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Examining the South African labour market outcomes during the coronavirus pandemic of 2019

By

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DECLARATION

I declare that "*Examining the South African labour market outcomes during the coronavirus pandemic of 2019*" is my own work, that it has not been submitted for any degree or examination in any university, and that all the sources that I have used or quoted have been indicated and acknowledged by complete references.

Note: Before this thesis was submitted for examination, we converted it into a journal manuscript and it was published on the DHET-accredited journal Development Southern Africa on 28 June 2023 (https://doi.org/10.1080/0376835X.2023.2229875).

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ABSTRACT

The South African labour market is distinguished by dismally significant levels of unemployment and even higher levels of youth unemployment. The COVID-19 pandemic imposes the risk of adding further pressure on South Africa's already exasperated labour market and thus contributing to greater unemployment levels amongst South Africans. To combat the effects of the COVID-19 pandemic, the South African government imposed lockdown levels to reduce socio-economic activities and thereby minimise the health effects and spread of the virus. The continuous lockdowns unfortunately placed constraints on business activities and led to increased levels of unemployment. The outcomes reveal that the burden of this unemployment resultant of the COVID-19 pandemic falls to minority groups, such as the youth, African women and lowly educated.

This study analysed the 2020-2022 Quarterly Labour Force Survey data as well as the first five waves (also taking place in 2020-2021) of the National Income Dynamics Study – Coronavirus Rapid Mobile Survey (NIDS-CRAM) panel data to investigate who were the hardest hit in the labour market by the COVID-19-driven economic lockdown. The specific focus was on the profile of people (e.g., gender, race, age cohort, province, area type, educational attainment, work characteristics) suffering the greatest increase of unemployment during the above-mentioned period, with the aid of various statistical and econometric analyses.

The QLFS data showed that low-educated Africans aged 25-44 years and those involved in low skilled occupation categories were most susceptible to job loss. In addition, the NIDS-CRAM data showed that for those who were still employed in February 2020, just over 50% worked in all five waves, 14% worked in four waves and 9% in three waves. Only 0.5% and 1.8% turned out to be unemployed and inactive in all five waves, respectively. Finally, for the February 2020 employed who lost their jobs and became unemployed in April 2020 (wave 1), 60% of them worked again but 22% remained unemployed in March 2021 (wave 5).

Keywords: Labour market, Coronavirus, economic lockdown, labour supply, labour demand, South Africa

JEL codes: J00, J21

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LIST OF ABBREVIATIONS

AA	Affirmative Action
BEE	Black Economic Empowerment
DTIC	Department of Trade, Industry and Competition
ILO	International Labour Organisation
LFPR	Labour Force Participation Rate
LFS	Labour Force Survey
NEF	National Empowerment Fund
NIDS-CRAM	National Income Dynamics Study – Coronavirus Rapid Mobile Survey
OHS	October Household Survey
QLFS	Quarterly Labour Force Survey
StatsSA	Statistics South Africa
SRD	Social Relief of Distress
UIF	Unemployment Insurance Fund
WEO	World Economic Outlook
WHO	World Health Organization

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CHAPTER ONE: INTRODUCTION

1.1   Background

The South African labour market has been characterised by persistently high levels and rates of unemployment since the advent of democracy, especially amongst the youth population. Already suffering from stagnant real GDP growth rate in the second half of the 2010s, the coronavirus (COVID-19) pandemic poses a health crisis which has been further negatively impacting the economy and worsening the country's unemployment crisis. According to Statistics South Africa (Stats SA), the Quarterly Labour Force Survey released in March 2022 has found that the unemployment rate in South Africa increased to 35.3% in the fourth quarter of 2021 from 34.9% in the third quarter (Stats SA 2022). The youth cohort aged 15-34 years accounted for nearly 60% of all unemployed while youth unemployment rate was 49.1%, which indicates that nearly half of youth jobseekers find themselves unemployed.

The COVID-19 pandemic further cripples the ability of the economy to create employment opportunities to absorb the new entrants to the labour market, unemployed and even those employed who were unfortunately later retrenched, thereby creating an even more dire scenario for the South African labour market. The implementation of lockdown levels would limit business activity and further constrain the labour market.

To reduce fatalities and health risk presented by the COVID-19 pandemic, the South African government introduced lockdown stages in late March 2020. Initially, lockdown was at the highest level 5 wherein the harshest restrictions were imposed. Since the initial lockdown, the government has varied the lockdown level in effect. The lockdown level has dropped to level 1 at various times for the 2020-2021 period. Towards the end of November 2021, the Omicron variant was detected; South Africa, however, remained on adjusted alert level 1. It was only until May 2022 that the remaining lockdown restrictions were alleviated.

At the same time, the vaccination campaign had been gaining momentum and at the offset of the new Omicron COVID variant, the South African president (Cyril Ramaphosa) further encouraged South Africans to be vaccinated. At the time of writing, nearly 40 million vaccinations in total have taken place with approximately half of the adult population being partially or fully vaccinated. Nonetheless, it is important to note that the damages of the

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lockdown on the labour market are still serious and can still be seen in the high number of unemployed people in the South African labour market.

While the lockdown levels aim to reduce the effects of the COVID-19 pandemic, the restrictions on mobility have a direct and often negative impact on employment. The restrictions have also negatively affected potential employment for existing destitute jobseekers who already face challenging labour market conditions. Moreover, small franchises and micro businesses could be most impacted as their business operations could be more affected by the inflicted lockdown levels. The negative impact of the lockdown on small business operations, as expected, would have dire consequences in the labour market in terms of possible permanent retrenchment or temporary lay-off of existing staff, not to say to create new jobs in their businesses. Entrepreneurship, especially youth entrepreneurship, has thus been identified as a vital job-creation source. However, the negative impact of the lockdown on small business operations, as expected, would have dire consequences in the labour market in terms of possible permanent retrenchment or temporary lay-off of existing staff, the potential of job creation in their business is also reduced.

1.2   Research question

This research question of the study is: what happened in the South African labour market in 2020-2022 as a result of the lockdown driven by the onset of the COVID-19 pandemic?

1.3   Research objectives

This study generally aims to examine what happened to the South African labour market in 2020-2022 during the COVID-19 lockdown. Further to this, the study also aims to analyse the changes in the profile of the labour force. The specific research objectives are as follows:

- To analyse the 2020-2022 Quarterly Labour Force Survey (QLFS) data to investigate what happened to South Africa's labour supply and labour demand between the first quarter of 2020 (just before the start of the lockdown) and second quarter of 2022 (when all the lockdown restrictions were lifted).
- To analyse the 2020-2021 National Income Dynamics Study – Coronavirus Rapid Mobile Survey (NIDS-CRAM) balanced panel data component to specifically investigate what happened to the 2020-2021 labour market status of those who were still employed in February 2020, just before lockdown took place.

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1.4   Significance of the study

The study helps fill the existing research gap in Labour Economics literature, to conduct a comprehensive investigation on the labour market outcomes of the labour force during the COVID-19-driven lockdown period, with specific focus on the 2020-2022 period. Moreover, this study helps inform us of the severity of the effects of pandemic on the South African labour market. By identifying the most impacted and vulnerable groups, the state can implement social policies and provide relief in the form of development and/or entrepreneurial programs targeting the most impacted groups of the labour market in an attempt to provide workers with the skills required in the labour market or to equip workers to become self-employed.

The South African labour market has always been indicative of the social climate and welfare in the country (Ranchhod & Daniels, 2021). The South African labour market has also been used as a "primary institution" for ascertaining several socio-economic measures (Ranchhod & Daniels). Therefore, this study will aid and guide the decision-making so that the focus of social relief aid will be on vulnerable groups.

1.5   Outline of the thesis

The thesis is structured as follows: Chapter One is the Introduction that provides four aspects: background and research question, research objectives, significance of the study and the structure of the proposal. Chapter Two outlines the Literature Review. In this section employment and unemployed will be defined, the decrease in labour demand and thus increase in unemployment and a review of past empirical studies will be conducted. Chapter Three explains the methods and data used, before Chapter Four presents and discusses the empirical findings. Finally, Chapter Five concludes the study with some policy recommendations.

CHAPTER TWO: LITERATURE REVIEW

2.1   Introduction

This chapter firstly aims to define the pertinent concepts relating to the labour market, such as the labour force, labour force participation rate, employment, unemployment and unemployment rate. These concepts are discussed in section 2.2. Following this, section 2.3 discusses theories regarding the change in employment and unemployment of labour force. The South African government's interventions to assist vulnerable households and individuals is discussed in section 2.4. Thereafter, the chapter moves on with a review of the empirical findings based on the effects of the COVID-19 pandemic on the South African labour force as well as international labour markers. Section 2.5 concludes the chapter.

2.2   Defining key concepts

2.2.1   Labour Force

Borjas (2016) defines labour force as the participation of either employed or unemployed persons in the labour market and further demonstrates the size of the labour force as:

$$Labour\ force = Employed + Unemployed$$

The above definition very loosely includes all persons considered employed or unemployed.

Ehrenberg and Smith (2012) expand on the above definition and describe the labour force as all persons over the age of 16 years who are employed, actively seeking employment, or expecting a call back from a layoff. According to Ehrenberg and Smith (2012), the labour force also consists of the unemployed but excludes discouraged workers from the official or narrow definition.

There are narrow and broad definitions of the labour force (Nattrass, 2002). The narrow definition includes employed individuals and the 'searching' unemployed. The 'searching' unemployed must have actively been seeking employment to form part of the narrow definition. The broad definition includes the employed and 'non-searching' unemployed persons. The broad definition does not require the unemployed to be actively seeking work. The unemployed who are 'non-searching' are often referred to as discouraged workers. The broad definition therefore only requires the unemployed to merely have the desire to work. In section 2.2.4, a more detailed explanation on the difference between narrow and broad unemployment (and discouraged workers) will be provided.

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2.2.2 Labour Force Participation rate

The labour force participation rate (LFPR) stands for the percentage of the working-age population that forms part of the labour force (Borjas, 2016). This percentage is be defined by:

$$Labour\ force\ participation\ rate\ (LFPR) = \frac{Labour\ Force}{Working-age\ population} \times 100$$

Oosthuizen (2006) adds to the above definition and states that in South Africa, the working-age population consists of individuals aged between 15 and 65 years.

2.2.3 Employment

According to Nattrass (2002), a person is considered employed if they are "gainfully employed" for an hour or more whilst other definitions record individuals as employed when either positive working hours are reported, or wage income is received. In South Africa, in 1995-1999, as long as the person declared he worked full-time, part-time or casually, he was classified as employed. However, it can be argued that not everyone could understand these categories. Hence, from 2000 onwards when the Labour Force Survey was introduced, the respondents must have worked at least one hour in the last week – regardless of whether they worked in the formal or informal sector – before they were defined as employed (Yu, 2012).

2.2.4 Unemployment

Unemployment can be defined as a circumstance of being without labour or having no job (Samiullah, 2014). Samiullah (2014) adds that unemployment can be defined as the number of people searching and able to work but unable to find a job. In South Africa, there are two definitions of unemployment, namely the official and expanded definitions of unemployment. In general, the conditions for the narrow or official definition of unemployment to be met are detailed below as outlined by Stats SA (2018b):

(a) The individual has not worked the seven days prior to the interview, AND

(b) The desire to work and is available to start work within a week of the interview, AND

(c) Has proactively sought employment or start a form of self-employment in the four weeks preceding the interview.

The expanded definition of unemployment does not require criterion (c) (that is, only criteria (a) and (b) need to be met). The expanded definition of unemployed thus includes discouraged

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jobseekers. Discouraged workseekers are unemployed persons who are not actively seeking employment. Workers may become discouraged due to their geographical location and thus high transportation costs, a lack of social networks and formal labour market information which all leads to workers experiencing high costs in their job search resultantly leading to workers becoming discouraged and non-searching in the labour market (Fourie, 2012a).

Furthermore, there are generally four types of unemployment, namely: frictional, seasonal, demand-deficient and structural unemployment. First of all, the labour market is in a constant state of change as some workers resign from their jobs, some are dismissed from their jobs, new entrants enter the labour market, and some workers re-enter the market after spending some time doing non-market activities. Frictional unemployment occurs because both workers and employers need time to locate one another and process the information about the appropriateness of the job match (Borjas, 2016). An example includes individuals entering the labour market for the first their time having just graduated and looking for their first job.

Seasonal unemployment is induced by fluctuations in the demand for labour (Ehrenberg & Smith, 2012). The fluctuations are, however, anticipated and follow a regular pattern over the space of a year. An example of seasonal unemployment includes the decline in the demand for farm workers after the planting season.

South Africa experiences severe structural unemployment (Chibba & Luiz, 2011). This type of unemployment is also described as the most concerning type of unemployment. Structural unemployment ensues when there is a discrepancy between the skills demanded and supplied in the labour market. An example of structural unemployment is an elderly or 'old-school' cashier who does not know how to use the latest cash register machine to process Eskom/Telkom payments and issue mobile phone airtime vouchers, and hence is retrenched. Another example of structural unemployment includes train stations switching from selling paper tickets to self-paying machines. Ticket sellers would become unemployed unless they acquired the skills to assist customers to operate the self-paying machines.

Before the COVID-19 pandemic started and the subsequent lockdown restrictions were implemented, structural unemployment was the most serious type of unemployment in South Africa, as the skills mismatch problem has been well-known in the country. However, it is

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possible that demand-deficient unemployment took over to become most dominant since the start of the pandemic and lockdown.

