pichelmann, J. E. (1993). Interpreting Unemployment: The Role of Labour-Force Participation. *OECD Economic Studies No. 21*, 140.

Pieters, S. K. (2015). What explains the stagnation of female labour force participation in Urban India. *World Bank Group. Policy Research Working Paper 7222*.

Prante, E. H. (2018). Funtional distribution and wage inequality in recent Kaleckian growth models. *Berlin School of Economics and Law and Institute for International Economy.*

Ranis, G., & Stewart, F. (2005). *Dynamic Links between the Economy and Human Development.* New York: United Nations Department of Economic and Social Affairs.

Ranis, G., Stewart, F., & Ramirez, A. (2000). Economic growth and Development. *World Development, 28*(2), 197-219.

Richard Blundell, J. H. (1987). Unemployment and Female Labour Supply. *Economic Journal, Vol.97, issue 388a*, 44-64.

Rivera, M. A . (2011). The S ynergies Between Tourism Expansion And Development A n Analysis Of E conomic G rowth, Poverty A nd H uman D evelopment i n Equador. *Electronic Theses and D issertations*. Retrieved 1 4 , 2021, from https://stars.library.ucf.edu/cgi/viewcontent.cgi?article=2707&context=etd

Sackey, H. A. (2005). Female Labour Force Participation in Ghana: The Effects of Education. *African Economic Research Consortium*.

Sen, A. (1999). *Development as Freedom.* New York: Random House.

Shahnaz, Z. F . (2004). How Do W omen D ecide to W ork in Pakistan? *The Pakistan Development Review*.

Sharma, R. K ., & Kaur, L. (2015). Relationships b etween E conomic G rowth and H uman Development : An Empirical Study with Special Reference to Haryana. *IPE Journal of Management, 5*(1), 86-101.

Siphambe et al., 2. (2020). *Determinants of Unemployment and Labour-Market Transitions for Youth in Botswana.* Gasborone: Partnership for Economic Policy.

Siphambe, H. K. (2000). Rates of Return to Education. *Economics of Education Review*.

Siphambe, H . K. (2003). Understanding U nemployment i n Botswana. *The South African Journal of Economics*.

Siphambe, H. K. (2007). Growth and Employment Dynamics in Botswana: A C ase Study of Policy Coherence. *International L abour O ffice, Policy Integration and S tatistics Department- Geneva*, Working paper; No.82.

Statistics Botswana. (2019). *Quarterly Multi Topic Survey: L abour F orce M odule Report.* Statistics Botswana.

Statistics Botswana. (2021). *Gross Domestic Product: Fourth Q uarter of 2021.* G aborone: Statistics Botswana.

Statistics Botswana. (2021). *Quarterly Multi-Topic Survey (QMTS) Q4.* G aborone: S tatistics Botswana.

Statistics Botswana. (Quarter 4, 2021). *Quarterly Multi-Topic Survey (QMTS) .* G aborone: Statistics Botswana.

Stock, J., & Watson, M. (1989). Interpreting the evidence on money-income causality. *Journal of Econometrics, 40*(1), 161-181.

Strauss, J., & Thomas, D. (1998). Health, nutrition, and economic development. *Journal of Economic Literature, 36*(2), 766 817.

Tazeen Fasih. (2010). *Botswana Labor Market Signals on Demand for Skills .* The World Bank: Policy Note 2.

Todaro, M. P., & Smith, S. C. (2015). *Economic Development.* New Jersey: Person.

Twum, R. N. (2022). Employment Creation Potential Labor Skills Requirements and Skills Gaps for Young People: A Rwanda Case. *Africa Growth Initiative.*

Uko, E. N. (2016). Autoregressive Distributed Lag (ARDL) Cointegration Technique: Application and Interpretation. *Journal of Statistical and Econometric Methods*, 63-91.

UNDP. (1990). *Human Development Report 1990.* New York: Oxford University Press.

