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Unemployment

Nature, Challenges and Policy Responses

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Contributors
Abel Alfred Kinyondo, Bruno Contini, Christine Hugh, Hubert Shija, Mapula Hildah Lefophane, Regina M. Thetsane, Scott Fontechia, Tammy Jorgensen Smith, Veronica Sheen

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Meet the editor

Collins Ayoo teaches Economics at Carleton and Trent Universities in Canada and works as a Research Economist at Natural Resources Canada. He has previously taught economics at Maseno University, Kenya, and at the Canadian Universities of Guelph, Waterloo, Calgary, and Ottawa. He attended the University of Nairobi from where he graduated with a BSc in Agriculture and an MSc in Agricultural Economics. He subsequently obtained an MA in Economics and a Ph.D. in Agricultural Economics from the University of Guelph. His fields of specialization are natural resource and environmental economics, development economics, and applied econometrics. His research interests include poverty alleviation strategies, agricultural policy, energy policy, water policy, economic development, economics of biological diversity, and community-based management of natural resources.

Contents

Preface

The issue of unemployment is a major challenge that both developed and developing countries are facing and that continues to attract the attention of scholars and policy-makers who regard its reduction and amelioration as central to improving standards of living and quality of life. International financial and development institutions such as the World Bank, the International Monetary Fund, and the United Nations also regard the reduction of unemployment as key to achieving development that is sustainable, inclusive, and equitable, and as a concern that needs to be prioritized by all governments, especially those of developing countries. Being effective in combating unemployment requires not only a deep understanding of its nature and its principal drivers but also good quality current data that can illuminate its extent and distribution. This needs to be followed by the formulation and implementation of robust policies and action plans that will stimulate social and economic transformation and catalyze employment creation and improvement in the quality of life for those who are unemployed. The present volume contributes to this effort by bringing together the diverse perspectives of researchers about unemployment with a specific focus on its manifestations in various countries and the measures that are being implemented to address it. Both short- and long-term approaches are discussed, and suggestions are made for potential ways of leveraging modern and innovative technological tools to mitigate unemployment.

In Chapter 1, Veronica Sheen posits that conventional employment and unemployment rates are inadequate indicators of economic and social conditions and well-being because they do not address matters such as job security and the problematic issue of stagnant and declining wages. This warrants the development of better measures of the labor market performance that address issues such as cost of living and conditions of work.

In Chapter 2, Mapula Hildah Lefophane evaluates the extent to which various policy actions undertaken by the South African government have achieved the objectives of growing the economy and creating employment. The chapter comprehensively outlines the various policies and strategies, their rationale and structure, and notes that although they were supported through financial incentives, the anticipated results were to a large extent not achieved. The reasons for the disappointing outcomes are provided and constitute valuable lessons for other countries contemplating similar programmes. The chapter also theoretically and empirically examines other important issues such as the connection between labor productivity, employment, and wages.

In Chapter 3, Bruno Contini presents a new approach for analyzing long-term non-employment, an issue that has not been adequately addressed in the literature. Although the focus of the chapter is Italy, Germany, and Spain, the issue is important for other countries as well where there are significant numbers of people who have not worked or have withdrawn from the labor force. Contini points out that part of

the reason for "non-employment" is the participation of large numbers of people in the irregular economy whose extent is difficult to measure due to the unavailability of good quality data.

In Chapter 4, Regina M. Thetsane examines entrepreneurship education as a strategy for combating unemployment in the Sub-Saharan country of Lesotho. The chapter argues that properly planned and executed entrepreneurship education can enable universities and other training institutions to increase the number and quality of entrepreneurs, resulting in employment creation and economic empowerment. Empirical evidence is presented to show that entrepreneurship education can be effective in facilitating the acquisition of critical skills, combating high rates of unemployment, supporting wealth creation, and enabling small and medium-sized enterprises to emerge and thrive.

In Chapter 5, Abel Alfred Kinyondo and Hubert Shija examine a problem that is widespread in many developing countries, namely, the mismatch between the skills that graduates of tertiary training institutions possess and those that are in demand by employers. To some extent, this mismatch reflects a shortcoming in the curriculum that training institutions offer. It points to the need for reforms to align the theoretical and practical aspects of training with the needs of employers. This needs to be undertaken by considering the fact that social, economic, and technological change is taking place rapidly and thus the training of graduates needs to ensure that they are adaptable, agile, and proficient in the use of emerging digital technologies.

In Chapter 6, Tammy Jorgensen Smith, Christine Hugh, and Scott Fontechia investigate the issue of unemployment and underemployment of people with disabilities and argue that, in general, people with disabilities experience higher rates of unemployment and underemployment and often earn less than those without disabilities. They assert that people with disabilities are a valuable and underutilized resource that can be harnessed to facilitate economic growth and stability by addressing the challenges and barriers to employment and social inclusion that they often face.

I wish to sincerely thank Iva Simcic Mance and Ivana Barac at IntechOpen for their patience, help, kindness, and guidance throughout the preparation of this volume. Without their contribution, this volume would not have seen the light of day. A big thank you.

Collins Ayoo
Department of Economics,
Carleton University,
Ottawa, Canada

Chapter 1

Better Measures of the Labor Market for the Future of Work

Veronica Sheen

Abstract

The world of work has changed dramatically over recent decades, but the unemployment rate continues to be a core measure of how well or badly an economy and its labor force are doing. This chapter examines how in the emerging labor market—*the future of work*—the measure of unemployment is increasingly compromised. As so much employment fails to deliver ongoing security and adequate income, unemployment of itself is not a sufficient indicator of the health of the economy and its workforce. The chapter argues that there is a need for better measures of what constitutes labor market status including security and income. To be considered, in some countries, unemployment is low, but many jobs are insecure and poorly paid. In others, it may be high, but jobs are highly protected and hard to obtain, especially for some groups such as young people or older people.

Keywords: unemployment rate, underemployment, future of work, job insecurity, wage stagnation

1. Introduction

In 2023, unemployment rates in many countries are at the lowest levels for decades. Many economies are now in recovery mode, and business is getting back to "normal" however that is defined and however conditional that may be. Over the last 3 years, there have been major disruptions to the world economy and labor markets through the COVID-19 pandemic and obstructions in global supply chains. Labor markets have progressively tightened, and there are now labor shortages in various industry sectors due to factors including worker preferences and a lack of migrant workers [1]. In this chapter, I take account of the disruptions that have occurred over the past 3 years and which now have reduced unemployment rates as economies recover. Despite this reduction, there has not been an overall improvement in the standard of living of workers with a "cost of living crisis" in train. The effects of these disruptions and the reduction of unemployment rates need to be contextualized against longer-term changes to the structure of labor markets, and more broadly, the economies in which they are located.

The unemployment rate has long been a core measure for assessing how well an economy and its population are faring. It has been the measure of how many people of working age want jobs, are actively looking for jobs, but do not have one. A low level of unemployment has been a marker for telling us that an economy is thriving,

and there are plenty of opportunities for people to make a living and get ahead. It also tells us that the skills and talents across a population are being well utilized and that productivity is surging.

Conversely, a high level of unemployment has long been used as an indicator that an economy is sagging, growth is slow, and that there is reduced opportunity across a population or for particular groups. It also tells us that there is a high level of social need, poverty, and exclusion. The measure of the unemployment rate conjures a view of the economy and the labor market in terms of insiders and outsiders—or more potently, winners and losers. If you are an insider, then you are in the mainstream as an independent individual able to support yourself and your household as well as make an overall contribution to the economy and society through your outputs and taxes. The outsider conjures a bilateral view of an individual as both unable to find employment as well as embodying certain deficits such as lack of skills, or lack of effort to find work, that consolidate their exclusion.

I argue in this chapter that in the new world of work of the twenty-first century that the unemployment rate is no longer a sufficient indicator of how well an economy and its people—the labor force—are doing. In addition, the division between 'insiders' and 'outsiders' of the workforce is increasingly irrelevant. Indeed, in this interim period following the pandemic of 2020–2021, despite the surge in job opportunities, there is a significant and very troubling growth in hardship among employed people in many countries including high-income countries. This does not discount the ongoing hardships faced by unemployed people but in the new world of work, the experience and identity of unemployed people and some groups of employed people are merged.

The aim of this chapter is to show that a better core measure of labor market shortcomings is needed in the new world of work—and what this measure might consist of. The chapter draws in the main from the macro-economic sources of data and analysis of the key international bodies the ILO (International Labour Organization) and OECD (Organization for Economic Co-operation and Development) supplemented by other scholarly material focused on the labor market. The genesis of the core argument of the paper stems from my doctoral research on the growth and long-term impact of informal and insecure employment [2]. While the study had a focus on a particular subgroup in the labor market (midlife women), its findings had broad applicability as to the effect and experience of insecure employment.

This chapter is written as public policy analysis rather than a report on the findings of a particular research project. Nevertheless, it draws on the most salient analysis of core labor market and economic developments to build the case that we need better ways of determining how well or badly a labor market is performing—in the context of "the future of work." The conclusion of the chapter as to a more adequate measure of labor market performance is intended to stimulate further development.

2. The ILO analysis of the unemployment rate

The ILO provides a starting point for my analysis in its description and critique of unemployment rates [3]. In the first instance, its focus is on labor underutilization:

> *The unemployment rate is probably the best-known labour market measure and is certainly one of the most widely quoted by the media. The unemployment rate is a useful measure of the underutilization of the labour supply. It reflects the inability of*

> *an economy to generate employment for those persons who want to work but are not doing so, even though they are available for employment and actively seeking work.*

More concisely, it goes on to say:

> *The unemployed comprise all persons of working age who were: a) without work during the reference period, i.e. were not in paid employment or self-employment; b) currently available for work, i.e. were available for paid employment or self-employment during the reference period; and c) seeking work, i.e. had taken specific steps in a specified recent period to seek paid employment or self-employment.*

The ILO acknowledges several shortcomings and limitations with the measure of the unemployment rate:

- it does not take account of portions of the population that wants to work but is not actively seeking work because there are limited job opportunities, or that they face discrimination, or have restricted labor mobility. This group comprises "discouraged" workers.

- a portion of the population especially women may be available for work in the near future, but unable to seek work or take work in the short term (and within the reference period for labor force surveys) especially because of present care responsibilities.

- it discounts the difference between short-term cyclical unemployment and structural long-term unemployment [3].

In addition, there are differences between countries in terms of social security systems which support people in the event they are unemployed. In most developed OECD countries, there is a limited unemployment payment embedded in the social security system. But in many countries especially developing countries, there is limited or no social protection. This means people may be forced into any income-generating activity in the informal economy just to survive—which may mean unemployment rates are low [3].

Economies and their labor markets have undergone profound changes over the last 40 years, such that the unemployment rate as originally devised has reduced significance and has had limited application in developing countries as the ILO points out. In the evolving world of work—the future of work—there are even more limitations on the usefulness of the unemployment rate as a labor market and economic measure than those pointed out by the ILO. But first, it is necessary to understand the history of the unemployment rate as a statistical measure.

3. The evolution of the unemployment rate

There are various long-term accounts of the development of the contemporary measure of unemployment in national surveys. Two of the accounts are set in the context of the United Kingdom and the United States which gives insight into the complexity of how it evolved. The US study [4] exams how unemployment was

incorporated into national census surveys from the 1880s. The UK survey [5] focuses on how levels of unemployment were measured not only through the census but also by the level of registration of unemployed people with institutions over time including government labor and employment agencies, trade unions, and national insurance schemes. Both studies document how unemployment measurement from the 1940s was embedded in the "active search for work" criteria as well as an individual's immediate availability for work.

In the post-world war 2 years, across most industrialized countries, unemployment was negligible and was only a short transitional period for the majority of workforces. Effectively anyone who wanted a job could get one, notwithstanding the much lower level of women's workforce participation than that of men. Most importantly, the job you attained would be ongoing for as long as you wished to stay in it and would provide a sufficient income to cover basic needs such as the cost of renting and buying a home, supporting a family, and food and energy. In this context, the unemployment rate measured simply by the criteria of active search and availability for work did not present many problems. But over the recent decades, the weakness of the unemployment rate as a labor market measure has come to light.

4. Low unemployment rates and cost-of-living crisis

In the postpandemic era of 2022–2023, unemployment levels have significantly reduced. In early 2023, the average unemployment rate across the OECD is 4.8% [6]. Ten years earlier in 2013, it was 8%. In a number of countries, including the United States, Germany, Japan, the United Kingdom, and Australia, unemployment rates are below 4%. While the rates may be higher in other countries, they are nevertheless significantly lower than they were before the pandemic [6]. But the low unemployment rates have not equated to a rise in living standards. It is an extraordinary reality that with low unemployment rates in many countries, people are struggling to meet basic costs of living. Moreover, there are huge pressures on social welfare systems and charities to provide auxiliary help to many people as documented for many countries [7].

It is a great irony now that unemployment does not of itself constitute the central marker of social disadvantage for people of working age. People with jobs, in employment, may also be disadvantaged. It is a major news item in many countries and which the OECD 2022 Employment Outlook Report documents [8]. There are significant cost-of-living pressures which are attributed to long-term wage stagnation and the current rates of inflation which have not been seen since the 1970s—the "stagflation" era. The OECD 2018 Employment Outlook published before the pandemic, reports that "on average, across 24 OECD countries, there has been significant decoupling of median wage growth from productivity growth over the past two decades" [9]. In effect, while we need to understand the current causes of the cost-of-living crisis as per the problems with global supply chains, and the aftermath of the pandemic, equally we need to understand how economies and labor markets have been in a long-term process of change. Such changes resulting in the decoupling of wage growth from productivity growth, have impacted on the capacity of a job, of employment, to protect against hardship, and to enable an adequate standard of living.

The lives of most people in both developed and developing countries continue to be calibrated to attain and maintain a "good" job or profession which will see them safely and securely transit over their working lives and into a comfortable retirement. In the post-war era *les trente glorieuses,* this model of living was standard fare for most,

although it was largely the province of men with women's workforce participation still at relatively low levels. But as we well know, the opportunities to attain such a "good job" have progressively diminished over the last 40 years. To some extent the "good job" era was only ever a passing phase in the industrial era mostly in the postwar period of the twentieth century. Nevertheless, the notion of the "good job," and the desire to attain it has been remarkably resilient in view of any alternatives for getting ahead in life. It is important to understand what the natures of the changes have been as well as the ongoing consequences.

5. The new ways of doing business: and work

There are many ways that the nature of work and employment has changed over the past 40 years. Fundamentally, this is the result of the ways that the sources of employment—businesses and institutions—are structured, and which are at the heart of this change.

5.1 Automation and digitization

At the top of the list is the development of new technologies which are transforming how work is undertaken. A core purpose of technology is to replace human workers and to find more efficient and cheaper ways of providing goods and services. It is also in its way, a source of invention and progress. It may provide useful ways to eliminate difficult and dangerous tasks for workers and to provide helpful new services as well as new jobs [10].