Demand-deficient unemployment, commonly also referred to as cyclical unemployment, occurs when there is a decrease in aggregate business activity and overall decline in business output and thus a decline in aggregate demand for labour (Ehrenberg & Smith, 2012). It is likely that the South African labour market will mostly experience demand-deficient unemployment due to the downturn in aggregate demand owing to the initial lockdown measures which restricted business activity and movement. The consequences of the lockdown and the effects of the COVID-19 pandemic was reflected in the initial shocks to South Africa's real GDP which showed a quarter-on-quarter annualised 51.0% decline in the second quarter of 2020 (StatsSA, 2020). Overall, annual real GDP decreased by 7.0% in 2020 (StatsSA, 2021). The overall decline in business activities and increased unemployment also suggests that South African has been enduring both economic recession and demand-deficient unemployment.

2.2.5   Unemployment rate

The unemployment rate is obtained by expressing the total number of unemployed individuals as a percentage of the total labour force which, as previously outlined, consists of employed and unemployed individuals (Mohr, 2011). Borjas (2016) expresses the unemployment rate as a fractions of the labour force who are unemployed as shown by:

$$Unemployment\ rate = \frac{Unemployed}{Labour\ Force} \times 100$$

2.2.6   Coronavirus disease (COVID-19)

COVID-19 originally occurred in the Wuhan province of China in December 2019 and quickly spread to other parts of the world. It was found that a novel coronavirus was responsible for the disease outbreak (Yuki, Fujiogi & Koutsogiannaki, 2020). The novel coronavirus disease was called the "severe acute respiratory syndrome coronavirus-2" because of its similarity to SARS-CoV which caused acute respiratory distress syndrome and high mortality during the 2002-2003 period. It was later found that the outbreak of the virus was majorly due to human-to-human transmission. The disease produced by this virus was named Coronavirus disease 19 (COVID-19), and eventually the World Health Organization (WHO) declared it as a pandemic.

2.3   Theoretical framework

2.3.1   Demand and supply theory

At the start of the lockdown, the South African government enforced restrictions on the movement and business activity to reduce the spread of the COVID-19 pandemic. These restrictions results in many businesses being temporarily closed and some workers were not physically able to return to their physical place of work. (Ranchhod & Daniels, 2021). The aggregate demand-aggregate supply framework is a model that explains price level and output through the relationship between average demand and average supply. The demand curve is downward sloping whilst the supply curve is upward sloping. The price and output/quantity are determined at the intersection of the demand and supply curve.

As a result of the lockdown, there is a decrease in demand and therefore there is a leftward shift of the aggregate demand curve. Thus, output or real GDP declines, and consequently, unemployment increases. It will be important to assess which group will suffer the unemployment increase. It could be speculated that lowly skilled workers may be the first to feel the brunt of unemployment and that skilled workers may be able to weather the impact of the COVID-19 pandemic. Due to a reduction in aggregate output or real GDP, there will also be changes to the demand for skilled and unskilled labour respectively, and it is expected that under the lockdown circumstances, demand for unskilled labour decreases whereas the demand for skilled labour could somehow increase, due to further structural changes of the economy.

Figure 1: Labour supply and demand framework: skilled labour versus unskilled labour

(a): Unskilled labour   (b): Skilled labour
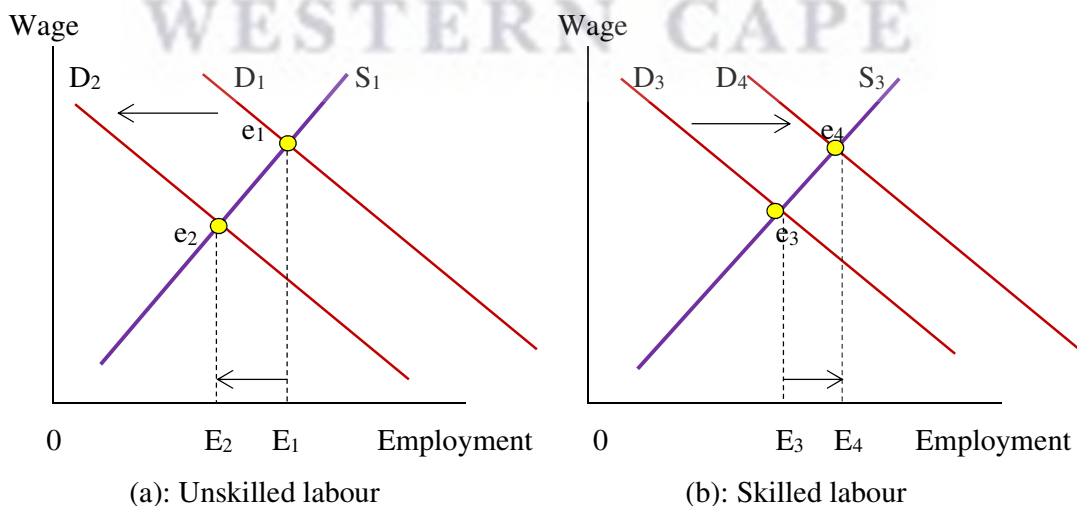
Source: Author's own illustration.

Figure 1(a) illustrates the decrease in the number of unskilled labour employed in the South African labour market. Initially, demand for and supply of unskilled labour are shown by the curves D_1 and supply S_1, respectively. The intersection of D_1 and S_1 gives the equilibrium point, namely e_1. Moreover, E_1 denotes the number of employed unskilled labour.

Due to lockdown restrictions implemented by government and a reduction in business activities in many servicing industries such as hospitality and restaurants, there is a significant decline in the demand for unskilled labour. This decrease in the demand for unskilled labour is demonstrated by a leftwards shift of the demand curve from D_1 to D_2. The equilibrium point shifts to e_2 and employment of unskilled workers drops to E_2.

Figure 1(b) demonstrates the possible increase in the total number of skilled labour employed in the South African labour market. Initial demand for skilled labour is represented by the demand curve D_3 where labour supply is represented by the supply curve S_3. The juncture of D_3 and S_3, indicated by e_3, denotes the number of skilled labour employed (E_3).

There is an expected increase in demand for skilled labour as many primary and contact servicing roles become momentarily unavailable or reduced due to COVID-19 restrictions. There is thus an expected increase to virtual, online assistance.[1] Thus, there is an expected increase in demand for skilled labour within finance and information technology industries (e.g., online banking and online shopping). This expected increase in the demand for skilled labour is shown by the rightwards shift of the demand curve from D_3 to D_4. The increase in employment for skilled workers from E_3 to E_4 is illustrated by the shift of the equilibrium point from e_3 to e_4.

2.3.2   Human capital theory

Human capital is one of the most imperative determinants of economic structure. The term human capital "conceptualizes workers as embodying a set of skills that can be 'rented out' to employers" (Coulson, 2009). Human capital consists of the knowledge and skills which come from education and training as well as work experience. Human capital can thus be summed

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[1] For example, there is an expected increase in demand for skilled labour such as workers with IT skills who can design and launch apps such as Zoom/Google Meet and improve the capabilities of existing applications such as Microsoft teams so that there is an ease to conducting virtual meetings. Moreover, there is an increase of demand for workers who are able to build and maintain online infrastructure as well as workers who are able to design online applications on mobile phones.

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as the abilities and skills of the labour market. Human capital leads to greater productivity and efficiency (Dias & Posel, 2007).

An investment in human capital necessitates costs in the short term with the expectation of subsequent benefits in the long term (Ehrenberg & Smith, 2012). The costs associated with human capital investment can be divided into three classifications. Ehrenberg and Smith (2012) outlined these costs as "out-of-pocket or direct expenses" which include tertiary education, stationary and book costs; "forgone earnings" which can be defined as the opportunity cost of individuals whom forgo work opportunities to focus on their education and lastly, "psychic losses" in reference to the mental distress often experienced as learning can be difficult. The long-term benefits are in the form of higher future earnings, increased job satisfaction over the individual's lifetime, as well as an increased appreciation of non-market activities and interests.

Figure 2: Human capital theory framework
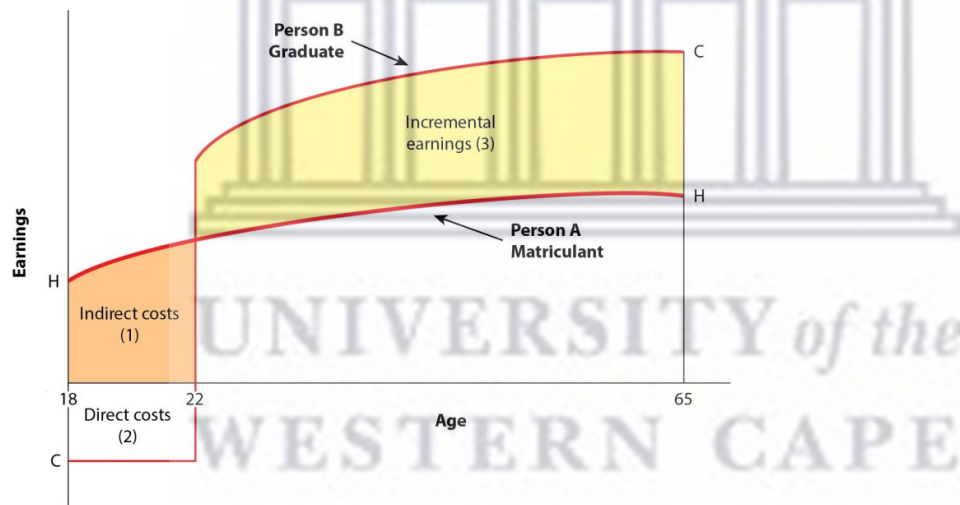
Source: Yu and Roos (2018).

Figure 2 illustrates that Person *A*, a matriculant, initially has higher earnings than Person *B*. It is further demonstrated that although Person *B* at first has greater expenses in the form of indirect and direct costs, once Person *B* starts employment, their earnings are significantly higher than that of Person *A*. Their earnings are shown to increase with age, seen by the upward-sloping curves, namely *HH* and *CC*. However, the incremental earnings "(3)" for Person *B* is greater than that of Person *A*. The distance between the curves *HH* and *CC* thus increases as the individuals reach age 65 years. The person will discount all benefits and costs into present

value terms at t = 0 before deriving net present value. If the person perceives the net present value to be greater than zero, the person will decide to pursue a tertiary education.

The above human capital theory needs to be revisited when it comes to the COVID-19 pandemic lockdown period, because there is no longer guarantee that the earnings stream of matriculants enjoy the (slight) upward trend anymore. For the highly educated and skilled workers, they are more likely to continue to benefit from a steep earnings curve and thus survive the effects of the pandemic, as the skilled labour are of greater demand during the pandemic, as discussed in the earlier labour demand/supply curve analysis.

In contrast, it is suggested that unskilled and lowly educated individuals suffer low earnings. The earnings curve for Person *A*, namely *HH*, could therefore instead be downward sloping and earnings will decrease due to Person *A* changing from full-time employment to part-time employment (e.g., working three instead of five days per week) or because of temporary or permanent unemployment. Person *A* will thus suffer low wages. Yu and Adams (2021) state that the human capital mechanism proposes that Person A, through temporary or permanent unemployment, ultimately becomes unemployable through loss of skill and therefore will prolong high unemployment rates.

The COVID-19 pandemic may resultantly disrupt the theoretical argument that human capital presents. For example, through the disruptions of the virus, Person *A* will bear most of the effects and this will be illustrated with a dramatic downward-sloping earnings curve during the 'pandemic period'. Person *B*, because of their skills and educational attainment, may experience an incremental decrease in their earnings curve or alternatively, Person *B* may even become more in demand in the labour market. The distance of the incremental earnings between Person *A* and Person *B* may increase even further whilst the effects of the pandemic are still being felt.

Figure 2 illustrated the human capital theory under normal circumstances. However, because of the COVID-19 pandemic, the outcomes may differ. Figure 3 shows a modified human capital theory framework upon considering the effects of the COVID-19 pandemic. The figure demonstrates that both Person *C* (with Matric only) and Person *D* (with post-Matric bachelor's degree qualification) experience declines in earnings during the pandemic years. The earnings curve for Person *C* declines considerably during the pandemic years before gradually

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increasing to pre-COVID levels. Person *D* initially experiences a subtle decrease in his earnings curve and income levels, before resuming to pre-COVID levels relatively quickly. Moreover, the distance of incremental earnings between person *D* and person *C* will increase even further whilst the effects of the pandemic are still being felt and after the pandemic period.

Figure 3: Modified human capital theory framework considering the COVID-19 pandemic
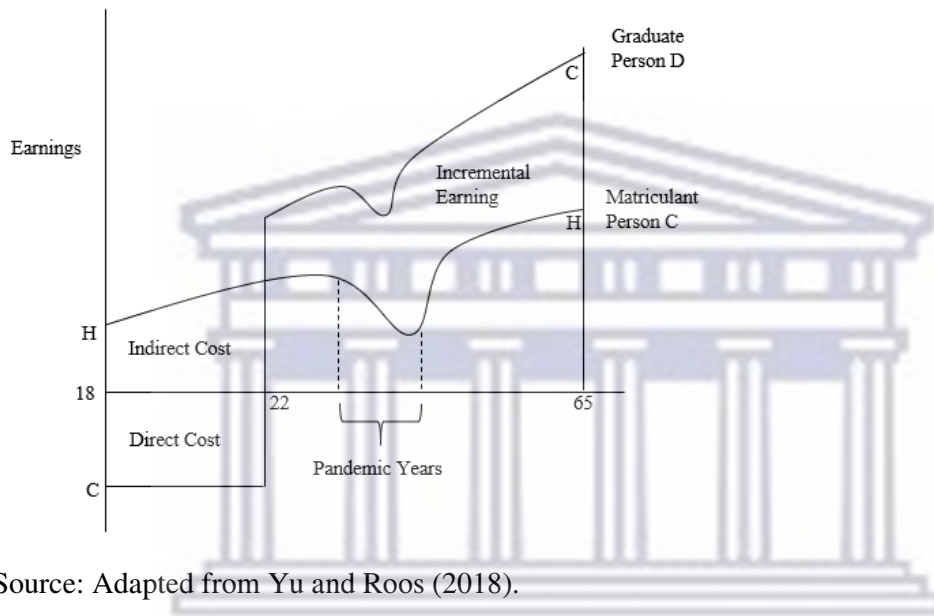
Source: Adapted from Yu and Roos (2018).