UNESCO Instiute for Statistics. (2021, September). *uis.unesco.org.* Retrieved January 24, 2022, from The World Bank Group: https://data.worldbank.org/indicator/SE.SEC.ENRR

United Nations Development Plan. (2013). Motivation of Public Service Officials. *Global Centre for Public Service Excellence.*

United Nations Division's World Population Prospects: 2019. (2022). *Health: Population: Dynamics.* Retrieved April 8, 2022, from The World Bank Group: https://data.worldbank.org/indicator/SP.POP.DPND

United Nations Population Dvision: World Population Prospects. (2019). *Health: Popualtion: Dynamics.* Retrieved April 04, 2022, from The World Bank Group: https://data.worldbank.org/indicator/SP.POP.GROW

Wachter, T. V. (2001). Employment and Productivity Growth in Service Sectors in France, Germany and the US. *European Central Bank.*

Walwei, U. (2016). Digitalization and Structural Labour Market Problems: The Case of Germany. *ILO Research Paper No. 17.*

Wickens, M. R. (1974). Towards a Theory of the Labour Market. *The London School of Economics and Political Science.*

World Bank. (2006). *World Development Indicators.* Retrieved January 24, 2022, from World Bank. DataBank: World Development Indicators: (http://databank.worldbank.org/data/home.aspx).

World Bank National Accounts Data. (2022). *Economic Policy & Debt: National Accounts: Growth Rates.* Retrieved April 08, 2022, from The World Bank Group: https://datacatalog.worldbank.org/public-licenses#cc-by

World Health Organization. (2022). *United Nations. Global Sustainable Development Goals Indicators Database.* Retrieved January 24, 2022, from World Health Organiozation: (https://unstats.un.org/sdgs/indicators/database/).

Yinusa, T. A. (2011). An Analysis of Employment Intensity of Sectoral Output Growth in Botswana. *Southern African Business Review*, Volume 15.

EMPLOYMENT CREATION POTENTIAL IN MANUFACTURING, AGRICULTURE & TOURISM SECTORS AND YOUTH LABOUR FORCE SKILLS AUDIT: A Botswana Case Study.

ABSTRACT

This study aims to provide an empirical analysis of employment creation potential in manufacturing, agriculture & tourism sectors in Botswana. Furthermore, an investigation of the potential for growth and youth employment by these sectors through a skills audit to establish skills gaps, skills requirements and an estimate inclusive future growth that drives youth labour force participation. Data from Statistics Botswana, Quarterly Multi-Topic Survey Reports and Quarterly Domestic Product Reports were used to establish trends in the occupational distribution of sectors and current employment growth rate trends in Botswana. The employment potential was quantified and sectoral employment elasticity for growth and varying estimates calculated from labour intensive sectors.

To understand the in-depth supply and demand side of the youth labour market and establish skills gaps, primary data was collected using findings from the interview surveys administered to the target population; youth labour force and labour intensive firms; manufacturing, agriculture and tourism. The results from the study are consistent to other studies previously conducted and they revealed that, manufacturing, agriculture and tourism sectors mostly favour low skilled employment, which are not formally obtained but mostly learnt on the job. This attributes to the surplus youth skilled labour force that has acquired tertiary education training in the country.

The policy implications for Botswana to achieve a sustainable supply and demand of youth labour force, is to institute incorporate a demand-led approach to the attainment of qualifications by youth and that requires collaboration between employers and educational institutions. Additionally, the education system needs to be designed appropriately with education policies and programs that encourage job skills development. The firms in these sectors should provide input regarding their skill requirements in order for the youth to obtain qualifications required by these labour-intensive sectors. The recommendations from the study is that the Botswana Government must focus its economic transformation into labour-intensive industries to increase the absorptive capacity of the labour market.

ABOUT THE AUTHOR

The Institute for Labour and Employment Studies (ILES) is a centre of excellence for research and training on labour market issues. The Institute was established by Botswana Public Employees Union (BOPEU) with a purpose and mandate to provide products and services to Trade Unions, Federations, Private and Public sector in the areas of Research, Development and Consultancy, Education and Training, Negotiations, Social Dialogue skills, Community Outreach and Civic Society Engagement.

Tel: (+267) 3952441
Address: PO Box 18, Gaborone, Botswana
Facebook: @fesbots
info@fes-botswana.org
www.fes.botswana.de

©2023 FRIEDRICH-EBERT-STIFTUNG

ILES
INSTITUTE FOR LABOUR AND EMPLOYMENT STUDIES

FRIEDRICH EBERT STIFTUNG

Botswana Office