While there are many ways that new technologies and digitization have transformed the nature of work, a central effect also relates to the development of algorithms which serve for the monitoring and surveillance of worker output. While this is a flow on from the old-world mindset of *Taylorism,* which focused on maximizing a worker's performance, algorithms for monitoring performance in the new world of work may be used to set targets which are unachievable and which enable the easy dismissal of workers according to the up and downs of business needs for staff.

5.2 The rise of precarious employment

Much employment in the new world of work can be defined as precarious or insecure. This is a casualized labor force where people are employed on a short term or day-to-day basis, or zero-hour contracts, with the employer preserving the right to dismiss the worker at will. Researchers such as Guy Standing have been documenting the growth of precarious employment and its effects over the last three decades [11, 12].

5.3 Contracting out and offshoring

Many enterprises have opted to minimize their permanent staff through contracting out aspects of their activities to other, mostly smaller, specialized enterprises. This reduces costs and liabilities for permanent staff in the event of changes in outputs and activities. Offshoring may mean contracting out activities to countries with lower labor costs but may also mean setting up parts of businesses in those countries where there are lower protections for workers such as in health and safety [13].

5.4 Monopsony and wage stagnation

A major theme of the 2022 OECD report Employment Outlook is that of *monopsony* and the effect that this has had on employment and wages over recent decades**.** It is described as

> *the situation in which employers possess unilateral wage-setting power and use it to set wages and employment below the levels that would prevail in a competitive market, where firms have to pay workers a "market rate" aligned with their productivity [8].*

While much employment is located in smaller, contracted out or gig economy sectors, large enterprises still largely determine outcomes in wages and conditions for workers.

5.5 Reduction in trade union membership

The new business models which have dislocated core workforces to ever smaller units whether in contract enterprises, or the gig economy, combined with overall informatization of the economy, have also resulted in a great reduction in collective worker interests—trade unions. This has meant greatly reduced power of workers to demand adequate wages and conditions in employment [14].

5.6 The gig economy and taskification

Increasingly, workers are self-employed in on-line employment hubs where they can take on specific tasks in the so-called "gig economy." This may have advantages in allowing people to work where and when they choose but of course, it does not come with any protections or rights.

The emergence of the gig economy has been facilitated by the breakdown of jobs into tasks—taskification [15].

5.7 The demise of public sector employment

A core source of secure and well-paid employment in the past has been in the public sector, but this has effectively reduced in most countries as governments have sought to reduce liabilities for large workforces [16].

6. The new economic order of the twenty-first century

Over the later decades of the twentieth century and now the twenty-first century, many countries have moved from industrial to postindustrial era economies focused on service industries and the knowledge economy. In some ways, the end of the industrial era also has marked the end of so-called "standard jobs" in which certain protections and security were embedded. But as the 2019 OECD Employment Outlook has identified, the economic order of the twenty-first century has brought about the diminishment of such jobs and the rise of "non-standard" employment which has given rise to more precarious and low-wage forms of employment.

The new economic order of the twenty-first century with the loss of the "good jobs" of the past has also given rise to greater inequality. Thomas Piketty's

ground-breaking treatise *Capital in the Twenty-First Century* provides the account of how and why income from labor has diminished so much since the 1980s [17]. Effectively income from capital assets has overtaken income from labor as the principal source of wealth creation such that inequality both within nations and between nations has greatly increased. But this is not the only source of inequality. There has been a tremendous "rise of supersalaries" as Piketty calls it (p374). Effectively this reflects "job polarization" such that there has been a loss of the middle-level "good jobs" which were the core means of opportunity for getting ahead and achieving an adequate standard of living in the postwar years. From the 1980s, there has been growth in low-wage jobs, and also a rise in highly paid employment particularly "among top managers of large firms."

7. What new measures do we need

The analysis in this chapter makes it clear that the unemployment rate is an inadequate means of determining the situation of the labor market and associated levels of economic and worker well-being.

Much employment is low paid, insecure, and short term, and it lacks standard protections against dismissal. There is relatively little availability of long term, protected, adequately paid employment. The cost-of-living crisis in the 2020s points to a serious ebbing of the quality rather than the quantity of employment as a means to achieve an adequate standard of living, and this has been in progress well before the onset of the COVID-19 pandemic and the disruptions in global supply chains. Wage stagnation of the last 20 years has merged with the world catastrophes to create serious hardships across broad populations. Unemployment may have drifted lower recently in the recovery period from the pandemic but it has not lifted living standards. The question then is what new measures do we need in the new world of work?

The strength of the unemployment rate as a measure is its simplicity. It takes account of whether an individual works or does not work at all, and whether that individual has been looking for work over a set time-period and is available for work at the time of the labor force survey. As such it will continue to be an important measure. Other measures are likely to be much more complicated and difficult to administer. They might also involve lower levels of defined measures.

One measure that is widely used in labor force surveys is the under-employment rate (or under-utilization rate) of people who work but who wish for more hours of work. While this is an important measure and has strengths, it does not take account that people even with full-time work may not be able to garner an adequate wage with current wage stagnation and the cost-of-living crisis. Moreover, the under-employment rate does not consider whether work is secure or precarious which is a powerful determinant of the quality of employment. The ILO analysis of the deficits of unemployment rates and its proposal for a better "underutilization rate" does not take this factor into account.

There is a clear need for an "adequate employment rate" which measures how many people in fact have sustainable, adequately paid and protected employment and how many do not. While to some extent this may embody a level of self-determination as to whether the job is adequate or not, it nevertheless provides a much clearer account of the status of the labor market—and the economy. While the unemployment rate will still have its place, a much better and useful measure would be the "adequate employment rate" and its associated "inadequate employment rate."

8. How to measure an "adequate employment rate"

An "adequate employment rate" will measure whether the work fulfills a number of criteria. These can be divided between objective and subjective measures.

8.1 Objective measures

a. Whether the work is ongoing or short-term. This would be a fundamental and simple measure that takes account of the precarity of a job. While of course some highly paid professionals may be employed in short-term contract work by choice, the measure could be consolidated by a question as to the preference of the worker for ongoing or short-term work.

b. Whether there are any protections embodied in the job against immediate dismissal. This would take account of the level of "casualization" of the labor market. Effectively, casual employment enables immediate dismissal on the whim of the employer. It is a straightforward "objective" measure.

c. Whether the hours worked are consistent or variable. Again, this is a core objective measure that highlights the level of precarity of a job.

d. Whether the hours worked are sufficient. There is already some degree of measurement of "under-employment," but this should be incorporated into the measure of the "adequate employment rate."

8.2 Subjective measures

a. Whether the income from the job enables the individual to meet core living costs such as housing, food, energy. This would be a more complicated and subjective measure on the part of the worker. Nevertheless, it is vital that this measure is embedded in the "adequate employment rate" measure. It can also be set against broader measures that take account of the level of inflation, wage levels particularly the minimum wage, levels of reliance on alternative forms of support such as charities. These effectively are the measures that have produced the current information about the cost-of-living crisis around the world such as the 2022 OECD Employment Outlook Report.

b. Whether the work is sustainable over the long term. There are many reports of jobs that have become increasingly difficult and fast-paced such that workers are unable to sustain the job for long periods. The predicament of workers in Amazon warehouses has been a lead story on this [18]. While to some extent, this measure for an "adequate employment rate"/inadequate employment rate, is subjective on the part of the worker, it can also be set against broader studies and data collection on practices in workplaces.

9. Conclusion

The unemployment rate will remain a vital measure of economic and social conditions and well-being. Unemployment will always mark a significant downturn

in a worker's capacity to maintain a sufficient income for an appropriate standard of living. Importantly, unemployment rates are an economic indicator which will rise during recessions and have a cyclical aspect. However, the unemployment rate is of itself an insufficient measure as labor markets and economies have profoundly changed over the past 40–50 years and are in process of further change. While having a job will always to some extent assist in mobility between jobs and protect against long-term unemployment, there is ever greater erosion of working conditions for many. In my own research [2], a number of workers were trapped for long periods in casual or contract jobs and could lose such long-term jobs in a day. The current cost-of-living crisis has also brought into focus the decline in the value of wages over the past two decades.

Core economic and social indicators need to keep up with the times. With the changes underway in the world of work—the future of work—there is a great need for a measure of "an adequate employment rate" combined with a measure of an "inadequate employment rate." It needs to be set alongside the unemployment rates as well as the underemployment rate. It is necessary for the proper evaluation of the condition of the economy and its people in a time of massive changes at many levels: technological, climatic, population aging. This is essential for governments to implement appropriate economic and social policies that would cover areas including taxation, social protection, employment rights, and wage levels. In effect, it would be the beverage of policies that are needed for the twenty-first century for a fairer and more sustainable social and economic system.

Author details

Veronica Sheen
Independent Social Researcher, Melbourne, Australia

*Address all correspondence to: veronicasheen@fastmail.net

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Chapter 2

Unemployment, Policy Responses and Challenges in South Africa: A Sectoral Analysis

Mapula Hildah Lefophane

Abstract

This chapter serves to examine the extent to which the policy responses undertaken by the South African government have achieved the objectives of growing the economy and creating employment. A synopsis of the macroeconomic, sectoral/industrial policies and sector-specific programmes indicates that the manufacturing sector as a whole, and certain manufacturing industries, were earmarked as one of the sectors and industries with the potential to achieve these objectives. Despite these efforts, South Africa's manufacturing sector is faced with four main challenges, which hinder its ability to drive economic growth and create jobs as envisioned. These challenges were identified as high input costs, labour market rigidities, mismatches between education and skills and high import penetration. To overcome these challenges, it is recommended that the government should adopt a multi-prolonged approach involving a variety of policy strategies. The trends in labour productivity, employment and wages were explored to determine the extent to which labour productivity determines wages, and affects employment. Overall, the labour productivity-employment-wages nexus is influenced by various factors, which require the implementation of a combination of policy strategies.

Keywords: unemployment, policy responses, challenges, South Africa, sectoral analysis

1. Introduction

Since the attainment of democracy in 1994, the South African government has developed several policies to grow the economy and address the country's high rates of unemployment. These policies encompass a range of policy plans at the macroeconomic and sectoral levels, as well as industry-specific programmes, labour laws and related labour market interventions. The macroeconomic policies range from the Reconstruction and Development Plan (RDP), South Africa's first Development Plan post-1994 [1], to the National Development Plan (NDP), the country's vision for 2030. To complement the macroeconomic policies, a range of sectoral/industrial policies has been developed as implementation plans of the macroeconomic policies. In addition to this, industry-specific programmes have been developed to capacitate the sectors/industries to contribute towards the macroeconomic and sectoral/industrial

policy objectives of growing the economy and creating employment. Recently, a range of industry-specific Master Plans, briefly described as "action-oriented policies", has been developed to boost local jobs through the development of local value chains [2].

The transition into democracy in 1994 also witnessed the implementation of various labour policies to redress the historical inequalities in the labour market. The labour policies also aim to promote the rights of workers and employment of historically disadvantaged groups, and improve the working conditions and wages of workers. The main policies include the Basic Conditions of Employment Act, the Employment Equity Act and the Labour Relations Act. Over the years, other labour policies have been introduced to improve economic efficiency and productivity, and to create employment and a conducive environment for investment. Several labour market interventions were also introduced, including job creation initiatives, programmes and interventions to address South Africa's challenge of chronic youth unemployment (e.g., the Presidential Youth Employment Initiative (PYEI), the Presidential Employment Stimulus Programme (PES) and Operation "Vulindlela") [3–5].

The government furthermore introduced the Skills Development Act, which led to the implementation of various training and skills development programmes to improve labour productivity and the employability of workers [6]. However, there has been stagnation in wage growth, characterised by unequal distribution of wages and low wages in various sectors of the economy [7]. In light of this, the National Minimum Wage Act was introduced in 2018 to promote equitable wage-setting mechanisms, and for the regulation and implementation of sectoral minimum wages [8].

Despite the aforementioned policy responses, South Africa has experienced stagnant economic growth and high rates of unemployment. For instance, before the COVID-19 outbreak, the economy had failed to achieve an annual gross domestic product (GDP) growth rate of 5%, as envisaged in the NDP 2030. Moreover, South Africa had one of the highest rates of unemployment in the world [9]. With the advent of COVID-19, the unemployment rate hit a record of 34.4% in the 3rd quarter of 2021 [10], the highest unemployment rate in the world, with about 52% of the population living in poverty in 2020 [10, 11].

Moreover, real GDP contracted by 8.2% in 2020 and wages of workers, for those who still had jobs, had decreased by 10–15% by the end of 2020 [10–12]. These figures suggest that COVID-19 deepened the economic challenges already facing South Africa. Of note, the figures suggest that policy responses undertaken thus far have been ineffective in achieving the intended outcomes of growing the economy and creating employment. This is due to several factors, including mismanagement of public funds and resources, inadequate infrastructure (power shortages and inefficient transport networks), lack of adequate skills among the workforce, trade tensions and policy uncertainty (concerns about property rights, land reform and mining regulations). Moreover, the country's labour laws and minimum wage provisions are said to have hindered the labour market's ability to attract foreign investment aimed at reducing poverty and unemployment rates [13–15]. They also led to high costs for employees (wages) [16], which are not accompanied by a rise in labour productivity [13–15]. Hence, the labour market has been ineffective in attracting the foreign investment needed to create jobs.

Given the aforementioned, this chapter serves to examine the extent to which the policy responses undertaken by the South African government have achieved the objectives of growing the economy and creating employment. This objective is achieved through a review of literature and document analysis of policy briefs, government policies and reports, as well as other relevant documents. The subsequent

sections of this chapter are organised as follows. Section 2 describes the detailed policy responses undertaken to grow the economy and reduce unemployment in South Africa. Section 3 provides an overview of sector-specific challenges hindering the ability of one of South Africa's economic sectors to create jobs (i.e., the manufacturing sector). Section 4 provides the theoretical nexus between labour productivity, employment and wages to underline how labour productivity and wages affect employment. Section 5 provides trends in labour productivity, employment and wages at the industrial level to highlight the extent to which labour productivity and wages have affected employment at the sectoral/industrial level. Section 6 summarises the chapter, and highlights the policy implications.

2. South African government's policy responses to unemployment from 1994 to 2020

This section provides a rundown of the policies implemented in South Africa to support the growth and development of one of South Africa's economic sectors (i.e., manufacturing sector). The rationale is to underline the point that the manufacturing sector has been earmarked as one of the strategic sectors to achieve South Africa's goal of job creation. Special attention is given to policies developed post-democracy, from 1994 to 2019.

2.1 Macroeconomic policy plans

The notable macroeconomic policy plans include, successively, the Reconstruction and Development Programme (RDP), the Growth, Employment and Redistribution (GEAR) strategy, the Accelerated and Shared Growth Initiative for South Africa (AsgiSA), the New Growth Path (NGP) and the National Development Plan (NDP). Since these are macroeconomic policy plans, the discussion is centred on the policies at the national level instead of other spheres of government. It is important to note that various policy strategies at the local and provincial levels have been developed in line with these macroeconomic policy plans [17]. In this section, the policy plans are discussed in a chronological order to highlight changes in the government's priorities.