It should also be noted that Figure 3 does not consider people who benefitted from the pandemic and who made use of opportunities presented by the new demands that arose from the pandemic. Strictly speaking, Figure 3 can also include a Person *E* who enjoys an increase in labour demand for the whole duration of the lockdown period, and resultantly never suffers a disrupt decline in their earnings. Person *E* always experiences an upwards-sloping and steep earnings stream, much like Person *B* in Figure 2. It is, however, important to note that Figure 3 solely demonstrates the potential outcomes that the average person employed in the labour market may experience.

2.4 South African labour market interventions

To curb the effects of the COVID-19 pandemic, governments worldwide expanded their social protection systems to provide relief to vulnerable individuals and workers. Similarly, South Africa expanded their non-contributory social assistance system on both the intensive and extensive margins from May to October 2020 (Kohler & Bhorat, 2020). On 15 March 2020, a

National State of Disaster was declared, and a national lockdown was implemented for five weeks from 27 March 2020 to 1 May 2020 when a risk-adjusted, phased re-opening of the economy was introduced.

The South African government allocated R40 billion to social assistance towards the end of June 2020. The expansion of social assistance took place in the form of an increase in the amount of existing non-conditional cash transfers (also referred to as social grants) and a special COVID-19 Social Relief of Distress (SRD) grant, a grant to the value of R350 per month (Skinner, Alfers & Rogan, 2021). To help sustain households, the South African president, Cyril Ramaphosa, announced an increase in intensive and extensive margins: existing social grants would be increased overall and the SRD grant would be driven to cater for individuals and workers who are unemployed, are not receiving any income, unemployment insurance fund (UIF) nor any other social grant.

Further to this, the South African government implemented initiatives to safeguard workers and soften the effects of the COVID-19 pandemic. The South African government increased the child support grant to R300 per child in May 2020, by R500 per caregiver for five months while the old-age pension and disability grants were increased by R250 for six months (Skinner, Alfers & Rogan, 2021).

In addition to the social protection systems governments implemented to safeguard livelihoods, physical restrictions were also imposed to physically limit the movement of people to reduce the spread of the virus. The government introduced a risk-adjusted approach to a national lockdown which included five lockdown levels (Casale & Shepherd, 2021; COVID-19 South Africa, 2022). Lockdown level 5 was the strictest lockdown phase wherein almost all activities were suspended except for the production of essential goods and services which were predominantly found within the food, medical and security sectors. All schools, Early Childhood Development centres and childcare facilities were closed and domestic workers/childminders were prohibited from going to work. There was very little difference in the level of business and economic activities allowed under lockdown levels 4 and 5.

Lockdown level 3 was however a less constrictive lockdown phase. This lockdown level allowed many businesses to reopen and resume economic activities. This lockdown level was implemented from 1 June 2020 to 17 August 2020. During this phase, the government listed

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which sectors could reopen under lockdown level 3. The restrictions included personal care services, [2] the on-site consumption of food and alcohol in restaurants and bars, hotels[3] as well as international and domestic flights except for essential work. Domestic workers and childminders could return to work and Grades 7 and 12 were allowed to resume school at the beginning of June.

Lockdown level 1 allowed for almost all economic activity to resume although COVID-related health guidelines remained in place. Certain recreational businesses were not allowed to exceed 50% of their standard capacity, with limitations on the overall number of people allowed at indoor and outdoor congregations. The sale of alcohol was once more allowed. International travel for business and pleasure was reintroduced in October. Lockdown level 1 was implemented from 21 September 2020 to 28 December 2020.

The South African Economic Reconstruction and Recovery Plan was also launched (South African Government, 2022). It consisted of three phases, namely: "Engage and Preserve" which is aimed at saving lives and reducing the spread of the pandemic; "Recovery and Reform" which entails interventions to restore the economy while minimizing health risks; "Reconstruct and Transform" which looks to build a robust and strong economy. The Plan was underpinned by the necessity to shield vulnerable wdorkers, households and firms; foster confidence; deepen industrialization through localization; pursue environmental sustainability while continuing to provide aid to lessen the burden of the COVID-19 pandemic. Overall, the plan is geared towards reducing unemployment, alleviating poverty, and inequality. The plan seeks to not only return the economy to pre-COVID levels but add to GDP growth and job creation.

2.5   Review of past empirical studies

Unemployment remains one of South Africa's most persistent economic and social issues (Yu & Adams, 2021). Since the advent of democracy, there are some well-known studies that examined the South African labour market activities during significant[4] periods. Oosthuizen (2006) examined the South African labour market for the first 10 years following the dawn of

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[2] Personal care services included hair salons, beauty therapists and spas.
[3] This included AirBnbs, bed and breakfast and any accommodation for leisure.
[4] "Significant" refers to noteworthy historical periods of the South African labour market with an emphasis on the period following the dawn of a democratic South Africa from 1994 onwards.

democracy with the principal objective of analysing the changes in the South African labour market since 1994 as well as ascertaining the challenges faced within the labour market. Oosthuizen made use of two main sources of data, namely the October Household Survey (OHS) of 1995 and the Labour Force Survey (LFS) of September 2004. The author noted a signicant increase in labour force participation and an even greater increase in unemployment as the number of broadly unemployed workers rose by 90.7% between 1995 and 2004 whilst narrow unemployment grew by 36.3%. It was also found that unemployment was concentrated amongst Black South Africans, females, lowly skilled individuals and youth (specifically people aged 15-24 years old). Rural areas also appeared to be worst hit by unemployment. Historically, Whites and highly educated individuals enjoyed high levels of employment however, the study found that jobs have become relatively scarcer for these groups. The South African government faced the challenge of halting the increase in unemployment and thereafter minimising it. Oosthuizen (2006) concluded that the effective and sustainable sharing of growth would succeed, should employment opportunities be equitable and provided to all members of society which will in turn reduce the biases in employment and unemployment.

Festus, Kasongo, Moses and Yu (2015) conducted a similar study to that of Oosthuizen to observe the South African labour market outcomes since the onset of democracy. The authors thereby built on the existing literature of the South African labour market by examining the period 1995-2013. The authors made use of three main data sources: OHS 1995, 2004 September LFS and the Quarterly Labour Force Survey (QLFS) of 2013, Quarter 4. The findings indicated a furtherance of the unfavorable trends in unemployment reported by Oosthuizen (2006). In 2013, the labour force had more than doubled since 1995 with a cumulative increase of 8.5 million individuals. Black South Africans accounted for most of the labour force and made up 76.0% of the labour force in 2013. The significant increase in labour force participants can also be accredited to younger workers, more specifically the 25-34 years and 35-44 years cohorts. The labour force participation rate had also gradually increased over the 1995-2013 period. Along with the increase in the labour force, employment had also risen. The highest increase was 3.5 million jobs undergone between 2004 and 2013. Unemployment (as defined by the narrow definition) rose by approximately 2.8 million over the 1995-2013 period – more than doubling since 1995 which had a number of 2.0 million. In 2013, it was observed that Black females mostly carried the burden of unemployment, followed by less educated individuals and the youth.

Thereafter, Yu and Adams (2021) confirmed the continuation in labour market trends over the 2009-2019 period as outcomes appeared to have persisted since Oosthuizen's (2006) findings. The authors used QLFS data from 2009 to 2019 to present their findings on the period. The labour force participation rate increased by a mere 3.1 percentage points from 56.2% in 2009 to 59.3% in 2019. In the latter year, females accounted for 45% of the labour force. The unemployment rate increased by five percentage points over the aforementioned period that amounts to a rise of 2.3 million unemployed people in absolute terms. Black and Coloured workers continued to be more likely to be unemployed as compared to white and Indian workers. Females also had a higher unemployment probability than their male counterparts. It was found that the impact of high unemployment is borne by Black individuals, less educated workers, and the youth. Yu and Adams (2021) warned that the COVID-19 pandemic bodes poorly for the South African labour market outcomes and may further exacerbate the already persistent high unemployment.

In conclusion, these prominent studies that focused on long-term trends derived highly similar empirical findings. It was found that since the advent of democracy in South Africa, labour force participation had increased, employment had risen but unemployment had also increased, moreso than employment. Throughout each study, it was found that Africans, lowly educated individuals, women and the youth remained most vulnerable to unemployment. Black and coloured workers were less likely to be employed compared to their white counterparts and similarly, it was less probable for women to be employed compared to their male counterparts. The above-mentioned studies were unfortunately non-related to the lockdown period. Thus, in the following sub-sections, the rare local and international studies relating to the lockdown period will be reviewed.

2.5.1   South African studies

The COVID-19 pandemic led to a substantial decrease in employment in South Africa (Kohler, Bhorat, Hill, & Stanwiz, 2021). Kohler et al. (2021) conducted a study with the aim of identifying the causal effect of the countries relatively stringent lockdown policies on employment probability. The analysis in the study made use of data from Statistics South Africa's Quarterly Labour Force (QLFS) Survey. The authors reported a 14% decrease in employment equivalent to 2.2 million from 2020Q1 to 2020Q2. The reduction in employment was paired with a considerable increase in discouraged workers wherein official ("searching") unemployed individuals decreased by nearly 40%.

Furthermore, it was found that the reduction in employment is unevenly distributed in the South Afican labour market. Demographically, the youth accounted for just over half of the employment loss representing 50.6% (1.1 million) of the group who became unemployed between 2020Q2 and 2020Q1. Black individuals disproportionately accounted for nearly 78% of the aggregate decrease in net employment. Employment loss was disproportionately concentrated amongst persons with comparatively lower levels of tertiary education, individuals living in urban areas, those working in the formal and/or private sector and the non-unionised. It was shown that individuals whose highest level of education was Grade 12 or equivalent accounted for more than 70% of employment loss, despite representing almost half of pre-pandemic employment (Casale & Shepherd, 2021).

According to Ranchhod & Daniels (2020), there has been an unparalleled drop in employment for the period February to April 2020, i.e., only the wave 1 NIDS-CRAM data was analysed. Women, black South Africans, the youth, and less educated groups have been disproportionately affected by the impact of COVID-19 pandemic. It was further identified by the authors that one third of their sample who were employed in February 2020, had either lost their job, were no longer employed, or did not receive an income during April 2020. The unemployment rate was alarmingly 45% higher for women than it was for men. Besides women, the youth also faced challenging labour market conditions and were less favoured than prime working aged individuals. Furthermore, the study also found that, at the beginning of April 2020, just less than half of the adult sample size was employed at this time.

Jain, Bassier, Budlender and Zizzamia (2020) conducted a study by making use of the NIDS-CRAM wave 2 data. In this study, the authors analysed the magnitude of the economic and labour market recovery from April 2020 to June 2020. During this period, there was a partial recovery in employment whereby approximately 50% of jobs lost between February and April were recovered by June. It is, however, important to note that most of this recovery was accounted for by the significant decrease in adults who were previously classified as "temporarily laid-off" or on "paid leave" in April. It was reported that 79% of workers who were actively employed by April remained actively employed by June whilst 15% of workers actively employed were not employed in June.

Espi-Sanchis et al. (2022) made use of data from waves 1-5 of NIDS-CRAM to assess labour market outcomes between February 2020 and March 2021 focusing on the youth (aged 18-24 years), prime-age adults (25-39 years), middle-age adults (40-54 years) and older adults (55-64 years). The result of the imposed lockdown in March resulted in colossal job losses between February 2020 and April 2020 with the brunt of the impact being felt by the youth, women, Black workers and low-income workers. By October 2020, NIDS-CRAM showed a nearly full recovery to employment when compared to employment levels in February 2020. The outcomes of the NIDS-CRAM data was however not consistent with QLFS data which showed only a marginal recovery to pre-COVID employment levels. The youth experienced the highest increase in employment whilst older adults experienced the highest decrease.

Daniels et al. (2022) investigated employment uncertainty in the South African labour force during the first year of the COVID-19 pandemic. The authors assessed the state of the labour market using two nationally representative surveys: the National Income Dynamics Study: Coronavirus Rapid Mobile Survey (NIDS-CRAM) and the Quarterly Labour Force Survey (QLFS). It was found that the two surveys did not generate similar or comparable outcomes for the same period. The respective surveys made use of different reference periods and job attachment information and therefore the outcomes told different stories. The authors found that NIDS-CRAM distinguished labour force outcomes in a specific month that can be strongly correlated with a specific lockdown level. The QLFS ascertained labour outcomes in the week preceding the respondent's interview, with respondent interviews spread over each month of a quarter. The employment rate thereby reflects the levels of the quarter whereas NIDS-CRAM is the specific level for a month. The two data series are therefore not precisely comparable. The authors, however, stated that the data sets are complementary and provide insights into different aspects of the labour market during the reference period.

The authors also found that in terms of the narrow unemployment rate, the NIDS-CRAM estimate was generally lower than the QLFS estimate. Regarding the broad unemployment rate, the NIDS-CRAM estimate was interestingly significantly higher than the QLFS estimate in 2020Q2 (nearly 10 percentage points difference), but during 2020Q3-2021Q1, the QLFS estimate was somehow higher, and the difference between the QLFS and NIDS-CRAM estimates increased as time went by. The NIDS-CRAM data indicated that the South African labour market is very sensitive to lockdown regulations and would vary significantly, given the

severity of the lockdown regulations. Lastly, the QLFS data demonstrated that employment levels in South Africa have not recovered to pre-COVID levels.

2.5.2   International studies

While local studies on the effects of the COVID-19 pandemic for the 2020-2021 period are limited, there are relatively more such studies internationally. Numerous international studies were conducted to investigate the impact and assess the effects of the COVID-19 pandemic on the labour market.

According to Danquah et al. (2020), the expected decline in economic growth attributed to the COVID-19 pandemic paired with a global decrease in commodity prices and foreign investment, as well as harsh lockdown restrictions could impose devastating impact on the income of workers within Sub-Saharan Africa. Survey data collected in Senegal, Mali and Burkino Faso also suggested that on average, by the end of April 2020, one out of four workers found themselves unemployed and 50% of workers had experienced a decrease in their income. Additionally, the findings indicated that informal workers were more at risk (Danquah et al., 2020; Balde et al., 2020). This gave rise to pressing concerns as Balde et al. (2020) indicated that an estimated 89.2% of total employment in Sub-Saharan Africa is comprised of informal employment.

The COVID-19 pandemic has affected millions worldwide, the adverse effects are, however, more likely to be more severe and longer-lasting for developing countries because of the Government's inability to cushion the negative impacts, contingency measures to combat COVID-19 and sluggish economic recovery rate (Hossain & Hossain, 2021).[5] Hossain and Hossain (2021) reported that the COVID-19 pandemic has lowered employment between 5% to 49% in developing countries. It was also noted that women were disproportionately affected.

The authors moved on to analyse the impact of the COVID-19 pandemic on employment and job composition in a developing country context using four waves of individual-level post-COVID data from the Nigerian Living Standard Survey (LSMS) and 10 waves of individual-

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[5] Like the South African government, the Nigerian government implemented steps to limit the spread of the COVID-19 pandemic (Hossain & Hossain, 2021). The various actions included physical distancing, face masks, the ban of public gathering and non-essential travel as well as a five-week lockdown in Abuja, Lagos and Ogun States from 30 March 2020 to 3 May 2020.

level post-COVID data from COVID-19 National Longitudinal Phone Survey (NLPS). It was found that employment rate of women declined by eight percentage points more than their male counterparts in the post-COVID period. Women were also more likely to find themselves engaged in farming activities versus instead of formal activities, compared with males. Furthermore, women were unemployed for longer periods. Overall, women experienced greater adversity than males and there was a greater shift from secondary to primary (farming) activities. Moreover, approximately 80% of the sample worked in either faring, business, or the service industry before the COVID-19 pandemic. Overall employment dropped to 43% at the onset of the pandemic from between March and May 2020. Overall employment has, however, rebounded even though primary and business activities have not fully recovered.

Very similar to South Africa and Nigeria, Ghana also imposed stringent confinement policies at the onset of the COVID-19 pandemic with the intent of managing the contagion of the virus which came at a high cost to the countries employment levels (Schotte, Danquah, Osei & Sen, 2021). The study conducted by Schotte et al. (2021) investigated the changes in labour market outcomes since the beginning of the pandemic using Ghana as a case study. Ghana only imposed the lockdown rules in two of its larger cities namely the Greater Accra and Greater Kumasi Metropolitan Areas. The authors found that the severe policy changes brought Ghana's major metropolitan centres to a standstill inducing a significant overall decline in employment during the lockdown period in the affected areas. Workers in affected areas faced a 63.4% risk of being unemployed in the month of April 2020, compared with a mere 28.3% risk, ceteris paribus, faced by workers in non-affected areas. This huge 35.1-percentage-point difference demonstrates the harsh immediate effects of the pandemic. Despite the significant short-term effects, the authors found evidence of a sturdy recovery in employment. Nonetheless, employment probability remained 11.6-percentage-points lower than the February 2020 benchmark, labour earnings and working hours remained below pre-COVID levels, and the effects of the pandemic were concentrated among female informal self-employed workers.

Similar findings were found in the United Kingdom in a study done by Crossley, Fisher and Low (2021). The authors used new data from the first two waves of the Understanding Society COVID-19 Study collected in April and May in 2020 in the country to study the effects of the first wave of the pandemic and how households dealt with the effects. The UK government had implemented schemes to mitigate the effects of the pandemic; however, this only benefited

some workers. The UK's lockdown rules were implemented from 23 March 2020 and the economy resultantly contracted substantially in March and April.

Thereafter, the economy started growing again but by the end of May, GDP was still 24% lower than the pre-COVID level. Employees who worked pre-COVID suffered a decline of 25 percentage points in the number of hours worked by the end of April. The youth and workers with no guaranteed hours of work experienced substantial declines in hours worked and corresponding significant drops in household earnings. However, by the end of May 2020, most of the declines in employment, hours worked, and household earnings had partly rebounded – which may be largely due to the effectiveness of government initiatives to preserve employment. Furthermore, the study found that Black, Asian, minority groups (including Indians, Caribbean, Pakistani and ethnically mixed individuals, amongst others), youth and women were most affected by the pandemic and experienced the largest decreases in the fraction of working positive hours and household earnings.

Lastly, Adams-Prassl et al. (2020) conducted a study to understand the distribution of impacts of the COVID-19 pandemic across the United States (US), the UK and Germany in March and April 2020. In early April 2020, it was found that 18% and 15% of workers in the used sample had lost their jobs within the last four weeks because of the pandemic in the US and the UK respectively, compared to a mere 5% in Germany. Overall, the impact of the coronavirus has been less for German workers. In addition, it was also found that females and workers without tertiary education are considerably more likely to lose their jobs, while younger employees are more likely to undergo a decrease in their earnings. The outlook on future employment is pessimistic. On average, the perceived likelihood of losing one's job within the following month was 37% in the US, 32% in the UK for workers still employed and even 25% of German workers expected to lose their jobs before August 2020. Nonetheless, the US and the UK had experienced a greater increase in unemployment as compared to Germany.

2.6   Conclusion

There is a lack of empirical studies examining the effects of the COVID-19 pandemic on the South African labour market during the lockdown period 2020-2021. It is therefore difficult to draw accurate conclusions regarding the effects thereof. Local studies under-utilized the NIDS/CRAM data and not many studies focused on all five waves. The reviewed study of Espi-Sanchis, et al. did not appear to focus on the labour market outcomes of those who were

still employed in February 2020 just before the lockdown. This proposed study will fill the research gap and focus on the employment status of workers who were employed just before the initial lockdown period.

Based on the review of the existing limited local empirical studies, we can however deduce that the COVID-19 pandemic led to significant reductions in employment following the initial strict lockdown legislation, but that employment had slightly rebounded. Generally, the pandemic disproportionately impacted already marginalised groups with relatively lower levels of formal education.

Global studies suggest that the initial effects of the COVID-19 pandemic coupled with government's attempts to limit the spread of the disease with the implementation of punitive lockdown laws, caused the most severe declines in employment, hours worked and earnings. It was however found that overall employment, hours worked, and earnings had slightly rebounded following the initial significant drops but that these respective levels remained lower than pre-COVID levels. This proposed study therefore aims to focus on workers who were employed in February 2020 but became unemployed and thereby investigate whether these workers eventually recovered.

CHAPTER THREE: DATA AND METHODS

3.1   Introduction

The main objective of this chapter is to provide an overview of the data and the methodology used in this study. The data utilised is representative of the South African labour market, consisting of Quarterly Labour Force Survey (QLFS) data as well as the National Income Dynamic Study - Coronavirus Rapid Mobile Survey (NIDS-CRAM) data. The aim of the study is to determine how employment and unemployment changed from March 2020 to February 2022 because of the COVID-19 pandemic. Section 3.2 examines the data employed by the study (i.e., QLFS and NIDS), Section 3.3 provides an overview and explanation of the methodology utilised in the study, while Section 3.4 concludes the chapter.

3.2   Data

The QLFS is a survey that is designed to be representative at the provincial level and within provinces at the metro/non-metro level (Yu, 2009). Yu (2009) further outlines that the survey's questionnaire consists of four sections:

- Section 1: This section relates to the particiulars of each person in the household and asks socio-demographic questions.
- Section 2: The questions uncover the labour market status of the individual (employed, unemployed, inactive).
- Section 3: This section is designed to differentiate the unemployed from the economically inactive individuals.
- Section 4: Only individuals whom are employed take part in this section of the survey. The questions are designed to ascertain the characteristics of the employed.

This study makes use of the 2020Q1, 2020Q2, 2021Q2, 2022Q2 QLFS data. The period 2020Q1 to 2020Q2 is used to initially assess South Africa's labour supply and labour demand between the first quarter of 2020 before the start of the lockdown. Thereafter, the study looks at 2021Q2 to investigate the state of the South African labour market, given a year of lockdown restrictions. Finally, the study looks at the second quarter of 2022 when all the lockdown restrictions were lifted to investigate the effect, if any, of the removal of lockdown restrictions.

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NIDS-CRAM is a survey of South African individuals to determine the effects of the COVID-19 pandemic on employment and various other outcomes. The same individuals were contacted every few months and asked a range of questions regarding their income and employment status, their household wellbeing, receipt of grants and their knowledge about the COVID-19 pandemic. The aim of the survey is to ascertain data on crucial outcomes such as unemployment, household income, child hunger and access to social grants. As previously mentioned, the survey is central to understanding and identifying the effects of the virus and whom most bear the brunt of the effects.

The NIDS-CRAM wave 1 questionnaire is designed as follows:
- Section A: This section relates to the particulars of the respondent and interviewer, there is also a segment for respondents to indicate their refusal to do the questionnaire
- Section B: The questions are geared to uncover the respondent's background. This division ascertains the respondents age, race, gender, education and area, amongst other details.
- Section C: This section deals with labour and income, whether the respondent is employed or unemployed and their earnings.
- Sections D: This section ascertains the household and social outcomes, whether the respondent or anyone in the household receives any social grants.
- Section E: This part unpacks the respondent's health and COVID-19, if the respondent has ever had COVID-19, if they've ever been tested for the virus and have an understanding of what the symptoms may be, amongst other questions.
- Section F: Interviewer evaluation

The other NIDS-CRAM questionnaires are similarly structured with few differences. The other NIDS-CRAM questionnaires include a section for Education – Early Childhood development and Education – School Attendance.

At the time of writing, five waves of NIDS-CRAM data were released (see Table 1). All five waves will be analysed by only analysing the changes in labour market activities of individuals who indicated at wave one that they are still employed in February 2020, just before the lockdown started in March 2020. For example, we will investigate how many of them were

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fortunately employed in all five waves, unemployed in all five waves, and transitioned between employed and unemployed across these waves.

Table 1: Timeline of NIDS-CRAM data

Wave	Labour market outcome analysis month
1	2020 April (There was first a 'filtering' question to identify those who were employed in February 2020).
2	2020 June
3	2020 October
4	2021 January
5	2021 March

Finally, in the forthcoming empirical analysis, all empirical findings are derived using the person weight variable in QLFS data and panel weight variable in the NIDS-CRAM data, unless stated otherwise.

3.3 Methods

To examine what happened to the South African labour market in 2020-2022 during the COVID-19 lockdown, the analysis in the study will use individual-level data from Statistics South Africa's (StatsSA) QLFS. To analyse the period, the QLFS data from 2020Q1 (prior to the start of lockdown) to 2022Q2 (when the remaining lockdown restrictions were lifted in June 2022) will be examined what happened to the labour market trends during the entire two years and three months' lockdown period.

This study will conduct descriptive statistics to determine the personal (race, gender, age, education, province, area type) and work characteristics (if employed – occupation, skills level, industry, formal/informal sector, etc) of the labour force, employed and unemployed with a specific focus on the traits of the unemployed. Chapter 4 will run an employment regression to determine employment likelihood. The explanatory variables include the following:

- Gender (reference category: female)
- Race (reference category: African)
- Age cohort (reference category 15-24 years)

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- Province (reference category: Eastern Cape)
- Area type (reference category: rural)
- Years of education and years of education squared

This study broadly aims to ascertain who were the most vulnerable to being jobloss during the lockdown period. The study will also make use of Heckprobit regressions on employment likelihood to present the econometric findings. It is necessary to run Heckprobit regressions due to the sample of individuals in the labour force not being a random sample, since the group has already undergone a selection process whereby they decided to enter the labour force while some participants opted out. Resultantly, the estimated results will suffer from sample selection bias. To address the sample selection bias, the Heckman two-step approach will be followed.

One drawback of the QLFS data is that it is impossible to track the changes, if any, of the labour market status and activities of individuals over time, because QLFS is not panel data. Therefore, in an attempt to complement the QLFS findings, this study will also analyse the NIDS-CRAM panel data. NIDS-CRAM panel data is better to track the changes (if any) of people's labour market status over time and hence NIDS-CRAM panel data will be utilized to conduct more advanced empirical analysis. NIDS-CRAM wave 1 will be analysed to identify those who claimed they were still employed in February 2020, just before the lockdown started, and analyse the subsequent four waves of NIDS-CRAM data (i.e. waves 2 to 5) to determined whether the employed persons identified are continuously employed or are rather in-and-out of employment and unemployment over time.

3.4   Limitations

This section will highlight any limitations regarding the data and the comparability thereof. During the pandemic, survey operations became complex due to lockdown restriction which prohibited data collection organisations from in-person contact, obliging transitions to telephonic modes of data collection in a short period of time. Data collection agencies were not always able to adapt quickly and efficiently to the rapid imposed change which had a critical impact on the timeliness and overall quality of the data (Daniels, Ingle & Brophy, 2022).