2.1.1 The reconstruction and development programme (RDP)

After 1994, the development of macroeconomic policies started with the RDP. The RDP aimed at redressing the inherently gross inequalities in access to basic services, strengthening democracy for all South Africans and establishing a more equal society [18]. Thus, the priority of the RDP was to reverse the historical inequalities in access to basic services. For this reason, the sectors of priority comprised water and sanitation, primary agriculture, land reform, energy and electrification, health care and transport. However, this does not exclude the fact that the RDP underlined the need for the development of a large manufacturing sector that processes local raw materials and minerals, as the economy depended on mineral exports.

2.1.2 Growth, employment and redistribution (GEAR) strategy

The RDP was replaced by the GEAR strategy in 1996 because of its ineffectiveness in achieving one of its priority areas of "creating a strong, dynamic and balanced

economy". It is against this background that the GEAR focused on enhancing economic growth and stabilising the economy. As such, efforts were made to promote foreign investment and trade, and create a conducive environment for businesses. Thus, the GEAR differs from the RDP in that it contained specific targets, which were to be accomplished between 1996 and 2000. These targets encompassed an average real export growth rate (manufacturing) of 10.8%, an average annual GDP growth rate of 4.2%, an average inflation rate of 8.2% and the creation of an average of 270, 000 jobs by the year 2000 [19]. Of note, the manufacturing sector was identified as being one of the strategic sectors for achieving these targets.

2.1.3 Accelerated and shared growth initiative for South Africa (AsgiSA)

Despite being credited for achieving its targets, especially that of a GDP growth rate of 4.2% in 2000, the rates of unemployment and poverty escalated during the GEAR era. In response to this, the government implemented the AsgiSA in 2006. The AsgiSA focused on "shared growth" – growing the economy while reducing poverty levels and unemployment (i.e., to less than 15% by 2014). Remarkably, it is through the AsgiSA that specific manufacturing industries were identified as being among the strategic industries for achieving the required growth and development. These included the chemical sector, creative industries, metal beneficiation, the capital goods sector and some of the agro-processing industries (i.e., clothing and textiles, wood and pulp).[1]

2.1.4 New growth path (NGP)

Akin to the GEAR, economic growth under the AsgiSA coincided with high rates of unemployment, poverty and inequality; hence, the NGP was introduced. The NGP aimed to stimulate economic growth, generate 5,000,000 jobs and reduce the rate of unemployment from 24.68% in 2010 to 15% by 2020. The main difference between the NGP and preceding policy plans is that it was aimed at stimulating growth and reducing the high rates of unemployment, poverty and inequality by "creating a more labour-absorbing growth path" [20]. The other difference is that the NGP sets out targets that were to be achieved by the main sectors of the economy (i.e., agriculture, mining, manufacturing and services). As a result, the agro-processing sector (a subsector of manufacturing) was expected to generate 145,000 of the 5,000,000 planned jobs by 2020. In contrast to previous policies, which were abolished when new policies were being introduced, the NGP was implemented simultaneously with the NDP, the country's strategic plan for 2030.

2.1.5 National development plan (NDP)

The NDP was introduced in 2011 to achieve GDP growth of at least 5.4% each year until 2030 (from 3% in 2010) and to reduce unemployment, poverty and inequality. Both the NGP and the NDP were implemented concurrently, with the NGP as a medium-term strategy and the NDP as a long-term strategy. In other words, the NDP is South Africa's vision for 2030, while the NGP was the government's strategy in pursuit of the NDP [21]. The two policy plans differ in that the NGP viewed employment creation as the top priority. Hence, employment growth targets were set for each

[1] The creative industries encompassed film, television (TV), content and music.

of the identified economic sectors (e.g., 145,000 of the 5,000,000 planned jobs for the agro-processing subsector) and developed tangible actions to steer a more labour-absorbing growth path in the sectors [22]. On the other hand, the NDP is aimed at accelerating economic growth to reduce the high levels of unemployment, poverty and inequality by 2030. However, as with the NGP, the specific manufacturing industries were identified as being among the strategic industries with the potential to contribute towards the achievement of the NDP objectives [23, 24].

2.2 Sector-specific policy plans

In addition to the macroeconomic policy plans, various sector-specific policy plans were introduced to create more job opportunities within the industrial sectors and reduce the high levels of unemployment in the country. The notable sectoral/industrial policy plans are, sequentially, the National Industrial Policy Framework (NIPF), the Industrial Policy Action Plan (IPAP), the Nine-Point Plan (9-Point Plan), the strategy for the development of small and medium agro-processing enterprises and the Reimagined Industrial Strategy (RIS).[2] These sectoral/industrial policy plans were developed as the implementation strategies for the macroeconomic policies [1]. From this perspective, the discussion of these sectoral/industrial policy plans also focuses on their interrelation with the macroeconomic policies, which are discussed in the section.

2.2.1 National industrial policy framework (NIPF)

The NIPF was introduced in 2007 as the implementation plan for AsgiSA to support industrialisation and industrial growth, particularly within the manufacturing sector [25]. Similar to the AsgiSA, the NIPF earmarked specific manufacturing industries as industries with the potential to contribute towards achieving growth and development goals. In particular, the NIPF focused on four categories of labour-absorbing manufacturing industries, which constituted the main targeted industries for the implementation of the NIPF. These industries include selected manufacturing industries, including agro-processing industries (i.e., pulp and paper, forestry and furniture) [25].

2.2.2 Industrial policy action plan (IPAP)

In 2008, the IPAP was developed as the implementation plan for the NIPF to "address cross-cutting and sector-specific constraints (and optimise opportunities)" to place the country on a stronger growth path [26]. The IPAP is related to the AsgiSA and the NIPF in that it acknowledges the need to support specific manufacturing industries for their ability to retain jobs because of their labour-intensive nature. These include some of the agro-processing industries, which include textiles, pulp and paper, leather, furniture and clothing and footwear. It is important to note that, while some policy plans were substituted when new plans were being implemented, this was not the case with the IPAP, as it was implemented alongside the NGP and NDP [1].

2.2.3 Nine-point plan (9-point plan)

In 2015, the 9-Point Plan was introduced to grow the economy and create jobs. It was conceived following the economy's ineffectiveness in achieving the NDP's growth

[2] The sectoral/industrial policy plans include those developed from 1994 to 2019.

targets. For instance, while the NDP aimed to achieve annual GDP growth of 5.4% up until 2030, the economy failed to achieve GDP growth of more than 3.5% between 2011 and 2014 [1]. Subsequently, the 9-Point Plan was launched. Based on the South African government [27], the plan is composed of nine actions to be undertaken to generate jobs and grow the economy, including advancing beneficiation and "revitalisation of the agro-processing value chain" [1].[3]

2.2.4 Strategy for the development of small and medium agro-processing enterprises

The strategy for the development of SMEs was launched in 2015 to provide specific support packages to SMEs involved in agro-processing. This was in response to the NDP's acknowledgement of the SME sector as being a strategic sector with the potential to contribute towards attaining its objectives of creating jobs and growing the economy [28]. The strategy identified interventions to develop and support agro-processing SMEs, and was developed in conjunction with the NDP and IPAP [29]. The support is in the form of entrepreneurial support, enterprise development, access to finance, market access, business incubation, industry research and transfer of technology and infrastructure investment [1].

2.2.5 Reimagined industrial strategy (RIS)

The RIS was developed in 2019 following the inauguration of South Africa's sixth administration. The strategy takes a multi-pronged approach to industrial development to unleash job-creating investment through the building of partnerships between the private sector, labour and government. In particular, the RIS aims to strengthen the ability of the value-added and manufacturing sectors to increase value addition, create decent jobs and increase competitiveness in both the domestic and export markets [30]. The RIS is coordinated by the Presidency and is operationalised through the implementation of industry-specific Master Plans. These Master Plans consist of actions that all stakeholders could undertake to facilitate the implementation of action plans and mechanisms to monitor the implementation of those plans [30, 31]. To date, various Master Plans have been developed for the cultural and creative industries (CCI), commercial forestry sector, poultry sector, retail-clothing, textile, footwear and leather (R-CTFL) value chain, automotive industry, sugar value chain, steel and metal fabrication, agriculture and agro-processing and furniture industry [32, 33].

2.3 Industry-specific support programmes

A variety of industry-specific support programmes were developed from 1994 to 2017 to capacitate the industries to contribute towards achieving the objectives of the macroeconomic and sectoral/industrial policies. The industry-specific support programmes range from the Workplace Challenge Programme (WPC) to the Black Industrialists Scheme (BIS). The comprehensive support programmes, their objective and beneficiary industries, are presented in **Table 1**.

Overall, the industry-specific support programmes focus on five key areas, which are namely, (1) investment, (2) technological innovation, technological development and research and technology development, (3) labour productivity, (4) export

[3] The comprehensive plan is available at https://www.gov.za/issues/nine-point-plan.

Support programme	Objective	Targeted sector/industry
Workplace Challenge Programme (WPC), 1997	To ensure job creation through enhancement in labour productivity and competitiveness [34]	Agriculture, mining and beneficiation businesses [34]
Seda Technology Programme (STP), 2006	To promote technological innovation of small enterprises to accelerate their contribution to economic growth and development [35]	Small and women-owned enterprises [35]
Sector specific assistance scheme (SSAS), 2009	To provide financial support to organisations that contribute to the industrial development and growth of South Africa's export base [36]	Industry associations, joint action groups, export councils, and those involved in the development of emerging exporters [36]
Clothing and textiles competitiveness Programme (CTCP), 2010	To provide financial assistance to industries to offset competition from low-cost producing countries, while creating employment and sustainability in these industries [37, 38]	Footwear, textiles, clothing, Leather & Leather Goods Industries [37, 38]
The manufacturing competitiveness enhancement Programme (MCEP), 2012	To support enterprises involved in production, following the global economic recession in 2008, to cope with adverse market conditions, secure higher investment, increase competitiveness, and preserve employment [39]	Sectors involved in advanced manufacturing, agro-processing, chemicals, green technology, metals and mining and pharmaceuticals [40]
Aquaculture development and enhancement Programme (ADEP), 2013	To stimulate investment in the aquaculture sector to develop emergent farmers, increase production, and create and sustain jobs [41]	Fish farms and hatcheries involved in the production, processing and preservation of aquaculture fish [41]
Critical infrastructure Programme (CIP), 2015.	To stimulate investment growth, in line with the NIPF and the IPAP, by supporting critical infrastructure, thus lowering the costs of doing business [42]	Small enterprises, comprising state-owned industrial parks, Defence National Strategic Testing Facilities and aerospace, distressed municipalities and agro-processing enterprises [42]
Support Programme for industrial innovation (SPII), 2016	To promote the technological development of the relevant industries by providing financial assistance for the development of innovative products and/or processes [43]	Individual and all enterprises, including small, very small and micro-enterprises [43]
Technology and human resource for industry Programme (THRIP), 2016	To support manufacturing industries through research and technology development [44]	All firms involved in SET (i.e., science, engineering and technology) research [44]
The agro-processing support scheme (APSS), 2017.	To promote investment by south African Agri-business (i.e., agro-processing/ beneficiation) enterprises [45]	Agri-business and agro-processing enterprises [45]
Black Industrialists Scheme, 2017	To promote transformation, sustainable economic growth and industrialisation by supporting black-owned businesses in the manufacturing sector [46]	Black-owned enterprises in selected value chains and industrial sectors of manufacturing [46]

Source: Adapted from Lefophane [1].

Table 1.
Industry-specific support programmes.

and (5) transformation. The support programmes with a focus on investment are namely, the Manufacturing Competitiveness Enhancement Programme (MCEP), the Aquaculture Development and Enhancement Programme (ADEP), the Critical Infrastructure Programme (CIP) and the Agro-processing Support Scheme (APSS). The overall aim of these programmes is to stimulate investment growth by supporting critical infrastructure, thus lowering the costs of doing business. Such investments are expected to increase production, create and sustain jobs, modernise machinery and equipment, improve productivity and competitiveness and broaden participation in manufacturing/agro-processing. The support provided to the beneficiary industries/firms is through a cost-sharing grant (APSS, ADEP and CIP), as well as financial loan facilities and production incentives (MCEP).

Industry-specific support programmes, which are namely, the Support Programme for Industrial Innovation (SPII), Seda Technology Programme (STP) and Technology and Human Resource for Industry Programme (THRIP) focus on promoting technological innovation, technological development, as well as research and technology development. Overall, these programmes aim to promote technological innovation and development and support industries through research and technology development. The support offered to the beneficiary industries/firms is in the form of a cost-sharing grant (THRIP), business incubation, technical support, market access and financial and non-financial support for technology transfer (STP) and non-repayable grant for defined qualifying costs incurred (SPII).

The support programme, which focuses on labour productivity, is the WPC, which aims to ensure job creation through enhancement in labour productivity. The support provided to beneficiary industries is through coaching in areas of leadership, management systems, goal alignment, cleaning and organising, teamwork and "green productivity". In terms of competitiveness, the CTCP, a Customised Sector Programme (CSP) for the clothing, textiles, footwear and leather goods industries is aimed at providing financial assistance to these industries to offset competition from low-cost producing countries, while creating employment and sustainability in these industries. The support offered to beneficiary industries is in the form of grants and interest-free loans.

In terms of exports, the SSAS aims to provide financial support to organisations that contribute to the industrial development and growth of South Africa's export base. The support is in the form of generic funding, project funding and project funding for emerging exporters. Finally, the (BIS aims to promote transformation, sustainable economic growth and industrialisation by supporting black-owned businesses in the manufacturing sector. The BIS provides both financial and non-financial support to black industrialists in these sectors to accelerate their contribution to economic growth, exports, investments and employment.

In conclusion, the South African government has developed various policies post-1994 as a response to the country's economic challenges of slow economic growth and high unemployment rates. Notably, the manufacturing sector has been earmarked in the macroeconomic policy plans as the strategic sector with the potential to drive economic growth and generate jobs. In addition to the macroeconomic policies, the sectoral/industrial policy plans were developed as implementation plans of the macroeconomic policies. Of note, the agro-processing subsector has been earmarked in the policy plans as one of the sectors with the potential to achieve the objectives of growing the economy and creating jobs.

Various industry-specific support programmes were developed to capacitate the industries to contribute towards achieving the objectives of the macroeconomic and

sectoral/industrial policies. The industry-specific support programmes comprise various incentives, including grants for infrastructural development, research and technology development and the development of emerging exporters. Despite these efforts, South Africa's manufacturing sector is faced with a variety of challenges. This hinders its ability to drive economic growth and create jobs, as envisioned in the macroeconomic and sectoral/industrial policies. The challenges facing South Africa's manufacturing sector are discussed in the next section.

3. Challenges facing the South African manufacturing sector

South Africa's manufacturing sector has faced numerous challenges over the years, which contributed to high unemployment in the country. This is despite the support programmes that have been developed to strengthen the manufacturing sector's ability to drive economic growth and reduce unemployment. The main challenges facing South Africa's manufacturing sector are high input costs, labour market rigidities, the mismatch between education and skills and competition from cheaper imports.