To enable comparisons to before the pandemic, the International Labour Organisation (ILO) advised that data collection agencies to not change any definitions and methods of

measurement of critical headline indicators of the labour market. Instead, it was encouraged to include clarifications of questions to be able to treat special cases. The QLFS added a new section at the bottom of the questionnaire relating to COVID-19. NIDS-CRAM was, however, redesigned to distinguish the effect of the COVID-19 lockdowns on the labour market, household welfare, early childhood development, education, health and selected other topics. Resultantly, there are key differences between QLFS and NIDS-CRAM that impact point estimates about employment and unemployment.

NIDS-CRAM ascertains labour force outcomes in a specific month that can be closely linked with the relevant lockdown level. On the contrary, the QLFS distinguishes labour force outputs in the week preceding the respondent's interview, with respondent interviews taking place monthly over a quarter. The employment rate therefore reflects the levels of the quarter, as opposed to NIDS-CRAM where it is the level for a specific month. NIDS-CRAM and QLFS labour market estimates are therefore not strictly comparable.

Furthermore, NIDS-CRAM and QLFS are two separate and different datasets that cannot be linked to one another. It is therefore important to note that any conclusions drawn from one dataset cannot be inferred to the other.

3.5   Conclusion

This chapter explained the data and methods used for the study as well as the limitations and comparability of the data. Chapter Four will present the empirical findings.

CHAPTER FOUR: EMPIRICAL FINDINGS

4.1 Introduction

In this chapter, the descriptive statistics using the QLFS 2020-2022 data is the focus of section 4.2, with specific focus on changes (if any) of the composition of the employed. What happened to the labour market outcomes of those who declared they were still employed in February 2020 (just before lockdown happened) in the first wave of NIDS-CRAM is the focus of section 4.3, by examining whether they remained employed across all five waves or whether their labour market status changed intermittently. Numerous matrix tables would be derived and discussed in this section. Section 4.4 concludes the chapter.

4.2 Empirical Findings using the QLFS Data

Figure 4 indicates that the LFPR and unemployment rate has generally increased from 1995 to 2022. The trajectory of the respective trends show similar movements and general increases and dips are almost mirrored in the LFPR and unemployment rate curves. The LFPR has increased from 47.7% in 1995Q3 to 58.2% in 2022Q2, signifying a drastic 10.5 percentage point increase.

Figure 4: Labour force participation rates and unemployment rates, 1995-2022
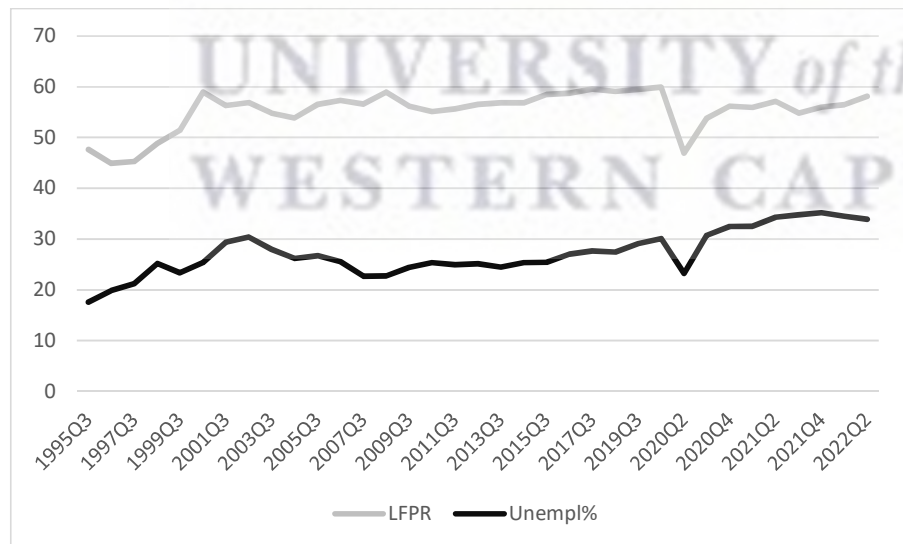
Source: Author's own calculations using OHS 1995-1999, LFS 2000-2007 and QLFS 2008-2022 data.

The overall increase in the unemployment rate is however worrisome: the unemployment rate in 1995Q3 was a relatively low 17.6% whereas in 2022Q2 the unemployment rate was 33.9%, i.e., that this rate has almost doubled during the 27-year period. Furthermore, both curves show extreme dips between the first and second quarters of 2020. The reason for this is analysed later in this section.

Zooming in to the reference period 2020Q1 – 2022Q2,[6] the LFPR experienced a dramatic decline following the onset of the COVID-19 pandemic. The LFPR shows a sharp decline of 13 percentage points between 2020Q1 and 2020Q2. The LFPR as at 2020Q2 was a mere 46.9%, the lowest the LFPR has been since 1997. This rate, however, gradually increased thereafter by returning to the pre-COVID level. The pre-COVID LFPR (2020Q1) was 59.9% and it was only slightly lower at 58.2% in 2022Q2, thereby demonstrating an improvement and recovery in the LFPR since the initial harsh impact of the COVID-19 pandemic. The initial punitive impact of the COVID-19 pandemic on the LFPR was attributed to the government's decision to impose restrictions on businesses and the movement of people thereby limiting people's labour force participation. As the government eased lockdown regulations, the LFPR was able to improve to its pre-COVID levels.

Unemployment rate experienced an abrupt decline between 2020Q1 and 2020Q2. This rate dropped from 30.1% to 23.3% (i.e., a sharp decline of nearly seven percentage points). This drastic decline in the unemployment rate is, however, due to the significant decline in workers in the labour force for the period as the harsh lockdown regulations only allowed essential workers to continue working. The unemployment rate thereafter immediately increased to 30.7% in 2020Q3, which may be due to the slight ease of lockdown restrictions (Espi-Sanchis, Leibbrandt & Ranchhod, 2022). The dramatic increase in unemployment rate from 2020Q2 to 2020Q3 indicates a 7.5 percentage point increase thereby also signifying a job loss for over two million workers. The unemployment rate thereafter sadly stagnates and remains in the low/mid 30% range. Overall, this rate increased over the reference period from 30.1% at 2020Q1 to 33.9% as at 2022Q2. The unemployment rate therefore remains higher than the pre-COVID level. The COVID-19 pandemic has therefore clearly further placed greater pressure on the South African labour market and its ability to create employment opportunities for workers. Given the trajectory and trend of the unemployment rate, it seems almost certain that

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[6] Refer to the Appendix Table 1 for a more detailed overview of the South African labour markets' figures.

the NDPs labour market goal to reduce the unemployment to 6% by the end of 2030 cannot be achieved.

Figure 5: Employment and unemployment numbers (1 000s), 1995-2022
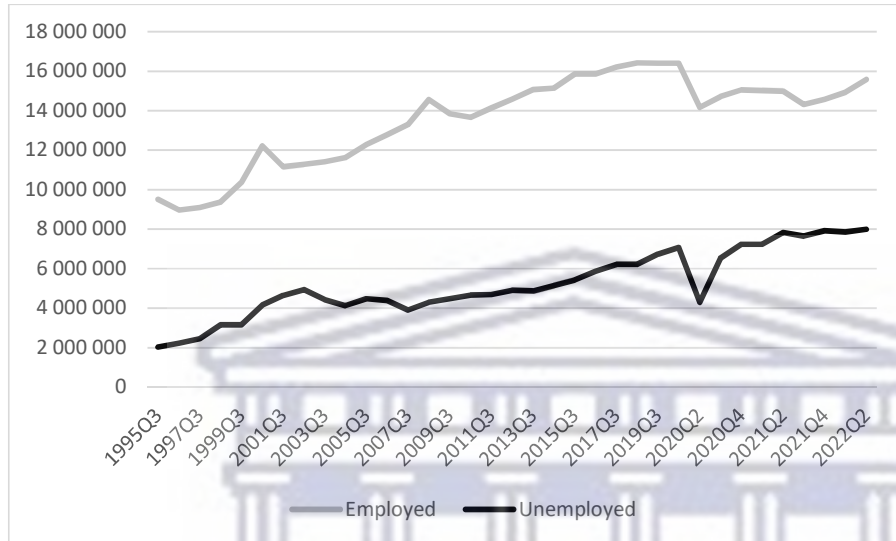
Source: Author's own calculations using OHS 1995-1999, LFS 2000-2007 and QLFS 2008-2022 data.

Figure 5 demonstrates that the only significant fluctuation in the unemployed is experienced as at the onset of the COVID-19 pandemic and the subsequent lockdown. The number of unemployed fell abruptly in 2020Q2. As previously explained, the number of unemployed may have seen declined temporarily as the number of people actively participating in the labour force decreased due to the lockdown restrictions. This is also supported by the dramatic increase in the number of inactive workers between 2020Q1 and 2020Q2. The number of inactive individuals increased by five million during this period. In 2020Q3, the number of unemployed increased sharply, returning to the pre-COVID unemployed number in 2019Q3, as more workers actively started participating in the labour force once more. Following the sharp incline, the unemployed increased until the end of the reference period. The number of unemployed workers increased by 13.08% from 2020Q1 to 2022Q2.

The employed also underwent a sharp decline at the start of the COVID-19 pandemic. Before the pandemic took place, about 16.5 million people were employed. This number declined since the onset of the pandemic and as at 2022Q2, roughly only 15.6 million workers were still employed (i.e., almost one million people lost their jobs from 2020Q1 to 2022Q2). The decline

in the employed may be attributed to government enforcing essential business activity only, thereby placing strain on businesses which led to the dismissal of non-essential workers to reduce overhead costs for the business and as a result of employees' inability to work during this period. To conclude, both employed and unemployed increased between 1995 and 2022. The increase in the number of unemployed has however grown more than that of the employed.

The following discussion focuses on comparing the characteristics of labour force, employed and unemployed between 2020Q1 and 2022Q2. Whilst not being the key focus of this study, Table A2 shows that there was an increase in the number of inactive (by over 600 000). Females shared in most of the inactive between 2020Q1 and 2022Q2 while the increase in the number of inactive was almost equally shared by males and females. Africans consistently represented over 80% of the inactive while the 15-24 years cohort accounted for almost 50%. The inactive was also concentrated amongst lowly educated individuals.

Next, Table 2 shows that there was a slight increase in the labour force number by slightly over 0.1 million. The labour force predominantly consisted of males. Males represented more than half of the labour force, approximately 55%, as at the end of each quarter for the observed period. Their female counterpart amounted to roughly 45% of the labour force. Males represented 74% of the increase in the labour force between 2020Q1 and 2022Q2. Africans remained the most dominant racial group, accounting for roughly 80% of the labour force. The Coloured population represented the second biggest racial group in the labour force with a mere 8.95% as at end of quarter two in 2022. The Coloured population is closely followed by the white population. Africans accounted for most of the increase in the labour force during the pandemic period (an increase of nearly 335 000 in absolute terms; in relative terms, they represented 330% of the racial share of increase of labour force). Most other racial groups experienced a decrease in the number of workers in the labour force.

The labour force was concentrated in Gauteng, the Western Cape and KwaZulu-Natal, which are the most developed provinces. Gauteng accounted for nearly one third of the labour force throughout the COVID period. KwaZulu-Natal and the Western Cape also consistently represented about 15.5% and 13.17% respectively for the reviewed period. The highest increase in the labour force was attributed to Limpopo whereby 363 899 workers joined the labour force from this province.

Table 2: Absolute and relative changes in labour force by personal characteristics

	Percentage share (%)				Change: 2020Q1-2022Q2	
	2020Q1	2020Q2	2021Q2	2022Q2	Absolute	Relative (%)
Gender						
Male	54.39	55.46	54.92	54.48	75 232	73.99
Female	45.61	44.54	45.08	45.52	26 450	26.01
	100.00	100.00	100.00	100.00	101 682	100.00
Race						
African	79.32	77.63	80.06	80.40	334 662	329.13
Coloured	9.35	9.44	8.71	8.95	-84 757	-83.35
Indian	2.63	3.10	2.66	2.73	25 331	24.91
White	8.70	9.83	8.58	7.93	-173 554	-170.68
	100.00	100.00	100.01	100.01	101 682	100.00
Age cohort						
15-24 years	11.88	8.74	10.26	11.53	-69 786	-68.63
25-34 years	32.24	31.24	32.36	31.93	-41 321	-40.64
35-44 years	28.71	30.14	29.25	28.92	78 690	77.39
45-54 years	19.34	21.31	20.24	20.25	234 735	230.85
55-64 years	7.83	8.57	7.89	7.37	-100 636	-98.97
	100.00	100.00	100.00	100.00	101 682	100.00
Province						
Western Cape	13.50	14.19	13.37	13.73	69 556	68.41
Eastern Cape	9.89	10.04	10.23	9.97	28 473	28.00
Northern Cape	1.96	1.85	1.56	1.77	-42 945	-42.23
Free State	5.23	4.62	4.99	5.06	-35 181	-34.60
KwaZulu-Natal	15.59	15.38	15.74	15.65	31 700	31.18
North West	6.18	6.04	6.63	5.78	-88 817	-87.35
Gauteng	31.95	32.95	31.64	31.02	-185 533	-182.46
Mpumalanga	7.95	6.95	7.91	7.75	-39 470	-38.82
Limpopo	7.75	7.98	7.93	9.26	363 899	357.88
	100.00	100.00	100.00	100.00	101 682	100.00
Education						
None-Grade7	6.79	5.93	5.56	5.38	-327 405	-321.99
Grade 8-11	40.40	37.77	39.94	38.30	-454 856	-447.33
Grade 12	34.05	34.73	35.62	37.21	780 099	767.19
Grade 12 + Cert/Dip	8.78	9.59	8.92	7.94	-190 667	-187.51
Degree	8.99	11.04	9.25	10.07	265 595	261.20
Other/Unspecified	0.98	0.94	0.71	1.10	28 916	28.44
	100.00	100.00	100.00	100.00	101 682	100.00

Source: Author's own calculations using QLFS 2020Q1, 2020Q2, 2021Q2 and 2022Q2 data.

It is evident that the labour force comprised of mostly semi-educated individuals. Education was concentrated amongst individuals with an incomplete secondary education (grade 8-11) and workers with Matric, thereby accounting for nearly three quarters of the labour force (roughly 75%) pre and post the COVID-19 pandemic. Despite the COVID-19 pandemic, there was an increase in the percentage of workers with a degree between 2020Q1 and 2022Q2. The increase in the labour force was mostly due to the increase in matriculants and degree holders.

Table 3 reports on the characteristics of the employed for the period 2020Q1 to 2022Q2. Unsurprisingly, males shared in the majority of the employed. The number of employed decreased by more than 800 000 between 2020Q1 to 2022Q2 and of this decrease, 61.23% was attributed to males. Employment remains concentrated amongst Black workers with a consistent 75% of the employed comprising of African workers. African workers accounted for 63.87% of the decline in employment. Indians were the only racial group that experienced an increase in the number of employed.

Gauteng, KwaZulu-Natal and Western Cape notedly accounted for majority of the employed. Gauteng encompassed nearly a third of the employed. Each of these provinces experienced a slight decline in the number of employed from 2020Q1 to 2022Q2. Other provinces however experienced an increase in the number of employed from the onset of the COVID-19 pandemic to 2022Q2. Gauteng experienced the greatest decline in employment whereby approximately 350 000 workers were no longer employed, accounting for 42.21% of the decrease in the employed.

Much like the labour force, the employed unsurprisingly comprised of individuals with incomplete secondary education and Matric. There was an increase in the number of employed workers with a Matric certificate and a degree. This may be due to the reason that businesses were requiring more skilled labour as operations moved towards online platforms. Workers with an incomplete secondary bore more than 80% of the drop in employment highlighting that there was a higher demand for skilled labour.

Table 3: Absolute and relative changes in employed by personal characteristics

	Percentage share (%)				Changes: 2020Q1-2022Q2	
	2020Q1	2020Q2	2021Q2	2022Q2	Absolute	Relative (%)
Gender						
Male	55.85	56.34	56.59	55.56	-503 633	61.23
Female	44.15	43.66	43.41	44.44	-318 927	38.77
	100.00	100.00	100.00	100.00	-822 560	100.00
Race						
African	75.12	74.55	75.31	75.71	-525 399	63.87
Coloured	10.16	9.96	9.49	9.83	-135 664	16.49
Indian	3.28	3.46	3.26	3.49	6 200	-0.75
White	11.44	12.02	11.94	10.97	-167 697	20.39
	100.00	99.99	100.00	100.00	-822 560	100.00
Age cohort						
15-24 years	6.96	5.43	5.56	6.73	-93 114	11.32
25-34 years	28.90	28.93	28.11	28.40	-316 182	38.44
35-44 years	31.21	31.68	31.45	31.07	-279 040	33.92
45-54 years	22.82	23.82	24.33	24.06	5 895	-0.72
55-64 years	10.11	10.14	10.55	9.74	-140 119	17.03
	100.00	100.00	100.00	100.00	-822 560	100.00
Province						
Western Cape	15.27	15.43	15.12	15.06	-157 740	19.18
Eastern Cape	8.43	8.26	8.24	8.63	-38 841	4.72
Northern Cape	2.05	1.80	1.71	2.04	-17 848	2.17
Free State	4.61	4.50	4.83	5.18	50 815	-6.18
KwaZulu-Natal	16.31	16.26	16.26	15.94	-191 710	23.31
North West	5.90	6.18	6.54	5.92	-45 421	5.52
Gauteng	31.37	31.60	31.15	30.80	-347 183	42.21
Mpumalanga	7.58	7.85	7.81	7.49	-76 584	9.31
Limpopo	8.48	8.12	8.40	8.94	1 952	-0.24
	100.00	100.00	100.06	100.00	-822 560	100.00
Education						
None-Grade7	7.18	6.03	6.16	5.48	-323 636	39.30
Grade 8-11	36.69	34.80	36.18	34.21	-689 079	83.77
Grade 12	33.46	34.24	34.38	36.57	210 136	-25.55
Grade 12 + Cert/Dip	10.11	10.76	10.27	9.22	-220 579	26.82
Degree	11.45	13.19	12.18	13.26	187 337	-22.77
Other/Unspecified	1.12	0.98	0.82	1.26	13 261	-1.61
	100.01	100.00	99.99	100.00	-822 560	100.00

Source: Author's own calculations using QLFS 2020Q1, 2020Q2, 2021Q2 and 2022Q2 data.

Table 4: Absolute and relative changes in employment by occupation and industry

	Percentage share				Changes: 2020Q1-2022Q2	
	2020Q1	**2020Q2**	**2021Q2**	**2022Q2**	**Absolute**	**Relative**
Occupation						
Managers	8.87	9.12	9.41	8.07	-197 761	24.04
Professionals	5.79	7.57	6.63	7.52	222 478	-27.05
Technicians	8.28	8.60	8.82	8.79	10 536	-1.28
Clerks	10.21	10.39	9.92	10.28	-74 205	9.02
Service and sales workers	16.77	16.26	15.53	16.57	-169 578	20.62
Skilled agricultural workers	0.43	0.48	0.30	0.46	1 478	-0.18
Craft and related trades	11.83	10.75	10.71	10.75	-266 572	32.41
Operators and assemblers	8.45	8.60	8.29	8.60	-46 038	5.60
Elementary occupations	23.19	22.44	24.06	23.44	-152 304	18.52
Domestic workers	6.16	5.35	6.02	5.52	-149 378	18.16
Other/Unspecified	0.01	0.44	0.31	0.00	-1 216	0.15
	99.99	100.00	100.00	100.00	-822 560	100.00
Industry						
Agriculture	5.28	5.64	5.79	5.60	7 658	-0.93
Mining	2.65	2.63	2.66	2.61	-28 312	3.44
Manufacturing	10.41	10.29	9.49	9.68	-200 972	24.43
Utilities	0.70	0.80	0.79	0.67	-10 462	1.27
Construction	8.20	7.54	8.18	7.55	-169 198	20.57
Trade	20.26	20.83	20.63	20.30	-159 443	19.38
Transport	6.07	6.25	6.47	5.82	-89 142	10.84
Finance	15.37	15.79	15.05	15.85	-51 737	6.29
Community, social and personal services	22.94	22.93	22.78	24.55	62 256	-7.57
Private households	8.04	7.11	7.99	7.24	-190 476	23.16
Other/Unspecified	0.07	0.19	0.18	0.12	7 268	-0.88
	99.99	100.00	100.01	99.99	-822 560	100.00

Source: Author's own calculations using QLFS 2020Q1, 2020Q2, 2021Q2 and 2022Q2 data.

Table 4 above shows that the employed consisted of predominantly elementary occupations, followed by service workers and craft and related trades. For the reference period, the only occupations that experienced increases in employment were professionals, associated professionals and skilled agriculture. Professionals increased by 223 478 whereas craft and related trades accounted for 32.41% of the reduction in the employed. The increase in

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professionals, associated professionals and skilled agriculture may be explained by the increased demand for skilled labour as lockdown restrictions only allowed for essential business operations. Businesses also subsequently moved towards online business operations and this required more skilled labour. The amount of employed highly skilled workers also increased from 2020Q1 to 2022Q2. Semi-skilled workers accounted for 67.46% of the drop in the employed.

The employed CSP services made up most of the employed, making up nearly a quarter of the employed throughout the reference period. Wholesale and retail also accounted for a relatively large proportion of the employed (approximately 20% of the employed). Manufacturing suffered the greatest decline in employment whereas CSP services saw an increase of 62 256 employed workers.

Table 5 represents the characteristics of the unemployed for the period 2020Q1 to 2022Q2. Evidently, the number of unemployed had increased by more than 0.9 million during the period under investigation. Once more, the table showed that males accounted for just over half of the unemployed and similarly shared in most of the increase in unemployment, a 62.6% increase. Africans accounted for a staggering 89.1% of the unemployed from the onset of the pandemic. This percentage increased slightly towards the end of the reference period. Africans consisted of 93.1% of the increase in the unemployed. Their white counterparts were the only racial group to see a drop in the number of unemployed. Although the labour market predominantly consisted of African workers, the number of unemployed was disproportionately attributed towards African workers. Indian and White workers collectively made up approximately only 3% of the unemployed.

Youth unemployment was alarmingly high and accounted for majority of the unemployed. The youth (15-34 years) made up 63.3% of the unemployed as at 2020Q1 and a 59.7% share in 2022Q2. Although this figure decreased over the reviewed period, it remained disturbingly high. Of the youth group, workers within the 25-34 years age cohort experienced the greater unemployment and also made up 38.71% of the increase in the unemployed. Workers aged 55-65 years experienced the lowest levels of unemployment, although a greater number of this age cohort were unemployed at the end of the COVID-19 pandemic versus the beginning thereof.

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Table 5: Absolute and relative changes in unemployed by personal characteristics

	Percentage share				Changes: 2020Q1-2022Q2	
	2020Q1	2020Q2	2021Q2	2022Q2	Absolute	Relative (%)
Gender						
Male	51.01	52.56	51.72	52.35	578 865	62.63
Female	48.99	47.44	48.28	47.65	345 377	37.37
	100.00	100.00	100.00	100.00	924 242	100.00
Race						
African	89.09	87.78	89.14	89.55	860 061	93.06
Coloured	7.44	7.73	7.22	7.22	50 907	5.51
Indian	1.13	1.92	1.51	1.24	19 131	2.07
White	2.33	2.57	2.13	1.99	-5 857	-0.63
	99.99	100.00	100.00	100.00	924 242	100.00
Age cohort						
15-24 years	23.29	19.66	19.25	20.89	23 328	2.52
25-34 years	40.00	38.88	40.49	38.81	274 861	29.74
35-44 years	22.90	25.06	25.04	24.73	357 730	38.71
45-54 years	11.27	13.01	12.41	12.83	228 840	24.76
55-64 years	2.55	3.38	2.80	2.75	39 483	4.27
	100.01	99.99	99.99	100.01	924 242	100.00
Province						
Western Cape	9.38	10.10	10.01	11.14	227 296	24.59
Eastern Cape	13.28	15.93	14.05	12.58	67,314	7.28
Northern Cape	1.75	1.99	1.28	1.24	-25,097	-2.72
Free State	6.68	5.04	5.30	4.83	-85,996	-9.30
KwaZulu-Natal	13.91	12.45	14.86	15.10	223 410	24.17
North West	6.83	5.59	6.80	5.49	-43,396	-4.70
Gauteng	33.29	37.43	32.57	31.46	161 650	17.49
Mpumalanga	8.82	3.96	8.10	8.26	37,114	4.02
Limpopo	6.07	7.52	7.02	9.90	361,947	39.16
	100.01	100.01	99.99	100.00	924 242	100.00
Education						
None-Grade7	5.92	5.62	4.40	5.18	-3 769	-0.41
Grade 8-11	49.02	47.56	47.15	46.28	234 223	25.34
Grade 12	35.42	36.33	37.99	38.46	569 963	61.67
Grade 12 + Cert/Dip	5.71	5.71	6.32	5.42	29 912	3.24
Degree	3.26	3.95	3.63	3.86	78 258	8.47
Other/Unspecified	0.67	0.81	0.51	0.79	15 655	1.69
	100.00	99.98	100.00	99.99	924 242	100.00

Source: Author's own calculations using QLFS 2020Q1, 2020Q2, 2021Q2 and 2022Q2 data.

The unemployed was concentrated in Gauteng throughout the reference period. The Western Cape and KwaZulu-Natal provinces respectively made up a quarter of the increase in unemployment. The unemployed also mostly consisted of lowly educated individuals. Those with only Grade 8 -11 comprised almost half of the unemployed. Matriculants however shared in the greatest increase in unemployment (61.7%).

Next, econometric findings are presented by conducting Heckprobit regressions on employment likelihood. Table 6 shows that the lambda is statistically significant for all regressions, thereby implying the presence of sampling selection bias and therefore it was a correct decision to run the employment regressions as two-step Heckprobit models to take labour force participation likelihood into consideration.

From the Heckprobit regression results we see the following outcomes: Males were just over 3% less likely than females to be employed, *ceteris paribus*, but the marginal effects were only statistically significant in QLFS2020Q2. With reference to the race explanatory variables, the marginal effects in all periods (except Indians in QLFS2020Q2) were significantly positive (after controlling differences in other characteristics). These results suggest that in all four surveys under study, Africans were least likely to be employed, *ceteris paribus*. By QLFS2022Q2, the gap between Africans and Coloureds and Whites had widened, with the Coloured and White marginal effects being lowest in QLFS2020Q2. Whites are shown to be the group with the highest likelihood of being employed, followed by Indians and Coloureds. In QLFS2022Q2, Whites were 23.07%, Indians 14% and Coloureds 10.22% more likely than Africans to be employed. It can therefore be seen that Whites, Indians and Coloureds were still vastly more likely than Black Africans to survive in the labour market by still working during the lockdown period.