3.1 High input costs of production

There are high input costs of production in the capital-intensive manufacturing industries that require massive capital expenditure, such as the basic chemical, steel and aluminium smelting industries [46], as well as the automobile manufacturing, telecommunications and transportation industries (e.g., airlines and railways). Further, high input costs are seen as employees' costs in the form of salaries, bonuses, medical aid, life insurance benefits, pension benefits and other employee-related benefits. These costs contribute towards the high cost of manufacturing [16], and obstruct the labour market's ability to attract foreign investment [47].

3.2 Labour market rigidities

Following the advent of democracy in 1994, various labour policies were developed to promote the rights of workers and the employment of historically disadvantaged groups, to improve the working conditions and wages of workers, and to redress the historical inequalities in the labour market. The key policies include the Basic Conditions of Employment Act, the Employment Equity Act, the Labour Relations Act and the Minimum Wages Act. Thus, the labour market in South Africa is highly regulated through these policies, making it difficult for firms to employ and dismiss workers.

This has led to the inability to attract foreign investments aimed at tackling the country's challenges of high rates of poverty and unemployment. This is attributable to the unions' demands for high salaries, which are often above the inflation, despite low manufacturing productivity, industrial export output and economic growth [13–15]. Low productivity signifies that workers are contributing less to manufacturing output. However, a 2018 report by Statistics South Africa highlighted the point that employees' costs contributed 14% (R340 billion) of total expenditure by the formal business sector [16]. These costs, which are not accompanied by a rise in labour productivity, have led to a situation where employers are reluctant to hire new workers, especially in the formal sector.

An increase in employees' costs at a rate that is higher than a rise in labour productivity may threaten South Africa's cost competition, if other costs are not adjusted to

compensate for the increase [48]. Thus, the country's labour laws and minimum wage provisions, which were introduced to inhibit the exploitation of workers, contribute towards higher costs of manufacturing. This hinders the labour market's ability to attract foreign investment, reduce unemployment and improve labour productivity.

3.3 Mismatch between education and skills

There is a significant mismatch between the qualifications attained by job seekers and the skills required by employers. In support of this, a report on "facts and figures on skills in manufacturing" found that the majority of technicians in the manufacturing sector did not have the required qualifications, as only 42.4% of them had tertiary qualifications. Moreover, the majority of the technical workforce in manufacturing (i.e., artisans) do not have the prerequisite qualifications. However, it should be noted that those who are unqualified probably have significant experience. The manufacturing sector faces a low-growth environment, which is characterised by a poor skills profile and weak competition for goods and services. To support this, it has been found that the semi-skilled labour force dominated manufacturing employment (61.9%), followed by the skilled labour force (21.8%) and low-skilled labour force (16.4%) [49].

Other challenges include redundant skills, with technology outpacing the limited supply of skilled workers [50]. This is because there has been a transformation in the skill levels of employment in the manufacturing sector. This transformation is attributed to the diffusion of technology, including robots and automation in the manufacturing industries [49]. Companies that are at the forefront of automation are those in the automobile manufacturing. For example, automation gave rise to smart connected products, in which the three main components (the physical, smart and connectivity parts) of the product are integrated.

As such, information technology has become an integral part of the product itself (physical component). For example, the product's mechanical and electrical parts (tyres, engine block and batteries in the car) constitute the physical component. Smart components comprise an enhanced user interface and an operating system consisting of software, sensors, data storage, microprocessors and controls. Examples of smart components in a car include an antilock braking system, engine control unit, touchscreen displays and rain-sensing windshields with automated wipers. Connectivity components comprise the ports, antennae and protocol- enabling wired or wireless connections with the product. According to Staff Writer [51], these advances in automation and computing have accelerated the demand for analytics professionals in South Africa. These professionals are included among South Africa's higher-skilled and higher-paying jobs [52]. Thus, manufacturers depend on skilled workers to operate advanced technology, which is a basic requirement of the manufacturing sector [49]. Hence, there is a need for alignment between the education and training systems and the manufacturing sector's labour market needs. There is also a need for the government to incentivise investment in plants, technologies, automation, computing and smart products.

3.4 Competition from cheaper imports

From a trade perspective, growth in import penetration from China has contributed towards a decline in output in the labour-intensive manufacturing industries, giving rise to a reduction in total employment [53]. The industries that are significantly affected by cheap imports are those involved in the manufacturing of clothing,

textiles and wearing apparel. This is because manufacturers in these industries are struggling to compete with the cheap, mass-produced items that are produced in other countries (e.g., India, China, Lesotho, Swaziland, Vietnam and Bangladesh) and imported into South Africa [47]. As such, import penetration from these countries contributes towards a loss of profit, as well as a decline in output and employment in the manufacturing sector.

In conclusion, whilst support programmes have been introduced to strengthen the manufacturing sector's ability to drive economic growth and tackle unemployment, the sector has faced numerous challenges over the years. The main challenges facing South Africa's manufacturing sector are high input costs, labour market rigidities, mismatches between education and skills and competition from cheaper imports. These challenges hinder the sector's ability to drive economic growth and tackle unemployment.

Overall, addressing the challenges facing South Africa's manufacturing sector requires a multi-pronged approach to be taken. This approach should include labour market regulation and reform, as well as investments in education, technology and skills development programmes. This would drive labour productivity, which is crucial for wage determination, and increase output and employment in the manufacturing sector. Hence, the next section provides a synopsis of the theoretical nexus between labour productivity, wages and employment.

4. Theoretical nexus and trends

4.1 Theoretical nexus between labour productivity, employment and wages

A theoretical nexus exists between employment, labour productivity and wages. This nexus is described as "complex and multifaceted", and has been the subject area of constant debate among policymakers, economists and academics. To simplify this nexus, the theoretical relationship is broken down into three sub-nexuses: the labour productivity-employment nexus, employment-wages nexus and labour productivity-wages nexus. The labour productivity-employment nexus aims to underline how labour productivity growth affects employment, while the labour productivity-wages nexus highlights how labour productivity growth affects workers' wages. Finally, the employment-wages nexus aims to underline how employment growth affects the wages of workers. After discussing each theoretical nexus, empirical evidence is highlighted to justify/dispel each theoretical nexus within the South African context.

4.1.1 The labour productivity-employment nexus

Labour productivity is defined as the production of greater output with the same labour input. Therefore, higher labour productivity is associated with higher employment. The reason is that an increase in productivity increases the demand for labour (i.e., causes the demand for labour curve to shift to the right). However, this does not preclude the point that firms might also choose to substitute labour with capital machinery, resulting in a decrease in employment. This applies to cases wherein the costs of capital are lower than the costs associated with hiring and retaining labourers, and in the capital-intensive industries.

However, it should be noted that the theoretical nexus between labour productivity and employment differs in the short and long terms. In particular, in the short run, higher labour productivity might result in a decrease in employment (temporarily), as

firms would require fewer workers to produce the same output level. On the other hand, in the long run, higher labour productivity could result in increases in employment. This occurs in situations in which firms can reduce costs and use the savings to invest in the development of new products, services, or expansion of existing operations, which creates new jobs and stimulates economic growth. This assertion is validated by empirical evidence reported by Habanabakize et al. [54], who found that labour productivity had a positive impact on the employment absorption rate in South Africa.

However, it is notable that, in reality, other factors besides labour productivity can stimulate employment, as labour productivity per se is not a source of employment growth. These factors include government's investment in education, technology and training programmes, aimed at improving the skills and productivity of the workforce. Other factors include labour policies and labour market conditions, as well as demographic and structural factors.

4.1.2 The labour productivity-wage nexus

A range of theories has been developed to explain how wages are determined. These include Ricardo's subsistence theory of wages, Smith's wage-fund theory, Marx's theory of value, Walker's residual theory of wages, Davison's bargaining theory of wages and Clark and Wicksteed's marginal productivity theory of wages. The labour productivity-wages nexus is built on the marginal productivity theory of wages. According to the marginal productivity theory of wages, the marginal productivity of workers determines their wage rate.[4] As such, workers will be paid a wage rate according to their marginal productivity. Such a wage rate represents the maximum amount that employers can pay without reducing their profits. Since the wage rate is based on the marginal productivity of workers, the workers' wages will increase as their productivity increases and vice versa. Hence, it is assumed that employees would strive to maximise their marginal productivity to earn higher wages, and that employers would reward workers for their marginal productivity by paying them higher wages.

An empirical study undertaken by Meagre and Speckesser [55] found an association between labour productivity and wages in 25 countries from 1995 to 2009. This evidence supports the theory that the marginal productivity of workers determines their wage rate. This could lead to an increase in employment through increased labour demand, if marginal productivity increased (at given wages) owing to further expansion of existing operations, which would increase firms' profits.

However, in the South African case, an empirical study by Habanabakize et al. [54] found that real wages had a negative effect on long-run employment absorption rates. This implies that higher wages would lead to a decline in employment.[5] The divergence in the findings between the two studies is attributed to South Africa's highly unionised labour market, characterised by rising costs of employees (wages) despite the low marginal productivity of workers [13–16].

Thus, in the case of South Africa, it appears that Davison's bargaining theory of wages, rather than the marginal productivity theory, applies. According to Davison's bargaining theory of wages, no single participant has the power to regulate wages, as wages are determined through a bargaining process between employers and

[4] Marginal productivity is defined as extra output that is generated by employers for hiring an extra unit of labour.

[5] However, it should be noted that this is true only when we are focusing on the demand for labour.

employees. In the bargaining process, employees and employers have conflicting objectives, with the employers aiming to pay employees the lowest possible wages and employees striving to earn the highest possible wages. As such, the wage rate depends on the bargaining power of employers and labour unions, representing employees. Given this, employees' bargaining powers depend on their ability to negotiate with employers as a group and leverage their collective action (i.e., threat to strike). However, it should be noted that other factors besides bargaining powers determine the wage rate. These include the levels of experience and skills required by employers, the availability of substitute jobs, the country's economic conditions and the level of competition in the industry.

4.1.3 The employment-wage nexus

According to the neoclassical theory of the labour market, wage rates and employment levels are determined by the labour market. In particular, an increase in wages leads to an increase in the quantity of labour supplied and a decrease in the quantity of labour demanded, *ceteris paribus*. In such a perfectly competitive labour market, employers accept the wage rate as determined by the market and so do employees (i.e., wage-takers). This implies that no single employee/employer has any power to influence the wage rate. Hence, the competitive wage rate determines the levels of employment [56].

However, in the South African case, the bargaining power of employees, rather than the competitive labour market, is more likely to determine the wage rate. However, in reality, greater bargaining power can lead to higher wages, which are higher than market-clearing wages. These higher wages can lead to a decrease in employment, as higher wages increase the quantity of labour supplied and reduce the quantity demanded of labour – both of these result in an increase in the rate of unemployment. However, this does not preclude the point that firms might strive to maximise profit by paying lower wages. This often takes place in situations wherein employers substitute local labourers with migrant labourers without bargaining power, owing to the government's inability to regulate the labour market and enforce labour laws.

Figure 1 depicts the theoretical nexus between labour productivity, wage and employment. In particular, **Figure 1** shows the nexus between an increase in productivity and its effects on both employment and wages.

Point E_1, marks the initial equilibrium in the labour market before increases in labour productivity. At this point, the quantity of labour demanded by employers (Q_1) equals the quantity that the market can supply, resulting in an initial equilibrium E_1. Thus, the point of intersection between demand and supply results in wage rate (W_1), implying that, in a perfectly competitive labour market, the workers' wages are determined by both the supply and demand for labour.

An increase in labour productivity causes the demand for labour curve to shift from D_1 to D_2, wages to increase from W_1 to W_2 and for the employment levels to increase from Q_1 to Q_2. The new equilibrium (E_2) emerges at a point of intersection of the new demand curve for labour (D_2) and Q_2. At this point, both the wage rate and employment level have increased, relative to the initial equilibrium (E_1). Graph W_2, the horizontal line from the new equilibrium point (E_2) to the Y-axis, represents the new wage rate after an increase in productivity. It shows that the wage rate has increased due to the higher demand for labour (Q_2) following increased productivity. The level of employment has also increased due to increased demand for labour. Thus,

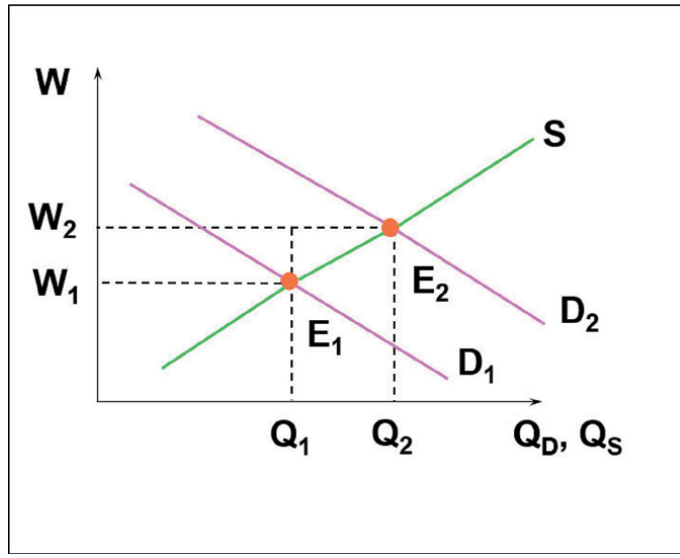

Figure 1.
Effect of productivity on employment and wages.

increased labour productivity causes the demand curve to shift from D_1 to D_2, resulting in higher wages (from W_1 to W_2) and increased employment in the labour market.

In conclusion, the theoretical nexus between labour productivity, employment and wages is complex and multifaceted. Hence, in this section, the nexus was broken down into sub-nexuses. Notably, there was a need to validate/dispel the theoretical sub-nexuses within the South African context. Moreover, it is important to note that, in reality, the nexus between labour productivity, employment and wages is influenced by various factors. This includes the government's investment in programmes aimed at improving the skills of the labour force, as well as labour market regulation and reform. This would drive labour productivity, which is crucial for wage determination, and increase output and employment in the manufacturing sector. Accordingly, the next section describes trends in labour productivity, employment and wages of a subsector of the manufacturing sector (i.e., agro-processing subsector). The aim is to provide an insight into whether the theoretical nexuses discussed in this section hold at an industrial level and within the South African context.

4.2 Trends in labour productivity, employment and wages in the agro-processing subsector

This section presents an overview of trends in labour productivity, employment and wages in the agro-processing subsector. The aim is to examine the extent to which the agro-processing subsector has contributed towards the attainment of the macroeconomic and sectoral/industrial objectives in terms of labour productivity and employment. This also includes the extent to which the labour policies and minimum wage provisions have affected wages. The trend analysis focuses on the agro-processing subsector of the manufacturing sector for the following reasons. The agro-processing subsector has been earmarked in the policy plans as one of the sectors with the potential to achieve the objectives of growing the economy and creating jobs. Furthermore, the agro-processing industries have been identified as the beneficiary

industries in the industry-specific support programmes, which were launched to capacitate the industries to contribute towards the macroeconomic and sectoral/industrial policy objectives. The next section describes the variables (i.e., labour productivity, employment and wages) and sources from which the data were extracted.