Table 6: Heckprobit regressions on employment likelihood, conditional on labour force participation

	Marginal effects			
	QLFS2020Q1	QLFS2020Q2	QLFS2021Q2	QLFS2022Q2
Gender: Male	-0.0053	-0.0365***	-0.0162	-0.0155
Race: Coloured	0.0721***	0.0593***	0.0962***	0.1022***
Race: Indian	0.1643***	0.0475	0.1355***	0.1400***
Race: White	0.1988***	0.1273***	0.2317***	0.2307***
Age: 25-34 years	-0.0488*	-0.1071***	-0.0810**	-0.0396
Age: 35-44 years	0.0393	-0.0767*	0.0018	0.0403
Age: 45-54 years	0.1108***	-0.0278	0.0938**	0.1117***
Age: 55-64 years	0.2445***	0.1405***	0.2608***	0.2680***
Province: Western Cape	0.0901***	0.0772***	0.0884***	0.0163
Province: Northern Cape	0.0842***	0.0639***	0.1632***	0.1481***
Province: Free State	-0.0233	0.0722***	0.0521***	0.0559***
Province: KwaZulu-Natal	0.1395***	0.1551***	0.1640***	0.1239***
Province: North West	0.0551***	0.1171***	0.0904***	0.1099***
Province: Gauteng	-0.0098	-0.0027	0.0098	-0.0124
Province: Mpumalanga	0.0365**	0.1629***	0.0819***	0.0510***
Province: Limpopo	0.1594***	0.1312***	0.1716***	0.0764***
Area: Urban	-0.0106	0.0261**	0.0234**	0.0300***
Education years	-0.0373***	-0.0296***	-0.0522***	-0.0421***
Education years squared	0.0022***	0.0015***	0.0027***	0.0025***
Lambda	0.0864***	0.0765***	0.0955***	0.1060***
Observed probability	0.6981	0.7671	0.6563	0.6601
Predicted probability	0.7314	0.8031	0.6847	0.6881
Number of observations	24 363	12 937	18 085	19 705
Chi-squared statistic	2 551.61	1 067.55	1 748.24	1 889.68
Prob. > Chi-squared	0.0000	0.0000	0.0000	0.0000
Pseudo R-squared	0.1348	0.1373	0.1321	0.1226

*** Significant at 1%   ** Significant at 5%   * Significant at 10%

Source: Author's own calculations using QLFS 2020Q1, 2020Q2, 2021Q2 and 2022Q2 data.

When examining the age cohort variable, it is seen that the 25-34 and 35-44 year age cohorts were significantly less likely to find employment relative to the youngest age cohort (15-24 years) in some periods, after controlling for differences in other characteristics. In contrast, the 45-54 and 55-64 year old age cohorts' marginal effects were positive and statistically significant for most periods. In 2022Q2, the 45-54 and 55-65 years age cohorts were approximately 11% and 26% more likely to be employed than the 15-24 years cohort, respectively. This finding may be attributed to the fact that during the COVID-19 driven economic lockdown, the relatively inexperienced youth workers were more likely to be the

first ones to be retrenched, but the more experienced elderly workers enjoyed greater likelihood to survive and retain their jobs.

In the case of provincial variables (Eastern Cape was the reference category), the marginal effects were positive and statistically significant in many provinces in all periods, except for Gauteng and Western Cape (in QLFS2022Q2) Free State (in QLFS2020Q1). Employment likelihood was therefore the lowest in the Eastern Cape for the entire period. In addition, with the exception of QLFS2020Q1, urban residents were about 3% significantly more likely to work (*ceteris paribus*), compared with the rural residents.

Lastly, higher educational attainment was associated with considerably higher employment likelihood. The regression demonstrated a positive non-linear (convex) relationship between education years and employment likelihood, signifying that that employment probability increased at an increasing rate for each additional year of education. This may be as a result of the increase in demand for more skilled labour during the lockdown period as there was a shift towards online business activities.

4.3 Empirical Findings using the NIDS-CRAM data

This section assesses the descriptive statistics on the labour market dynamics of the South African working-age population, by focusing on those who were still employed in February 2020 and took part in all five waves of the NIDS-CRAM survey.

First, Table 7 shows that more than 55% of them were females. Unsurprisingly, the data demonstrates that the panel component has a significant racial dimension. Africans made up the majority (87.45%), followed by Coloureds (12.33%). Moreover, the age cohort 25-34 years accounted for the greatest proportion which accrued to almost two-thirds (66.54%) of these February 2020 employed people.

Of the respondents, about 70% resided in an urban area type and only 7.62% of respondents resided in traditional areas. Approximately 22% of respondents changed their geographic area. Only 10.46% of them changed their province of residence between the first and the fifth waves. Gauteng (28.78%) and the Western Cape (12.55%) recorded the highest proportion of the

profile of the respondents. Also, it can be observed that the provincial share is the lowest in the Northern Cape (2.82%).

Table 7: Profile of the people who were still employed in February 2020

Gender		
Male	43.96	
Female	55.82	
Unspecified	0.23	
Race		
African	87.45	
Coloured	12.33	
Unspecified	0.23	
Age		
15-24 years	11.85	
25-34 years	66.54	
35-44 years	18.49	
45-54 years	1.03	
Unspecified	2.08	
Mean age (years)	*30.52*	
Area type		
Traditional	7.62	
Urban	70.02	
Farms	0.20	
Geotype changed	22.16	
Province		
Western Cape	12.55	
Eastern Cape	9.64	
Northern Cape	2.82	
Free State	5.10	
KwaZulu-Natal	11.49	
North West	4.04	
Gauteng	28.78	
Mpumalanga	7.53	
Limpopo	7.57	
Province changed	10.46	
Educational attainment	Wave 1	Wave 5
Incomplete secondary	6.49	12.33
Matric	63.34	49.39
Matric + Cert/Dip	15.50	26.57
Degree	12.59	10.59
Other/Unspecified	2.08	1.12
Mean education (years)	*12.47*	*12.44*

Source: Author's own calculations using NIDS-CRAM data.

The respondents attained a relatively high education as the average years of education was just over 12 years. Also, mean years of education remained unchanged (roughly 12.4 years) from wave 1 to wave 5, there was however a higher share of people with post-Matric qualifications over time. Discouragingly, the share of respondents with incomplete secondary education increased to 12.33% while the proportion with a degree decreased slightly in wave 5.

Table 8: Labour market status of NIDS-CRAM participants who were employed in 2020 February (%)

Labour market status	Wave 1: April 2020	Wave 2: June 2020	Wave 3: October 2020	Wave 4: January 2021	Wave 5: March 2021
Unspecified	1.31	0.41	0.33	0.31	0.07
Inactive	3.87	7.67	4.78	7.80	6.99
Discouraged	12.84	10.87	7.22	8.06	5.74
Unemployed	7.21	9.83	11.68	11.64	11.58
Employed	74.77	71.22	75.99	72.18	75.62
	100.0	100.0	100.0	100.0	100.0
LFPR	81.98	81.05	87.67	83.82	87.2
Unemployment rate	8.79	12.13	13.32	13.89	13.28

Source: Author's own calculations using NIDS-CRAM data.

Table 8 depicts the labour market status of these February 2020 employed respondents across all five waves. Between wave 1 (April 2020) and wave 5 (March 2021), the employed remained relatively consistent at over 70%, with slight dips in wave 2 and wave 4, with respondents confirming that they still worked to some extent throughout the period. These dips in the employed may have been because of the relatively harsh lockdown regulations at the time. Concerningly, the unemployed increased from 7.21% in wave 1 to 11.58% in wave 5, representing a 4.37 percentage point increase. Meanwhile, given the lockdown restrictions and limitation of respondents' economic activities, the share of inactive respondents almost doubled from 3.87% in wave 1 to wave 5 (6.99%). Nevertheless, the share of respondents reporting to be discouraged workers dropped quite significantly 12.84% to 5.47% for the period. These findings suggest that as lockdown restrictions eased, those who lost their jobs at

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the start of the pandemic eventually felt more encouraged to seek work again.

Table 9 indicates that for the February 2020 employed individuals, more than half were employed throughout all five waves. These participants did not lose employment as a result of the onset of the COVID-19 pandemic and managed to retain employment despite the limitations and restrictions imposed. Encouragingly, only 0.47% of respondents were unemployed throughout all five waves. The share of inactive participants was also relatively low at 1.81%. Approximately 11% of respondents transitioned between employed and unemployed in all five waves (this result means respondents always remained part of the labour force, despite periods of unemployment) and just over a third was in the labour force less than five waves. Moreover, only 0.5% and 1.8% of the February 2020 workers ended up being unemployed and inactive, respectively.

Table 9: Changes in labour market status (if any) of NIDS-CRAM participants who were employed in 2020 February

Employed in all five waves	51.38
Unemployed in all five waves	0.47
Inactive in all five waves	1.81
Transitioned between employed and unemployed in all five waves	10.99
In the labour force less than five waves	35.35
	100.0

Source: Author's own calculations using NIDS-CRAM data.

Table 10 demonstrates the number of times these February 2020 employed peopled worked in the labour market in all five waves under study, by the number of times they were in the labour force. For those who were in the labour force only in one wave, just less than 60% ended up finding employment. For people who belonged to the labour force in two waves, 63.06% found work in both waves while 21.37% failed to work in both waves.

Next, this percentage sadly declined for those who partook in the labour force for any three waves as only 40.19% found themselves employed for all three waves whereas 28.32% and 22.59% worked in any one or two of these three waves (approximately 9% was unemployed in all three waves). Moving on to those who were jobseekers in any four waves, 57% of them

were employed in all four waves, 40.09% worked in one to three waves and only 2% failed to find work in all four waves. Encouragingly, of those who belonged to the labour market for five waves, 81.76% worked in all of these waves, while only 0.8% failed to find work in all waves.

Table 10: Number of times employed by number of times in the labour force

		Employed						
		None	One wave	Two waves	Three waves	Four waves	All five waves	
Labour force	None	100.0	0.00	0.00	0.00	0.00	0.00	100.0
	One wave	40.92	59.08	0.00	0.00	0.00	0.00	100.0
	Two waves	21.37	15.57	63.06	0.00	0.00	0.00	100.0
	Three waves	8.90	28.32	22.59	40.19	0.00	0.00	100.0
	Four waves	2.11	10.77	12.35	17.78	56.99	0.00	100.0
	All five waves	0.74	1.53	3.72	4.90	7.36	81.76	100.0
		6.53	8.88	9.69	9.46	14.06	51.38	100.0

Source: Author's own calculations using NIDS-CRAM data.

Table 11: Labour market status transition between waves 1 and 5 of NIDS-CRAM participants who were employed in 2020 February

		Wave 5					
		Unspecified	Inactive	Discouraged workseekers	Unemployed	Employed	
Wave 1	Inactive	0.00	43.90	3.57	13.80	38.74	100.0
	Discouraged workseekers	0.36	6.20	12.48	17.77	63.20	100.0
	Unemployed	0.00	6.48	12.49	21.61	59.42	100.0
	Employed	0.03	4.65	4.09	9.08	82.16	100.0
		0.07	6.99	5.74	11.58	75.62	100.0

Source: Author's own calculations using NIDS-CRAM data.

Table 11 illustrates the labour market status transition of the February 2020 employed workers between waves 1 and 5. For those who were still employed at the time of wave 1, 82% of them

had their status unchanged as employed in wave 5. About 44% of inactive in wave 1 still remained inactive in wave 5, but 39% of them found work in the latter wave. Lastly, it was encouraging to see that 63% of discouraged workseekers at the time of wave 1 found work in wave 5, while 59% of unemployed in wave 1 also found work in wave 5.

Finally, Table 12 above shows the average work days per week abruptly rose from 3.61 days in wave 1 to 4.73 days in wave 2, before marginally increasing to 4.87 days at the time of wave 5. Furthermore, the average daily work hours increased from 6.47 to 8.28 hours between waves 1 and 2, before hovering at 8.30 hours in the next three waves. The initial low average days worked may be attributed to the initial restrictive lockdown measures that were implemented to counteract the spread of the COVID-19 virus. These measures included curfew times which limited businesses to certain operating times thus reducing working hours and only allowing for the business activity of essential work and workers (such as nurses, grocery stores, etc).

Table 12: Weekly work days and daily work hours of employed in each NIDS-CRAM wave

	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5
Work days per week					
One-Two days	8.36	8.79	6.66	6.85	6.26
Three days	6.19	6.27	8.74	5.66	6.70
Four days	8.30	8.37	8.69	9.13	8.88
Five days	31.15	41.67	49.23	45.93	52.09
Six days	6.69	10.58	11.53	11.67	10.92
Seven days	4.23	8.04	9.73	11.47	9.53
Unspecified	19.42	16.28	5.54	9.29	5.63
Mean work days	*3.61*	*4.73*	*4.81*	*4.92*	*4.87*
Work hours per day					
1-4 hours	8.08	6.05	4.28	5.75	4.71
5-7 hours	8.54	12.19	15.63	13.71	14.12
8 hours	28.35	37.68	42.37	41.72	44.37
At least 9 hours	4.66	8.91	11.05	9.48	10.68
Unspecified	22.12	18.32	8.19	10.95	7.79
Mean work hours	*6.47*	*8.28*	*8.30*	*8.31*	*8.29*

Source: Author's own calculations using NIDS-CRAM data.

4.4   Conclusion

The discussion in this chapter dissected the effects of the COVID-19 pandemic on the South African labour market from the onset of the pandemic to June 2022. The chapter first explored the effects using the QLFS 2020-2022 data focusing on the changes (if any) of the employed and unemployed. Thereafter, using NIDS-CRAM data, the labour outcomes of the respondents who declared they were still employed in February 2020, wave 1, was examined.