4.2.1 Description of variables and data sources

The trend analysis is limited to the period from 1993 to 2017 owing to data availability. This enabled calculation of the annual average growth rates from 1994 to 2017. The data consist of the labour productivity, employment and wages of 10 agro-processing industries, which form part of the agro-processing subsector. The 10 agro-processing industries are part of the manufacturing sector. In line with Lefophane [1], the United Nations' International Standard Industrial Classification (ISIC), Revision 4, was used to disaggregate agro-processing industries from other manufacturing industries. **Table 2** provides a description of the variables, their units of measurement and the data source.

4.2.2 Results

Given the various units of measurement for the variables, the weighted annual average growth rates of labour productivity, employment and wages were calculated in line with previous studies [58–61]. **Table 3** presents the weighted annual average growth in labour productivity, employment and wages of the agro-processing subsector from 1994 to 2017.[6]

In terms of labour productivity growth, the agro-processing subsector in its entirety performed well, as evidenced by the weighted annual average growth rate of 2.1%. In particular, all the agro-processing industries (except the paper industry) achieved positive annual average growth rates in labour productivity. These results are in line with the previous results for the manufacturing sector, which showed that

Variable	Description	Unit of measurement	Source
Labour productivity	Gross output per hour worked	Index	South African Standardised Industry Indicator Database [57]
Employment	Total number of employees in each industry, including formal, informal, casual and permanent employees	Number	South African Standardised Industry Indicator Database [57]
Wages	The total amount paid to employees in money or in kind, and includes salaries, bonuses and employers' contributions to pension and provident funds	South African Rands	South African Standardised Industry Indicator Database [57]

Source: Author based on Quantec [57].

Table 2.
Description of variables and data sources.

[6] The results are based on data from Quantec spanning the period from 1994 to 2017 and are useful for the broad trends that they reveal rather than their absolute magnitudes.

Industry	Labour productivity (%)	Employment (%)	Wages (%)
Food	3.20	−0.10	10.20
Beverages	0.10	−0.80	12.06
Tobacco	0.20	−0.60	13.02
Textile	2.80	−2.70	7.85
Wearing apparel	4.60	−2.90	8.59
Leather	4.40	−1.70	8.76
Wood	1.00	0.60	10.16
Paper	−0.10	1.80	6.74
Rubber	1.40	−1.90	9.41
Furniture	2.90	−2.20	8.55
Total agro-processing	2.1	−1.0	9.53

Source: Author, based on Quantec [62].

Table 3.
Weighted annual average growth rates for the industries (1994–2017).

there had been a growth in labour productivity in South Africa's manufacturing sector for the period 1994 and 2014 [63].

However, some industries performed better than others did in terms of labour productivity growth. In particular, the wearing apparel industry achieved the highest labour productivity growth, while the paper industry achieved the negative labour productivity growth. In the case of employment growth, the subsector performed poorly, as evidenced by a negative weighted annual average growth rate of 1.0. Across the industries, 8 out of 10 agro-processing industries achieved negative annual average growth rates, while the remaining two achieved positive annual average growth rates (i.e., the wood and paper industries). Notably, the industries that were earmarked as beneficiaries of the CTCP experienced negative annual average growth rates (i.e., the textile, leather and wearing apparel industries). The observed negative growth implies that productivity in these industries was achieved by the production of more output, which reduced the demand for labour input, resulting in a decline in the growth rate of employment. This suggests that the CTCP has been ineffective in increasing employment in the sector.

Despite these results, the subsector fared very well in terms of remuneration of employees, as exhibited by a positive weighted annual average growth rate of 9.53%. Notably, all the agro-processing industries achieved a positive annual average growth in wages. It is noted that the subsector as a whole and the individual industries achieved higher growth in wages than labour productivity and employment growth. These findings are in line with the observation that South Africa's labour market is characterised by rising costs of employees (wages) [13–16]. However, there are variations in performance across industries. In particular, the tobacco industry achieved the highest growth in wages, relative to the paper industry, which achieved the lowest growth.

The overall results are used to support the query of whether the theoretical nexuses discussed in the subsequent section hold for the agro-processing subsector. In terms of the labour productivity-employment nexus, the subsector's labour productivity growth increased, while the growth rate of employment declined. The implication is that, in the short run, higher labour productivity may result in a decrease in the growth rate of

employment (temporarily), as industries would require fewer workers to produce the same output levels. Thus, the labour productivity-employment nexus does not hold for the agro-processing subsector. However, the wood industry experienced an increase in the growth rate of both labour productivity and employment. These findings are in line with an empirical study by Habanabakize et al. [54], which found a positive correlation between labour productivity and employment in South Africa.

In the case of the labour productivity-wages nexus, the subsector as a whole experienced an increase in both labour productivity and wages. In particular, the results suggest that workers' wages increased as productivity increased, in line with the marginal productivity theory of wages. However, the growth in wages is higher than that in labour productivity. This observation is as expected given that the percentage increase in wages is equal to the percentage increase in marginal productivity and percentage increase in the prices of the product in the concerned sector.

In the context of the employment-wages nexus, the subsector's growth rate of employment declined, while the growth rate of wages increased. Thus, the observed increase in the growth rate of wages and a decrease in the growth rate of employment can be explained by a leftward shift in the supply for labour curve due to an increase in the costs of labour. This signifies that the competitive wage rate did not determine the levels of employment in the agro-processing subsector, as suggested by the neoclassical theory of the labour market. Instead, higher employee costs (wages) hindered firms from increasing employment. This assertion is in line with the observation that the high costs of employees (wages) in South Africa [16] hinder the ability of the labour market to attract foreign investment needed to reduce unemployment [13–15]. However, across the industries, the employment-wages nexus holds for two agro-processing industries, namely the wood and paper industries. In particularly, the two industries experienced an increase in the growth rate of both employment and wages. Thus, the observed increase can be explained by a rightward shift in the demand for labour curve.

5. Summary, conclusion and policy recommendations

This chapter serves to examine the extent to which the policy responses undertaken by the South African government have achieved the objectives of growing the economy and creating employment. To achieve this objective, various policy plans at the macroeconomic and sectoral levels, as well as industry-specific programmes, were reviewed. A key point derived from the review is that the manufacturing sector as a whole and some manufacturing industries (such as agro-processing) were earmarked as being one of the sectors and industries with the potential to achieve the objectives of growing the economy and creating jobs. Despite these provisions, it was observed that South Africa's manufacturing sector is faced with four challenges, which hinder its ability to drive economic growth and create jobs as envisioned. The four main challenges were identified as high input costs, labour market rigidities, the mismatch between education and skills and competition from cheaper imports.

To overcome these four challenges facing the manufacturing sector, it is recommended that the South African government should take a multi-pronged approach. This approach should include labour market regulation and reform, as well as investments in education, technology and skills development programmes. This would drive labour productivity, which is crucial for wage determination, and increase output and employment in the manufacturing sector. To deal with high import penetration, it is recommended that the government should implement a variety of policy strategies.

The first policy strategy encompasses the imposition of tariffs on imports to make imports more expensive and less competitive with domestically manufactured clothing, textiles and footwear items. The second strategy includes enforcing quality control measures to improve the quality of locally produced clothing, textiles and footwear items. The third strategy requires the government to provide financial and technical support to SMEs for them to overcome barriers to entry into the clothing, textile and footwear market, and compete with larger corporations. The final strategy requires investment in the skills development of workers to improve the productivity and competitiveness of the local clothing, textile and footwear industries.

The labour productivity-employment-wages nexus was explored to determine the extent to which labour productivity could determine wages, and affect employment. For simplicity, the labour productivity-employment-wages nexus was divided into three nexuses, which are the labour productivity-employment nexus, the labour productivity-wages nexus and the employment-wages nexus. The trends in labour productivity, employment and wages were explored to determine the extent to which the three nexuses hold for the agro-processing subsector of manufacturing. In terms of the labour productivity-employment nexus, it was found that, in the short run, higher labour productivity might result in a decrease in the growth rate of employment (temporarily), as industries would require fewer workers to produce the same output level.[7]

In the case of the labour productivity-wages nexus, the results showed that workers' wages increased with an increase in labour productivity. However, the growth in wages was higher than the growth in labour productivity, suggesting that employees were receiving a wage rate higher than their marginal productivity. This is attributed to a highly unionised labour market and the ability of workers to negotiate with employers as a group and to leverage their collective action (i.e., threaten to strike).

For the employment-wages nexus, workers received wages above the market rate, which could have hindered the ability of firms to increase employment. However, in some industries, employees were paid wages less than the market rate, such that there was an increase in the demand for labour and a decline in the supply of labour. This leads to a situation where there is a strong demand for labour but nobody is willing to take up those jobs. Overall, it is important to note that, in reality, the nexus between labour productivity, employment and wages is influenced by various factors. This includes the government's investment in programmes aimed at improving the skills of the labour force, as well as labour market regulation and reform. This will drive labour productivity, which is crucial for wage determination, and increase output and employment in the manufacturing sector.

[7] However, the wood and paper industries experienced an increase in both labour productivity and employment, in line with Habanabakize et al. [54].

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Author details

Mapula Hildah Lefophane
Faculty of Science and Agriculture, Department of Agricultural Economics and Animal Production, School of Agriculture and Environmental Sciences, University of Limpopo, South Africa

*Address all correspondence to: hildajie@gmail.com

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Chapter 3

Analysis of Long-Term Non-Employment in Italy, Spain, and Germany

Bruno Contini

Abstract

This chapter proposes a new approach to the analysis of long-term non-employment, its duration and main causes using administrative longitudinal databases. Non-employment denotes able people who have never worked or have withdrawn from work for whatever reason and who are not actively looking for work. In this paper, we estimate the number of long-term non-employed (LTNE) in Italy, Germany and Spain LTNE duration and some of the LTNE's main characteristics. Non-employment duration averages 10–15 years for people in their 30s and may reach 20–25 years for the 45–50-year-old.

Keywords: unemployment, administrative data, participation, duration, long term unemployment

1. Introduction

The long-term non-employed (LTNE) are people in working age who have had spells of regular employment at the beginning of their careers, stopped working for whatever reason and became unemployed but no longer succeed to regain a job in the official economy for a very long time. For many, non-employment turns out to be a lifetime condition. LTNEs differ from the officially recognised "out of the labour force" category which includes young people at school as well as old workers after retirement.

Non-employment duration averages 10–15 years for people in their 30s and may reach 20–25 years for the 40–50-year-old. LTNE has drawn little attention in the academic literature, although its long run consequences imply dramatic changes in individual lifestyles, family and childbearing projects, levels of poverty and welfare at large.

This study proposes a new approach to the analysis of male long-term non-employment, its duration and main causes using administrative longitudinal databases of all workers, including the self-employed. The observation period starts in the late 80's and ends in 2012. The key indicator is "labor market survival": it denotes the time period that elapses since one's first hire or initial job spell as self-employed until his definite exit from work. If he leaves a job and joins a new one after one or more spells of unemployment, he will be counted as a survivor. LTNEs are those who do not survive in the observation period 1979–2012. The length of their non-employment can be observed from the administrative longitudinal data.

The chapter is organised as follows: Section 2 illustrates the main aspects of labour market developments in our countries. Section 3 provides a short survey of the relevant literature. Section 4 illustrates the administrative databases. In Section 5, we present estimates of long-term non-employment magnitude. Empirical survival schedules are displayed and discussed in Section 6. Section 7 presents the estimates of long-term non-employment duration. Section 8 addresses the question of the end destination of the non-survivors. Section 9 is dedicated to an exploration of ECHP (European Community Household Data) that provides additional information on non-survivors. Policy implications and conclusions close in sections 10 and 11.

2. Labour market developments

Unemployment figures have reached extremely high levels all over Europe: between 2008 and 2014, the number of unemployed individuals increased from 17 million to 24.8 million (EU 28). In addition, Eurostat indicates the existence of over 16 million 'inactive but willing to work', in addition to the participation rates which include the latter whether or not willing to work. Not only is the magnitude of unemployment, official or unreported, a source of concern, but also – and perhaps even more – is the problem of long-term non-employment and its duration among able people of working age. In this study, we find that non-employment duration averages 10–15 years for men in their 30s and 15–25 years for the 40–50-year-old. Our explorations are limited to the male component of the workforce. The necessary data for the study of women workers were incomplete at the time of the inception of this study.

The numbers involved should be a source of major concern. It is surprising that the literature has so far paid modest attention to the dramatic duration of non-employment among people of working age and its far-reaching implications for social policy. Long-term unemployment has been the subject of innumerable academic studies referring to the official (Eurostat) data that define long-term as 1 year+ (seldom 2 years+). We claim that the length of non-employment duration found in this exploration poses more serious and qualitatively different causes for concern.

The process leading to increasing LTNE was underway in various EU countries before the dramatic downturn of 2008 [1]. We compare long-term non-employment (LTNE) in three countries with different labour market institutions: Italy, Spain and Germany in 2012. These countries provide an interesting example of how institutional arrangements impact the magnitude of unemployment and inactivity. Unemployment insurance in Spain and Germany is available for almost all the unemployed (Germany's program being more generous than Spain's), leading many dismissed workers to promptly register as unemployed, not counted as LTNE. In Italy, instead, adequate unemployment benefits are offered only to employees of large firms (C.I.G. Cassa Integrazione Guadagni) and do not cover other workers who may become LTNEs. Therefore, the magnitude of LTNE is different, Italy's being higher than Germany's and Spain's.

Part of the responsibility for these developments resides in the reforms advocated by the EU Commission and implemented to different degrees in many member states since the 1980s. While aimed at enhancing youth employment opportunities by lowering entry wages and increasing contract flexibility, they often provided employers with incentives to pursue strategies of rapid turnover and continuous replacement of young people that impeded a sound development of human capital.

The EU unemployment situation and the increasing precariousness of work and jobs at the beginning of the new millennium are well documented and require few

comments. In 2014, the EU-LFS reported estimates of the "inactive, but willing to work" at 16.1 million in the EU (28). Italy's rate was more than double the EU average and far above all the larger EU countries, including Spain whose unemployment rate was much higher than Italy's.

Many of the inactives are presumably discouraged unemployed who have had regular working activities in the past.[1] A number of them may be working in the irregular economy. As will be explained in Section 8, the footprints of transitions in the irregular economy are difficult to discover, and rough estimates of their magnitude and dimensions can be obtained only through appropriate comparisons across statistical aggregates from different sources. As will be shown, our evidence suggests that once 2–3 years have passed since the beginning of a non-employment spell, only a minority of the long-term non-employed will ever return to a regular working life.

While the EU Labour Force Survey counts unemployment (UN) as those who declare to be unemployed, the OLF ("out-of-the labour-force, but willing to work"), the sum of the two rates (UN + OLF) is suggestive of a "real unemployment rate" of the official economy, with Italy and Spain characterised by the two largest and Germany by the smallest in Europe. Only a fortunate combination of sufficiently similar databases in the three countries allow this analysis.

3. Review of relevant literature

Countless academic studies by economists[2] investigate the consequences of long-term unemployment: obsolescence of human capital, stigma and perceived signals of 'bad' performance, all of which result in wage loss at the time of re-employment. They all refer, however, to 'long term unemployment' as defined by official statistics, namely longer than 12 months and only at times longer than 2 years.[3] This difference makes them modestly relevant here.

A. Krueger is, to my knowledge, the only economist who has provided an important perspective on the problem of unemployment and non-employment duration. In BPEA [4], he looked at long-term unemployment duration as reported from the CPS monthly data: among workers who answered that they had been unemployed for 27 weeks or more in a given month in the period 2008–2012 – they were re-interviewed 15 months later– 30% were still unemployed and looking for a job, 34% were not working nor looking for work and only 36% were employed. Krueger strongly emphasises the social problems associated with very long non-employment duration: changes in individual lifestyles, family and childbearing projects, increasing poverty and welfare at large. Moreover, he adds "…once a person leaves the labour force, he or she is extremely unlikely to return (at work)". Unfortunately, Krueger's methodology does not allow to observe spells of non-employment lasting years therefore, comparisons with LTNE duration as measured in this paper may appear misleading.

[1] Battistin and Rettore [2] indicate several reasons of ambiguity in LFS surveys, especially on the differences beween work and non-work. People who are unemployed may prefer not to disclose their status for fear of stigma; workers in the irregular economy are unlikely to reveal it for fear of being discovered and sanctioned. In their view the likelihood of misclassification among the unemployed, the inactive and the irregulars is always high. See also Abowd and Zellner [3].

[2] The main ones being H. Farber (1993), S. Machin and A. Manning (1999), A. Booth, M. Francesconi et al. (2002), K. Abraham, J. Haltiwanger et al. (2018).

[3] In the USA long-term unemployment is defined as exceeding 27 weeks.

Sociologists have paid more attention to the dramatic impact of very long unemployment on lifestyles than economists, although empirical estimates are almost never reported. Newman [5] expresses deep concern over millions of people who became downwardly mobile in the USA between the mid-1960s and the mid-1980s as a result of downsizing, plant closings and mergers. Those who suffered the most were the middle-aged computer executives, the blue-collar workers laid off with the post-industrial economy, the middle managers whose positions were phased out in the same period and housewives stranded with children. Keating [6] discusses the enduring impact of long-term unemployment on developmental health. Brand [7] indicates a decline in psychological and physical well-being, loss of psychosocial assets, social withdrawal, family disruption and lower levels of children's attainment at school and well-being. Van Horn et al. [8] report the results of a field study on a sample of unemployed men in the USA: among the 13% who had been unemployed for more than 2 years, two-thirds reported a high degree of stress in their family relationships.

4. Longitudinal employer-employee databases

4.1 Italy

The WHIP (Work Histories Italian Panel) longitudinal database originating from Social Security records is a large sample (1,90) representative of the universe of employees in the private sector, the non-tenured employees in the public sector, the self-employed and the professionals as well as all workers covered by atypical (non-standard) contracts.

While prevalent among youths, premature exit takes place at all ages; thus, young non-survivors will no longer be young as time elapses. WHIP covers individual working careers from entry to retirement at monthly frequency, with data on skill level, wages and labour costs, industrial sector, firm size and geographical location, including periods of temporary layoff subsidised by the Cassa Integrazione Guadagni. Instead, it does not identify unemployed individuals not entitled to draw benefits. Data on educational attainment are unrecorded in the WHIP database.

4.2 Spain

The Spanish labour market is studied by means of the administrative MCVL (Muestra Continua de Vidas Laborales) database that covers all workers, whose first spell of employment took place when they were between 16 and 30 years of age. MCVL is a representative longitudinal sample of the population registered with the Social Security Administration. The raw data represent a 4% random sample of the reference population (pension earners, unemployment benefit recipients, employees and self-employed workers), amounting to approximately 1.2 million individuals each year. Self-employed are included in MCVL. The same holds for public employees as long as they contribute to public social security (some categories report to their own social security administration). MCVL offers retrospective information, that is, the entire labour history of the workers registered with the Social Security Administration during the year the sample is extracted.

4.3 Germany

The analysis on Germany is performed using the SIAB database. SIAB (Stichprobe der Integrierten Arbeitsmarktbiografien/Sample of Labour Market Biographies) is

supplied by the IAB (Institut für Arbeitsmarkt- und Berufsforschung/Institute for Employment Research). The BA administers the German unemployment insurance and therefore has access to social insurance records as well as unemployment benefit data and labour market policy programme data. The SIAB covers the data with a sample/population ratio of 2%, where the population consists of people registered as dependent employees or recipients of unemployment benefits/participants in labour market policy programmes at some point in time between 1975 and 2014 (West Germany, East Germany: 1992–2014; see [9]).

5. The measurement of survival

5.1 Methodology

The basic statistic used in this exploration is labour market "survival". Notice that our use of the term "survival" differs from the standard one found in statistical literature. We estimate the number of "labour market survivors" by counting the individuals employed since a given starting year and still at work at the end of the observation period, even if they have had periods in unemployment in the course of their careers. Thus, the non-survivors are individuals who disappear from the database before the end of the observation period and no longer reappear.[4] If anyone is unobservable for a period of time and then reappears as re-employed, that period is considered a spell of non-employment. Such spells may last months or years (additional schooling is, obviously, a likely possibility for young men), but they ultimately lead to re-entry into employment or self-employment. Spells in registered/official unemployment and paid sickness periods are observed in the administrative data and not counted as periods of absence from the labour market.

Figure 1 exemplifies the counting method of a cohort of 8 individuals, A – H, whose work histories are observed between 1987 (the year of entry for all) and 2008.

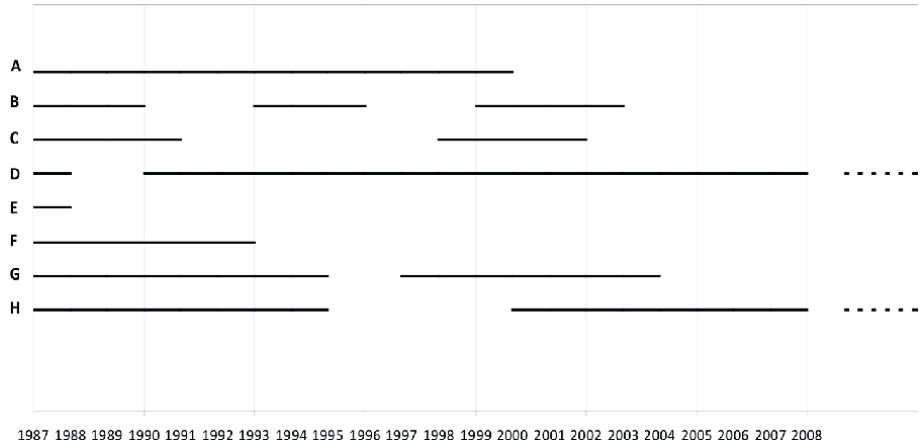

Figure 1.
Example of counting survival (continuous lines denote employment spells).

[4] People who die during their working careers or switch into disability pension/early retirement are deleted from the databases.

D and E drop out of the labour market two years after entry (but D will re-enter one year later). B leaves his post in 1991, finds a new job and loses it again in1997, is back at work in 1999, but shortly afterwards leaves the job market and no longer re-enters. If the observation window were to end in 1989, survival would be 6/8 = 0.75. In 2001, the non-survivors are A, E and F, and the 2001 survival is 5/8 = 0.625. In 2008, the only survivors are D and H, all the others having dropped out before 2008 (leaving survival at 2/8 = 0.25).

Censoring at the end of the observation period may be the cause of upward or downward bias of survival. Ad hoc unbiasing procedures are applied (see [10]).

5.2 Some notes of caution on comparative analyses of survival

Caution is due when comparing survivals from different countries and contexts. Firstly, the survival rates depend on the length of the observation period, and its timing may be affected by the business cycle [9].

Second, entrants must be in the same age range: age has an impact on survival, with the younger entrants surviving longer than their older peers.

Third and last, but not least, not all administrative databases cover the same forms of working activities: some include all dependent employees but leave out self-employment and civil servants (Germany); others include self-employment but leave out seasonal workers in the agricultural sector and tenured public employees (Italy); others may exclude certain contract typologies. These are problems that must be handled ad hoc, integrating our administrative data with different databases, as discussed in what follows.

6. Survival: a survey of results

Analysis of survival is performed on cells defined by cohorts of young male entrants observed at one-year intervals. While the overall observation period 1980–2012 is available for all countries, detailed information on the workers' and employers' characteristics is not. Considering the longest available period (1980–2012) for domestic nationals, Italy's 32-year survival rate is 80%, the West German rate stands at 95% and the Spanish rate is in the middle (88%) between the former two, despite very high Spanish unemployment in 2012. Transitions into self-employment play an important role in preserving a high level of survival after periods of non-employment. It explains about 11 pp. of survival in Germany, more than 20 pp. in Spain and about 18 pp. in Italy. The age of Spanish new entrants is set at 16, lower than either of the other countries under study. This explains to some degree the higher survival rate compared to Italy, while that of Germany is a likely consequence of more efficient procedures to re-employ job losers.

6.1 Subgroup analyses of survival

The first observable year of entry with complete subgroup information is 1987 in Italy, 1993 in reunified Germany and 1991 in Spain. Our subgroup analyses are based on these starting years. Also, the entrants' age with complete information is not the same: 19–30 in Italy and 16–30 in Germany and Spain (**Table 1**). The following dimensions are objects of inquiry:

	Unemployment UN	Out-of-labour force OLF	UN + OLF	Youth UN
Italy	12.9	10.8	23.7	42.7
France	10.4	2.8	13.2	24.2
Germany	5.1	2.6	7.7	7.7
UK	6.3	4.8	11.1	17.0
Spain	24.2	.5.0	29.6	53.2

Table 1.
Unemployment and out of labour force (% rates) in 2014.

- age group of the relevant cohort.
- year of first entry into the labour market.
- duration of first employment spell.
- economic branch of initial activity.
- geographical area.
- size of first employer's business.
- mobility (movers vs. stayers).
- skill level.
- education level.
- entry wage.

Table 2 displays the 2012 average survival rates for all the above dimensions. It.is interesting to notice that the main features of survival are similar across all three countries.

i. Italy's 25-year survival rate (1987–2012) is 79%. Survival among individuals who become self-employed in the course of their career is slightly higher.

ii. The 21-year survival rate in Spain (1991–2012) is 87%, considerably higher than Italy's rate, despite unemployment reaching almost 25% in 2012. Here too, frequent moves into self-employment after 2006 explain such high survival. The age of Spanish new entrants is 16, lower than either of the other countries.

iii. The 19-year survival rate in Germany (1993–2012) stands at 95%, considerably higher than the Spanish and the Italian rates.

iv. The impact of age at the time of entry is similar in Italy and Spain, with young entrants surviving longer than their older colleagues: the difference is more pronounced in Italy (21 pp. between the youngest and oldest cohort) than Spain (12 pp.), while German older entrants survive more often (5 pp.), presumably because they often start as civil servants.

	Italy 1987–2012	Germany 1993–2012	Spain 1991–2012
Overall survival	79	95	87
Age at entry			
19–21	81	95	88
26–30	60	100	76
First job duration			
Short (<6 months)	68	90	86
Long (12 months +)	87	98	91
Initial wage quartile			
Q1 and job spell<3 m.	71	n.a.	79
Q4	82	n.a.	92
Education degree			
Compulsory school	n.a.	92	84
Higher education	n.a.	95	90
Mobility			
0 moves = stayers	40	61	n.a.
3–5 moves	78	91	86
10 + moves	93	100	87
Regional wealth			
Low	72	94	87
High	82	99	87
Skill qualification			
Blue	77	92	86
White	80	95	91
Employer size			
Small	65	99	85
Large	78	94	86
Business cycle			
Low	76	83	91
High	81	96	98

Source: our calculations.

Table 2.
Average survival rates.

v. The length of the first employment spell provides an indication of how employers evaluate the ability of the prospective recruits. It is reasonable to assume that employers who interview a promising young person will offer them a longer starting contract than a less interesting candidate. In Italy, the survival of workers starting in 1987 with a long initial spell of employment (12 months +) is about 87%, whereas it drops to 68% for those whose first employment spell lasts less than 3 months. The latter are characterised by an abrupt drop of survival in (t + 1) and (t + 2), followed by a slow decline thereafter. A similar pattern is

found in Germany. In Spain, the differences are less pronounced as many very short starting spells have not been recorded.

vi. An additional indicator of individual ability as it is appraised by the employers is the starting salary: a promising worker will presumably be offered a higher wage than a less promising one, and his survival is likely to be higher for the same reasons indicated above. The differential survival between workers (here, the blue collars) with starting salary in the upper quartile (Q4) of the distribution and those in the lowest quartile (Q1) cum a short initial spell (< 3 months) is remarkable in Italy and Spain (German data are unavailable). This finding strongly indicates the value attributed to human capital by the employers. Overall, bad starts have a strong and persistent effect on future labour market outcomes, even when the future lies 15–20 years ahead. The ECHP exploration (described in Section 9) suggests that the non-survivors are likely to be the least endowed also in terms of education and family background.

vii. The education level is observable in Spain and Germany, although the reported degrees are not the same. In Italy, schooling is not recorded in the administrative databases. Education has a predictable positive impact on survival, but differences are small (3–6 pp.). Evidence from the ECHP database (Section 9) indicates that educational differences also have a similar impact in Italy.

viii. The impact of mobility on survival is very important (geographical, as well as job-to-job, often with intervening unemployment spells between job switches). Workers who perceive their job to be at risk start searching for more solid positions, and many appear to be successful. In Germany and Italy, the stayers (no moves) are shown separately and display a much lower survival than their moving colleagues: 61 and 49%, respectively. Individuals who have moved up to 5 times in their career survive much longer everywhere. Very frequent movers (10 + moves) survive even longer.

ix. The employers' location reflects to some degree the different degrees of industrialisation and regional wealth. The survival differential is marginal in Germany (the Länder of the West are the rich ones compared to those of the East) and Spain, while the divide is larger in Italy between North and South.

x. The qualification divide is also important, in line with the idea that human capital makes a difference: white-collar workers survive somewhat longer than blue-collar workers everywhere: 95 vs. 92% in Germany, 91 vs. 86% in Spain and 80 vs. 77% in Italy.

xi. In this respect, it would have been interesting to have more detailed data of the occupational profiles, but for the time being, they are not available.

xii. The size of the employer's firm leads to interesting insights. In Italy, the divide is between "smaller size = <20 employees" and "larger size = 200+ employees". In Spain, the divide is "small = 26-50" and "large = 50+". Here we find noticeable differences in the expected direction of longer survival among the larger firms. It is small in Spain where a more incisive definition of "large" would have been helpful. Lifetime employment in the same establishment was frequent many

years ago, but no longer nowadays. There is a vast body of economic and sociological literature indicating that higher work attachment and loyalty prevail in small establishments where a variety of on-the-job duties instead of repetitive tasks, more opportunities for expanding and upgrading knowhow and personal ties established with peers and employers are frequently offered. There is also empirical evidence that small firms place a higher value on human capital than large enterprises. This, however, may not translate into longer survival as small firms are more exposed to the turbulence of economic life, when turnover is high and when closures and bankruptcies are frequent events. This seems to be the case in Italy and in Spain. In Germany, an average employer's size is much larger than in Italy and Spain: the breakdown <200 workers (smaller) and 200+ workers (high) cannot be easily compared to the one meaningful in Italy and Spain. It may not be surprising that survival in German "smaller" firms is higher than among the "larger" ones.

xiii. The survival rates computed in correspondence with the business cycle prevailing at the time of each cohort's entry appear meaningful at first sight (larger at the high cycle, smaller at the low cycle). The cyclical impact, however, could be more ambiguous than it appears. New entrants during the low cycle could be chosen among highly skilled workers in order to recoup productivity delays, while those hired in expansionary years could be temporary workers aimed at filling short-time vacancies. This will positively affect survival among the former and reduce it among the latter.

xiv. The qualification divide is also important, in line with the idea that human capital makes a difference: white-collar workers survive somewhat longer than blue-collar workers everywhere: 95 vs. 92% in Germany, 91 vs. 86% in Spain, 80 vs. 77% in Italy. In this respect, it would have been interesting to have more detailed data of the occupational profiles, but for the time being, they are not available in the administrative databases.