The QLFS data analysis showed that the COVID-19 pandemic has further exacerbated the South African labour market as unemployment remained higher than the pre-COVID numbers. The number of employed also saw a decrease with approximately one million people losing their jobs over this period. The NID-CRAM data analysis demonstrated that of those who were employed at the start of the COVID-19 pandemic, over 80% were still employed at wave 5. There was a drop in discouraged workers and the average work days and work hours also increased over the period.

CHAPTER FIVE: CONCLUSION

5.1   Introduction

This study used the QLFS and NIDS-CRAM data to assess the condition of the South African labour market in the 2020-2022 COVID-19 crisis period. Section 5.2 will provide a review of the key findings and thereafter, section 5.3 will provide a conclusion as well as policy recommendations.

5.2   Review of Key Findings

The empirical findings derived from the QLFS data show a dramatic decline in the LFPR and the unemployment rate between 2020Q1 and 2020Q2. The LFPR and unemployment rate decreased by about 13 and 7 percentage points, respectively. While the LFPR had recovered by 2022Q2, unemployment rate was higher than the pre-COVID corresponding rate. The number of unemployed people increased by 13.08% from 2020Q1 to 2022Q2. The initial decreases were attributed to lockdown restrictions that limited business activities to "essential" activities only, thereby constraining other economic activities that led to fewer people participating in the labour force.

Sadly, the number of employed people also declined by roughly one million. The increase in unemployment was mostly borne by males (given that they shared in a greater portion of employment), Africans, the youth and lowly educated individuals. From the Heckprobit regression results, Africans were least likely to be employed, *ceteris paribus*, while whites are shown to be the group most likely to be employed. Non-surprisingly, higher educational attainment was also associated with considerably higher employment likelihood.

Further, the empirical findings derived from the NIDS-CRAM data found the share of females still employed was higher than males still employed in February 2020. The employed consisted of Africans, the youth and urban residents with fairly high levels of education. Encouragingly, the findings also showed that discouraged workers halved from wave 1 to wave 5. However, the share of these February 2020 workers who later became unemployed increased from 7.2% in wave 1 to 11.6% at wave 5, while the proportion becoming inactive almost doubled from 3.9% to 7.0%. Thus, while there is a positive change in discouraged workers, the opposite is true for the inactive and unemployed.

In addition, it was also found that for the February 2020 employed individuals, only 51.38% were employed in all waves, fortunately, only a mere 0.47% were unemployed in all waves. Furthermore, "lockdown" was initially the most stated answer to why respondents were not working in the past month but this had subsequently decreased from 93.7% from wave 1 to 62.7% in wave 5.

5.3   Conclusion and Suggestions

5.3.1   Policy Recommendations

Governments play a vital role in creating a conducive environment for business recovery and buffering labour force participants from the long-term effects of the COVID-19 pandemic. Governments could utilise several interventions to ensure the recovery of employment and business activity. This section will provide policy recommendations to South African policymakers that can be induced to curb the effects of the COVID-19 pandemic. Further to this, this section will also assess new and existing South African policies that may stimulate and aid businesses and assist vulnerable groups, namely, small businesses, the lowly-educated, women and youth.

Padhan and Prabheesh (2021) suggest that a combination of monetary, macroprudential and fiscal policies be implemented to mitigate the effects of the COVID-19 pandemic. Monetary policy can be used as a tool to increase aggregate demand, through the revision of interest rates, and to encourage firms to increase their investment. Fiscal policies can be employed to subsidize firm's expenditure, steady aggregate demand and accommodate economic recovery, along with employment support measures to ensure workers' safe return to work.

The World Economic Outlook (2020) also reported that substantial fiscal and financial policies deployed restrained near-term losses and suggests that, going forward, fiscal stimulus to aid the recovery could concentrate on public investment, physical and digital infrastructure, health care systems and the transition to a low-carbon economy. Fiscal stimulus measures could include temporary targeted cash transfers to liquidity-constrained, low-income households that kick in when unemployment does not rebound quick enough or instead, increases. Policymakers could consider tax breaks for affected people and firms, as well as the guaranteed extension of credit to businesses.

Multilateral Cooperation is also expressed as an important tool to recover employment and economic activity (Padhan & Prabheesh, 2021; The World Economic Outlook, 2020). The G20 initiative wherein low-income countries can temporarily not pay their official debt service payments is a step towards helping low-income countries. Low-income countries will be able to reinvest these funds into recuperating business activity and aiding low-income households.

Shifting to existing local policies which may be aligned to assist in the aid of vulnerable groups affected by the COVID-19 pandemic, the National Empowerment Fund (NEF) partnered with the Department of Trade, Industry and Competition (DTIC) to create the NEF COVID Black Business Fund (National Empowerment Fund, 2023). R200 million was set aside for black businesses to combat the effects of the pandemic. The fund is geared towards 51% black-owned businesses with a mandate that the funding either retains or increases direct employment. Constituents of the fund have up to 48 months to repay the loan at a fixed interest rate of 2.5% and existing recipients of the fund enjoy a 0% interest rate (following a 12 month repayment holiday). This fund continues to exist and provide financial relief to black-owned businesses.

The Department of Small Business Development currently has a youth challenge fund that is geared towards invigorating the development and growth of youth-owned businesses, fostering digital skills, contributing towards the economy and stimulating further employment (Department of Small Business Development, 2023). The fund will provide financial (grants and/or loans) and non-financial aid to recipients. The youth challenge fund serves to address the high youth unemployment rates in South Africa which is especially pertinent in the aftermath of the COVID-19 pandemic.

The World Bank found that young entrepreneurs are South Africa's best hope of alleviating the labour market crisis which has only worsened due to the pandemic (World Bank, 2021). It is noted that self-employment might halve the current unemployment rates. Self-employment could be encouraged through public-private partnerships and system enhancements while reducing constraints to entrepreneurship and self-employment.

To conclude the above, the government can make use of fiscal and monetary policies to reshape and recover the economy. These policies need to be implemented with the objective to boost economic activity, stimulate demand, thereby increase employment while also supporting small to medium businesses. While South Africa can look to make use of fiscal and monetary

policies to combat the persisting high unemployment rates and the effects of COVID-19, policymakers can also make use of existing funds on the DTIC and Department of Small Business Development to further drive funding and the development of vulnerable groups to hone in on upskilling and creating employment. It is only through the financial aid and support of government that vulnerable groups may be able to withstand the effects of the pandemic.

5.3.2 Other suggestions

The NIDS-CRAM should take place to for a few more years to assess how those who were employed in February 2020 have faired since the end of lockdown and whether the number of those who became unemployed had improved after a couple of years (for example, until 2025). This will allow policymakers to see whether employment has fully rebounded after the COVID-19 pandemic and the restriction lockdowns and if so, how long it took to reach the recovery.

If the NIDS-CRAM is discontinued, the NIDS should rather include new questions such as 'were you employed in February 2020?' so that NIDS can help track the labour market outcomes of these people over time and to find out if they have completely recovered from the lockdown.

Lastly, the restrictive lockdowns that were implemented curbed the spread of the COVID-19 pandemic but at a massive cost to society and the economy. These lockdown policies were all costs with little to no benefit, and the costs were borne disproportionately by the young and the less educated. Hence, in future if a similar virus or pandemic may happen, governments (if not health policy makers) should think of alternative measures instead of an immediate hard lockdown.

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APPENDIX

Table 13: Labour market aggregates, 1995-2022

	Number				Rate (%)	
	Inactive	**Employed**	**Unemployed**	**Working-age population**	**LFPR**	**Unemployment**
OHS 1995	12 662 994	9 499 347	2 028 242	24 190 583	47.65	17.59
OHS 1996	13 718 466	8 966 307	2 224 292	24 909 065	44.93	19.88
OHS 1997	13 960 772	9 093 647	2 450 738	25 505 157	45.26	21.23
OHS 1998	13 137 153	9 370 130	3 157 950	25 665 233	48.81	25.21
OHS 1999	12 736 619	10 356 143	3 153 783	26 246 545	51.47	23.34
LFS 2000 Sep	11 392 852	12 224 406	4 156 910	27 774 168	58.98	25.38
LFS 2001 Sep	12 266 620	11 167 541	4 649 836	28 083 997	56.32	29.40
LFS 2002 Sep	12 280 494	11 283 924	4 930 670	28 495 088	56.90	30.41
LFS 2003 Sep	13 065 543	11 411 351	4 429 336	28 906 230	54.80	27.96
LFS 2004 Sep	13 509 323	11 630 196	4 130 884	29 270 403	53.85	26.21
LFS 2005 Sep	12 893 218	12 287 798	4 482 363	29 663 379	56.53	26.73
LFS 2006 Sep	12 799 169	12 787 285	4 386 117	29 972 571	57.30	25.54
LFS 2007 Sep	13 193 204	13 293 327	3 900 871	30 387 402	56.58	22.69
QLFS 2008Q3	13 127 884	14 561 398	4 297 826	31 987 108	58.96	22.79
QLFS 2009Q3	14 274 795	13 841 980	4 473 324	32 590 099	56.20	24.42
QLFS 2010Q3	14 925 311	13 668 819	4 652 706	33 246 836	55.11	25.39
QLFS 2011Q3	14 991 301	14 131 609	4 696 073	33 818 983	55.67	24.94
QLFS 2012Q3	14 974 880	14 583 192	4 898 166	34 456 238	56.54	25.14
QLFS 2013Q3	15 138 271	15 061 904	4 877 670	35 077 845	56.84	24.46
QLFS 2014Q3	15 408 496	15 146 354	5 147 978	35 702 828	56.84	25.37
QLFS 2015Q3	15 109 534	15 866 852	5 416 460	36 392 846	58.48	25.45
QLFS 2016Q3	15 259 628	15 863 541	5 871 013	36 994 182	58.75	27.01
QLFS 2017Q3	15 219 705	16 211 806	6 209 181	37 640 692	59.57	27.69
QLFS 2018Q3	15 673 018	16 423 598	6 207 061	38 303 677	59.08	27.43
QLFS 2019Q3	15 753 377	16 410 851	6 734 696	38 898 924	59.50	29.10
QLFS 2020Q1	15 702 073	16 415 492	7 066 648	39 184 213	59.93	30.09
QLFS 2020Q2	20 884 291	14 168 889	4 294 223	39 347 403	46.92	23.26
QLFS 2020Q3	18 225 273	14 722 689	6 533 116	39 481 078	53.84	30.74
QLFS 2020Q4	17 360 522	15 045 863	7 231 176	39 637 561	56.20	32.46
QLFS 2021Q1	17 528 643	15 022 080	7 241 121	39 791 844	55.95	32.53
QLFS 2021Q2	17 107 832	14 984 339	7 824 356	39 916 527	57.14	34.30
QLFS 2021Q3	18 082 072	14 324 622	7 641 523	40 048 217	54.85	34.79
QLFS 2021Q4	17 672 153	14 579 074	7 919 983	40 171 210	56.01	35.20
QLFS 2022Q1	17 570 460	14 932 823	7 860 203	40 363 486	56.47	34.49
QLFS 2022Q2	16 970 176	15 592 932	7 990 890	40 553 998	58.15	33.88

 Source: Author's own calculations using OHS 1995-1999, LFS 2000-2007 and QLFS 2008-2022 data.

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http://etd.uwc.ac.za/

Table 14: Absolute and relative changes in the inactive by personal characteristics

	Percentage share (%)				Change: 2020Q1-2022Q2	
	2020Q1	2020Q2	2021Q2	2022Q2	Absolute (1 000s)	Relative (%)
Gender						
Male	41.02	43.51	41.67	41.44	309	50.19
Female	58.98	56.49	58.33	58.56	306	49.81
	100.00	100.00	100.00	100.00	615	100.00
Race						
African	80.74	82.4	80.23	80.51	467	75.85
Coloured	9.18	9.13	10.15	9.42	89	14.51
Indian	3.00	2.35	2.88	2.64	-30	-4.83
White	7.08	6.12	6.74	7.42	89	14.47
	100.00	100.00	100.00	100.00	615	100.00
Age cohort						
15-24 years	52.48	43.89	51.77	49.97	-14	-2.23
25-34 years	11.70	18.93	12.60	12.27	149	24.23
35-44 years	8.15	12.62	8.62	8.57	107	17.38
45-54 years	8.92	9.99	8.90	8.85	45	7.39
55-64 years	18.76	14.57	18.10	20.34	328	53.24
	100.00	100.00	100.00	100.00	615	100.00
Province						
Western Cape	11.6	11.31	12.63	11.86	107	17.41
Eastern Cape	13.27	12.03	13.51	13.32	88	14.33
Northern Cape	2.23	2.34	2.48	2.07	-7	-1.20
Free State	4.69	5.38	4.72	4.65	24	3.93
KwaZulu-Natal	21.68	20.76	21.41	20.48	-26	-4.30
North West	7.61	7.15	6.69	7.65	51	8.36
Gauteng	20.59	21.99	20.66	22.81	424	68.91
Mpumalanga	6.83	7.91	6.93	6.78	35	5.67
Limpopo	11.51	11.14	10.97	10.38	-81	-13.10
	100.00	100.00	100.00	100.00	615	100.00
Education						
None-Grade7	13.28	10.11	11.44	12.02	-87	-14.10
Grade 8-11	57.86	55.78	59.78	58.70	468	75.99
Grade 12	23.00	26.67	23.53	24.00	276	44.86
Grade 12 + Cert/Dip	2.39	3.69	2.08	1.98	-40	-6.54
Degree	2.31	2.5	2.06	2.21	1	0.16
Other/Unspecified	1.16	1.25	1.12	1.08	-2	-0.38
	100.00	100.00	100.00	100.00	615	100.00

Source: Author's own calculations using QLFS 2020Q1, 2020Q2, 2021Q2 and 2022Q2 data.

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