7. Long term non-employment duration

Estimates of LTNE duration are obtained with a simple ad hoc procedure: individuals of each cohort are counted in employment month after month during their working life. Once they drop out and no longer reappear anywhere in the labour market, they are counted as non-employed, and their LTNE duration is measured from that moment to the end of the observation window.

The full observation window spans between 1987 and 2012 in Italy[5], 1991 and 2012 in Spain and 1993 and 2012 in Germany, covering all the male cohorts entering the labour market during that time window. The LTNE count, therefore, includes all individuals still of working age at the end of 2012.

People aged 30 in 1980 will be 62 in 2012. The upper limit of the oldest age bracket may reach 66 as retirement age is not identical in Italy, Germany and Spain and has been the object of changes during the observation window.

[5] In Italy, it is possible to start observing some features of the transitions since 1980.

Tables 3 and **4** display: (i) the estimated magnitude of uninterrupted long-term non-employment ending in 2012; (ii) the average LTNE duration; (iii) the ratio of LTNE individuals to the male population of working age (MPWA). A good assessment of the magnitude of LTNE is provided by its ratio to the male population of working age (16–64), rather than to total workforce that may have margins of ambiguity.[6] Not surprisingly, in Germany, this ratio is 2.9%, much lower than 6.5% in Italy and 6.1% in Spain. If unemployment rates were calculated as a percent of the same denominator MPWA, the comparison becomes even more transparent: 3.4% in Germany, 7.2% in Italy and 19.9% in Spain (while the official 2012 male unemployment rates were 5.7, 10.0, and 24.7%, respectively).

The macroeconomic determinants of LTNE are similar to those that impact unemployment and long-term unemployment, the main one being the lack of aggregate demand. In addition, as already pointed out, unemployment insurance arrangements have an important impact on the LTNE magnitude. Where they are generous as in Germany, and to a lesser extent in Spain, dismissed workers have less incentive to withdraw from the labour force and become LTNE as long as they can draw unemployment benefits (up to 24 months in Germany and 12 months in Spain). In Italy instead, the incentive for many jobless people to apply for unemployment benefits is

Age	LTNE duration (yrs)	Italy	Germany	Spain
53++	25–32	7	12	0
47–53	21–24	8	8	1
38–46	16–20	21	17	13
32–37	10–15	28	20	21
26–31	5–9	32	23	26
16–25	0–4	3	20	40

Source: own calculations.

Table 3.
Long-term non-employment magnitude (000) and duration in 2012 the share of LTNE in each age group.

	OLF	LTNE	Avg.LTNE (years)	LTNE/ MPWA	UN / MPWA	Official UN rate
Italy	1421	1260	11.6	8.5%	7.2%	10.0%
Germany	589	756	12.8	2.9%	3.4%	.5.7%
Spain	499	973	6.2	6,1%	19.9%	24.7%

Source: Eurostat based on LFS, n calculations (LTNE, see section 6).

Table 4.
LTNE and "out of the labor force but willing to take a job if available"" (OLF) magnitude (000), average duration and share in male working age population 2012 (MPWA: Age 15–64).

[6] Battistin and Rettore [2] indicate several reasons of ambiguity in LFS surveys, especially on the differences between work and non-work. People who are unemployed may prefer not to disclose their status for fear of stigma; workers in the irregular economy are unlikely to reveal it for fear of being discovered and sanctioned. In their view, the likelihood of misclassification among the unemployed, the inactive and the irregulars is always high. See also Abowd and Zellner [3].

modest as the Placement Centres are not as efficient as elsewhere. Consequently, the probability of falling into the LTNE is higher.

The black/irregular economy is an important safety valve available to the jobless, not only in the course of recessionary periods: in fact, there is no evidence that it is anti-cyclical. It is especially present in Italy and Spain, while it is all but non-existent in Germany. In the irregular economy, pay is often modest and social protection weak, seldom providing a shelter to irregular workers and their families.[7] But the mere possibility to do some work cum tax evasion are huge incentives for many to enter the irregular sector. And it helps also regularly employed people who may want to round up their budgets. Schneider estimates that income generated in the irregular economy varies among 13% in Germany, 18% in Spain, and over 20% in Italy.

Noticeable country differences are found in the shares of each age group. In Germany, the large proportion of older individuals (53++) is attributable to the large inflow of East German workers during the years of reunification. In Spain, instead, the employment increase that took place with the reforms introduced in the period 2000–2007 explains the greater presence of young cohorts.[8] The age group (57–66) is relatively small as many individuals have retired before the end of the observation period. The 32–46 age groups are very numerous, with average LTNE durations of 10–20 years. Such a duration is indeed dramatic as all these people are prime-age adults who spend most of their life outside the labour market.

Average LTNE duration of the youngest group (16–25) is 0–4 years. In Spain, 40% of all LTNE individuals belong to this age group, as entry age is recorded since age 16. Elsewhere entry age is 19, and therefore, the numerosity of the same age group is lower.

The number of male OLFs is estimated by the European Labour Force Survey. As explained in part 2, it would not be surprising to find them of the same order of magnitude as the LTNEs. This is the case for Italy and Germany, while the figure for Spain is about one half the LTNE estimate.

An important question relates to the personal characteristics of the individuals who are more likely to become LTNEs. Administrative data contain few answers. For this reason, we match our administrative data with the ECHP survey, as reported in part 9.

8. The big question: where do the LTNEs end up?

The crucial question is where all the long-time jobless individuals end up. The shadow economy is an obvious candidate as an end destination. Discovering it, however, is a difficult task as no micro-data of irregular work are available to help with the answer. Current measurements of the irregular economy are based on rough macroeconomic indicators.[9]

Schneider and Ernste [11] estimated the share of irregular activities on GNP for several OECD countries: Italy ranks the highest at 21.5%; Spain's share is 19.2%; Germany's is among the lower ones with 13.5%. The share of irregular employment in overall employment in Italy and Spain is estimated at around 16% and at 12.5% in Germany. It

[7] Notice, however, that in all three countries, at least in principle, the health service is universal, free and available to all (including the foreigners).

[8] The durations of LTNE shown in **Table 3** are to some extent *built-in* the definition of survival, as the length of the observation window is 32 years. It is not, therefore, surprising to find LTNE durations as long as 25–32 years among the older cohorts.

[9] For all, see Schneider and Ernste [11].

	Unemployed men in 2012	LTNE	Irregular male workers	Schneider's irregular economy as % of GNP ^
Italy	1766	1260	1800 (**)	21.5%
Germany	1505	756	950 (*)	13.3%
Spain	2957	973	968 (***)	19.2%

Sources: (*) IAB estimate; (**) ISTAT National Accounts, (***) estimate based on Schneider and Enste [11]; (^) Schneider and Enste [11].

Table 5.
LTNE and the irregular economy (000).

may seem odd that the share of irregular employment is lower than the share of shadow GNP, given that the productivity of irregular workers must be lower than that of regular workers. The answer is that the very high income generated by outright criminal activities often gets laundered in regular production activities ending up in GNP.

There are no micro-based databases to uncover the economic and social backgrounds of irregular workers, nor what happened during their working career that encouraged them to join the irregular economy. Limited information can be obtained from LFS-type surveys. In the next section (9), we report some encouraging results of a comparative analysis performed on ECHP data.

Table 5 summarises data from different sources, including Schneider's estimates of the size of the EU shadow/irregular economy for the year 2012. Interestingly, the LTNE estimates of Germany and especially Spain are remarkably close to the available estimates of irregular workers; less so for Italy.

9. Benchmarking worker disposal with the ECHP 1994–2002

A natural benchmark of the estimates of survival is provided by the European Community Household Panel (ECHP), observed between 1994 and 2002 (the choice for the older ECHP rather than EU SILC that replaced it in 2002 is dictated by its longer longitudinal structure, eight years vs. four years of the latter). The ECHP survey provides information on a number of personal characteristics, general income conditions and work contract typology that are absent from the administrative databases.

We estimate survival in the ECHP data as we have done with the administrative database, selecting the individuals who self-report as working until year (t) and not after. Once no longer working, but still responding to the ECHP questionnaire, they report either as unemployed or inactive. Their status is similar to the individuals whom we define as LTNE, the main difference being that in the ECHP survey, they report their status after the last job termination, in addition to some of the circumstances that lead to joblessness. No explicit indications are present on shifts into the black economy, although there are occasional hints to this effect.

We briefly summarise here the relevant information. LTNE people appear to be worse off than the other respondents on almost all counts: higher unemployment experience, higher job search activity, lower family income, frequent elementary occupations, more difficulty to make ends meet and lower educational degree. The share of people who skip the answer to the contract typology is high, almost one-third of all sampled individuals in Italy and Germany and about one-sixth in Spain: the choice of not answering this item could hide some presence in the irregular economy. Some respondents report to have worked in the absence of any contract, another hint

of activity in the irregular economy. It should be noted that irregular workers may also self-report as regularly employed for fear of being discovered (in which case, we would have no hints to help their recognition). In all three countries, the individuals who are likely to have become LTNEs report low educational degrees and few skills.

The condition reported in the ECHP after premature exit indicates unemployment for two-thirds of the people in Italy and Germany and almost half in Spain. Exit could be the consequence of quitting or of involuntary dismissal. Voluntary quitting (family reasons, study, military career, better opportunities) is reported to be very high in Italy (60% of answers) and very low in Spain (9%), with Germany midway. While the data from Germany and Spain appear coherent with other answers, those from Italy do not. In Germany, many report voluntarily quitting, and many, coherently, declare to be inactive after their last job; in Spain, the high number of involuntary job losses matches the high frequency of unemployed. In Italy, instead, we see several voluntarily quitting cum few inactive. A plausible explanation may reside in a common yet illegal practice followed (especially in the past) by many employers in order to avoid the firing costs associated with unjustified layoffs: at the time of a new hire, the worker was requested to sign a letter of voluntary resignation held by the employer. Many newly hired individuals would agree for fear of losing the job. If the employer decided to layoff for whatever reason, the letter would serve to show that it was the employee's voluntary decision to terminate his engagement, and no firing costs could be levied on the employer.

10. Policy indications

The dilemma of how to effectively deal with youth unemployment is present also in this study of LTNE. Past policy in almost all EU countries was prevalently supply-sided, focused on enhancing contract flexibility and cutting labour costs through subsidies to the employers. Active labour market policies focused instead on setting up training facilities for the young and retraining and upskilling schemes for the adult, long-term unemployed. All in all, this approach performed poorly in the aftermath of the 2008 crisis especially in Italy and Spain, although serious problems of youth unemployment have been present elsewhere in the EU since the turn of the millennium.

While we strongly envisage the need to turn to demand-side policies capable to have a direct impact on employment, our explorations suggest also a number of supply-side implications, not applying equally to the three countries under observation:

i. A very general indication, valid especially for Italy and, to some extent, for Spain, is the need to improve the match between demand for higher skills and supply, by investing in the education system and strengthening the placement and re-training agencies (public and private). Excessive worker turnover [10] frequently leading to market dropout hints at problems of unsatisfactory matching. The share of expenditure in active labour market policies (ALMP) in GNP is very low in Spain (0.8%) and especially in Italy (0.6%) compared to Germany (1.1%).

ii. We see no reason for introducing additional flexibility to contract termination. Measures aimed at facilitating the transition between precarious jobs and permanent positions are instead very desirable (also in Germany, where the dropout rate after termination of mini-jobs appears to be quite high).

[10] Worker turnover is measured by the sum of the number of hires and the number of fires in any given year, divided by total employment. Its cyclical properties are object of analysis in B. Contini and R. Revelli [12].

iii. Nor do we see compelling evidence that measures aimed at further reductions of labour costs (mainly by way of tax subsidies) would substantially improve youth employment. As of today, the labour cost of young people is already lower than that of their older working counterparts (in Italy, youth earnings of unskilled blue-collars are about 60% of adult earnings with similar skills). The incentive to upgrade human capital is lost if the cost of hiring a new recruit is too low compared to the cost of retaining and upgrading young workers already on the job. Moreover, the current practice of high turnover, i.e. replacing people already on the job with new unskilled recruits, generates unwanted consequences of premature exit from the labour market and ultimately on long-term non-employment.

Some implications apply specifically to the Italian case:

iv. It is crucial to improve the generosity of unemployment benefits. Initial steps in this direction were taken with the Fornero reform in 2011, but almost none has been as yet implemented. In Italy, only a small share of Italy's working population is eligible for unemployment benefits: Italy's recipiency rate is 32%, against 50% in the UK, 60% in France, 65% in Denmark, 73% in Spain, 94% in Austria and 100% in Germany, although these rates do not imply the same degree of generosity. As a consequence, the Italian unemployed/non-employed workers have little incentive to self-report to the Placement Centres because the opportunity cost is often close to zero. Where unemployment benefits are generously available, as in Germany and, to a lesser degree, also Spain, the opportunity cost of misreporting is high because the perceived risk of losing the benefits is equally high.

v. Less invasive regulation is necessary. A large number of jobs, perfectly legal in many EU countries, are 'irregular' by Italian standards: many low-paid, often part-time or temporary jobs in the service sectors, such as waiters, janitors, salespeople, domestic helpers and caretakers, are held mainly (but not exclusively) by young people. A reform on this terrain would restore the incentive to work in the 'regular' economy, enjoying the benefits of social security and at the same time paying very modest taxes.

Demographic trends in the coming decades are likely to improve the job prospects for younger generations: the baby-boomers will begin to retire in the next decade, and their replacement ought to increase the demand for young workers. A major labour shortage may be around the corner in Europe. And it will spur additional massive migrations of largely unskilled migrants from non-EU countries with high fertility rates. This will be a source of ever-growing governance problems for the European Union, as social unrest will not cease to lurk outside the door.

11. Conclusions

This study proposes a new approach to the analysis of long-term non-employment and its duration in Germany, Italy and Spain using administrative longitudinal databases. The non-employed are people of working age who have had spells of regular employment at the beginning of their careers, were laid off and became unemployed, but no longer succeed to regain a job in the official economy. For

many, non-employment turns out to be a lifetime condition. Its duration may reach 25–30 years. The number of the long-term non-employed (LTNE) is about the same order of magnitude as official unemployment.

A comparison of LTNEs with official labour market aggregates and estimates of the irregular economy suggests that a large share of the LTNEs may join the irregular employment. Benchmarking the LTNE estimates from administrative data with EHCP survey allows to trace some individual characteristics unavailable in the administrative data, the main ones indicating that the probability of becoming LTNEs is higher for people with a low educational background and low skills.

During the study period, a number of changes took place in the economies of the three countries. They have been taken in due consideration: nonetheless some conclusions should be taken with care.

Additional information

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Author details

Bruno Contini[1,2,3]

1 Emeritus, University of Torino, Turin, Italy

2 Labor R. Revelli, Centre for Employment Studies, University of Torino, Turin, Italy

3 Collegio C. Alberto, University of Torino, Turin, Italy

*Address all correspondence to: bruno.contini@unito.it

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Chapter 4

Entrepreneurship Education: Remedy to Graduates' Unemployment in sub-Saharan Countries

Regina M. Thetsane

Abstract

Entrepreneurship Education is one of the most current methods for increasing the quality and number of entrepreneurs, resulting in employment creation and economic empowerment of graduates worldwide. This chapter describes the importance of Entrepreneurship Education in remedying the high unemployment rate in sub-Saharan countries. As one of the sub-Saharan countries, Lesotho has the oldest university. This university is used as a case study because it has recently introduced Entrepreneurship Education for all the university faculties to reduce the high unemployment rate faced by graduates in Lesotho. The literature review results depict that there is more pressure on universities to implement Entrepreneurship Education practices in their curriculum to combat the high unemployment rate among graduates. Entrepreneurship Education plays a vital role in unemployment reduction and supports wealth creation. Therefore, it becomes mandatory for all universities to ensure full implementation of the program and skill acquisition in training students in theory and practice. It is recommended that governments in the sub-Saharan countries should revisit and strengthen policies aiming to promote Entrepreprenurship Education and small and medium enterprises in their individual countries.

Keywords: entrepreneurship education, entrepreneurship, graduates, unemployment, entrepreneurship culture

1. Introduction

Globally, entrepreneurship has been widely researched and accepted as an important mechanism for employment establishment for graduates. Various studies have shown that entrepreneurship is one of the most current methods for increasing the quality and number of entrepreneurs, resulting in employment creation and economic empowerment of graduates. Universities have been entrusted to produce the human resources required by both the private and public sectors worldwide. Contrary to the common saying that education opens the door for graduate employment, 59 million youth graduates between the ages of 15 and 24 are currently

unemployed globally (The International Labour Organization (ILO) [1]. This scenario is more prominent among the graduates in most African countries. Africa has approximately 1.3 billion of the world's population, and 764 million people are youths [1]. Furthermore, as evidence for youth graduates' unemployment, North Africa has the highest number of unemployed youth, with an estimated 30% of youths expected to remain unemployed in 2020 [1].

Ternenge et al. [2] assert that although education has been canvassed as one of the visible ways out to job creation, it is becoming invalid with the increasing number of unemployed graduates. For instance, in Lesotho, one of the sub-Saharan countries, graduates are forced to hide their degrees in order to secure employment [3]. This is because there are no jobs that equate to their certificates. As a result, they remain unemployed for a long period. This clearly indicates that university graduates are not safe from the problem of unemployment as the period between graduation and employment dates is increasingly becoming longer and longer on a yearly basis [4]. Ridha et al. [5] argue that university graduates enter the labor market in numbers on a yearly basis. However, due to lack of employment prospects, the positive input of universities translates into an increase in unemployment, and yet education has always campaigned as one of the most visible ways of securing employment. As a result, this assertion is becoming invalid with the increasing number of unemployed university graduates.

As a land-locked country with a relatively small economy, Lesotho's economic stability is extremely influenced by movements in the South African economy, particularly the share allocated to it as part of the common pool of the Southern African Customs Union (SACU) [6]. The Lesotho's economy is currently very weak due to the results of the COVID-19 pandemic. Persistent political instability has also contributed to weak Lesotho economic performance, with gross domestic product (GDP) and gross national income (GNI) estimated at 2.496 billion USD and 6.553 billion PPP dollars, respectively [7]. However, Small Medium and Micro Enterprises (SMMEs) dominate Lesotho's private sector and account for 97 percent of all firms in the country [7]. The dominance of the SMMEs in Lesotho private sector may be indicative of their large contribution to economic growth and the reduction of poverty in Lesotho. This view is supported by [8], who argues that in Africa, the role of SMMEs is not just one of economic growth; it spreads beyond that; to socioeconomic transformation and poverty eradication.

The Lesotho's latest statistics (34.41%) show that the status quo of graduate unemployment persists, resulting in Lesotho Government forgoing tax revenue and incurring high social costs [1]. This statistics clearly indicate that entrepreneurship is a necessity in combating unemployment amongst the youth in Lesotho. While Lesotho citizens still have confidence in university education, the resulting effect of university education is often an acquisition of a university certificate than the employment benefits they aspired for. This suggests that the form of entrepreneurship offered by the universities in Lesotho may be considered barren to the nation [9, 10]. Recently, the literature has shown that there is more pressure on university education to incorporate innovation and entrepreneurship programs to expose students to entrepreneurial skills [11, 12]. In order to encourage students into the current economic landscape, universities are forced to introduce entrepreneurial programs aiming to assist students in acquiring entrepreneurial skills.

Given the context, this chapter draws on the publicly owned large National University of Lesotho (NUL), which has currently made an effort to promote and nurture entrepreneurship by introducing it to all university students regardless of the

programs the students are pursuing. This strategy was adopted to encourage students to create their own business ventures upon completion of their degree, thus, combating the high rate of graduates' unemployment in Lesotho. The NUL recent strategic plan 2015–2020, as captured in strategic Goal 2 (a university of choice providing high-quality educational experience and relevant scholarship) of NUL Strategic Plan 2015–2020, objective 2.2 (to inculcate entrepreneurial skills in students) emphasizes the integration of entrepreneurial skills in the curriculum. In implementing this strategic Goal 2.2, The NUL Department of Business Administration (DBA) has been mandated to introduce a Entrepreneurship Education (EE) for all students in line with the revised semesters programs in the academic year 2022/2023. In preparation for introducing EE, DBA has recently hired a number of entrepreneurship specialists to offer the course to the entire university. This is done with the hope that EE will positively contribute to graduate's unemployment in Lesotho. Again, worldwide, there is more pressure on higher education to incorporate EE practices. As a result, in order to encourage students into the current economic landscape, a number of universities are developing and introducing EE initiatives in their programs, and NUL is not immune to this creativity.

Considering the role of EE in contemporary careers, this chapter begins with methodology used to collect secondary data, brief presentation and systematization of the perspectives of the history and evolution of the concept of EE, the importance of EE - learning from the literature and requirements for EE effective implementation are outlined. Finally, the main possible recommendations for future effective implementation and development of EE in sub-Saharan countries are highlighted.

2. The methodology

The chapter uses a literature review focusing on past and current perspectives of EE as a remedy to graduate's unemployment. The literature review provides the interpretation of the current literature on EE in light of the updated developments in EE as a remedy to graduate unemployment. The literature includes the assessment of the theoretical development and evolution of EE, the importance of EE in combating unemployment in different countries, requirements for effective implementation of EE, and how to connecting EE and unemployment.

3. The theoretical development and evolution of EE

The term "entrepreneurship" originated from the French word "entreprede" which means to undertake "Venture and encroach" [13, 14]. It was first used by Richard Cartillion in the seventeenth century to describe ownership of business ventures. Reports that one of the first courses in entrepreneurship was structured at Harvard University in the United States in 1947 by Myles Mace [9, 10]. On the other hand, [11, 12] posited that some elements of EE can be dated as far back as 1938 at Kobe University in Japan. During those days, EE was considered as an academic subject from the late 1970s and early 1980s, the period associated with a general rise in interest in entrepreneurship and small business. These were the years when the oil crisis (1973) and the energy crisis (1979) led to the stagnation of economic growth and inflation, where world leaders were seeking some alternatives to save local economies and fight the growing crisis [13, 14].

It is also well-known that EE growth was due to the fact that EE had been recognized by many governments and institutions as a major source of job creation, as argued by [15]. This resulted in universities, institutions, nongovernmental bodies (NGOs), and prominent bodies, such as ILO, United Nations Development Programme [UNDP], creating EE programs worldwide [16]. Therefore, NUL is not immune in this endeavor of introducing EE as a mechanism toward creation of employment among the graduates in Lesotho.

4. EE concept

EE has been widely researched and acknowledged as a critical mechanism for employment creation in both developing and developed countries [1]. On the other hand, various studies have shown that EE is one of the most current method for increasing the quality and number of entrepreneurs who creates employment and supports innovation and the economic empowerment of individuals [17]. Muriithi [18] contend that EE prepares an individual and creates in the person the mindset to undertake the risk of venturing into something new by applying the knowledge and skills acquired in schools. As such, EE creates the willingness and ability in a person to seek out investment opportunities in society and be able to establish and run a business successfully based on identifiable opportunities [19]. On the other hand, [20] regards EE as academic program that enables students to acquire the attitudes and skills necessary for developing and running business. In agreement with [20, 21] also contends that EE consists of ideas, information, and facts that help students develop competencies needed for establishing business, marketing services, or being productive employees of organization. However, other authors [22] confirm that there is a general consensus on the fact that entrepreneurship is a phenomenon that is capable at the national and regional level of being influenced by policymakers, in which the attention and knowledge conferred by those responsible are positively associated with the allocation of efforts devoted to the increase of entrepreneurship. Matlay [23] summarizes EE as representing an efficient and cost-effective way of increasing the number and quality of enterprising graduates entering the economy [23]. From the above arguments, it may be concluded that EE is a multifaceted and complicated concept that educates youth graduates on entrepreneurial attitudes and skills, which involves developing certain personal qualities [24].

In the context of this chapter, EE refers to any type of education that seeks to develop the relevant knowledge, skills, and attitudes of graduates toward entrepreneurial activities, including but not limited to starting a business, creating innovative products and services, and providing solutions to the community, societal, and global problems. This definition makes it clear that the objective of an EE is not solely centered on creating a new business but on developing certain personal qualities that can be used to solve societal, personal, or organizational problems. Therefore, this calls for lecturers to change the traditional teaching methods and use lots of teaching techniques, such as case analysis, role-play, group discussions, and interactive games to make students participate in and obtain the idea and essence of EE. These new teaching techniques may assist lecturers in achieving the objectives of providing and teaching EE satisfactorily. In addition, EE aims to change the recipients' orientation and attitude and equip them with the skills and knowledge to enable them to start and manage a business [25]. The specific objectives of EE, as spelled out by [26, 27], are as follows:

- To reduce the high rate of unemployment among the graduates
- To offer functional education for the students that will enable them to be self-employed and self-oriented
- To inculcate the spirit of perseverance in students, which will enable them to persist in any business venture, they will embark upon
- To provide the graduates with adequate training that will enable them to be creative and innovative in identifying novel business opportunities
- To serve as a catalyst for economic growth and development
- To offer tertiary institution graduates with adequate training in risk management to make certain bearings feasible
- To create employment generation
- To reduce rural–urban migration
- To provide the graduates with enough training and support that will enable them to establish a career in Micro, Small, and Medium Enterprises (SMMEs)-sized businesses
- To inculcate the spirit of perseverance in the youth and adults, which will enable them to persist in any business venture, they embark upon
- To create a smooth transition from traditional to modern industrial economy
- To use technological advancement and economic development

Considering the EE objectives, it is obvious that if EE is given all it deserves and properly executed very well, it will produce quality youth graduates that will foster job creation and reduce or eliminate poverty in Lesotho. This could be realized when the graduates are self-reliant by establishing their own business. Ultimately, EE will make youth graduates use their potential and energies to create wealth, independence, and status in society.

5. The importance of EE - learning from the literature

Research supports the general opinion that EE is a critical generator of jobs [28, 29]. This is because (SMMEs) create a higher share of total jobs than other employers. For instance, in the Middle East and North Africa (MENA) region, SMMEs represent 80 to 90 percent of all businesses in the formal sector [30] while in Lesotho SMMEs constitute 85% of the country's private sector [30]. The Lesotho National Strategic Development Plan [31] 2018–2019 – 2022-2023) estimates that some 100, 000 SMMEs are operating in Lesotho with employment of over 300, 000 people, including those in the informal sector and subsistence agriculture. Entrepreneurs are responsible for a large part of employment both in developed and developing countries [1]. Reynolds

et al. [32] argue that countries with higher rates of entrepreneurial activities have higher levels of employment. This is because new products or services are more likely to be created when more entrepreneurs exist. It must be noted that various research has emphasized the contribution of entrepreneurship in economic development because it creates lots of job opportunities, stimulates innovative thinking, and also acts as a 'stabilizer' for countries and societies [33]. In line with [33, 34] maintains that EE seeks to provide students with the knowledge, skills, and motivation to encourage entrepreneurial studies in a variety of settings. Okafor [35] is also of the same opinion that EE is very critical for university students because it provides students with the ability to recognize commercial opportunities and the knowledge, skills, and attitudes to act on them. On the other hand, [36] argues that EE is a very highly specialized course that assists students in acquiring skills, ideas, managerial abilities, and capabilities for self-employment than employment for wage pay. It also seeks to provide students with the knowledge, skills, and motivation to encourage entrepreneurial success in a variety of settings. According to [37] EE is supposed to be taught at the university level for the following reasons:

- It seeks to provide students with the knowledge, skills, and motivation to encourage entrepreneurial success in a variety of settings
- A number of people of young graduates did not grow up in the entrepreneurial culture
- The numbers of unemployed youth graduates are high worldwide
- The numbers of opportunities for employment are limited
- Job opportunities are not equal to the numbers of unemployment
- The growth of entrepreneurship can create opportunities for employment, reduce unemployment, and create social welfare in society widely

6. Requirements for EE implementation

For effective implementation of EE by the universities, the following aspects should be taken into consideration: Curriculum reform, Extracurricular and entrepreneurship design, Empowerment of EE lectures, Lecturer human resource empowerment, Link between EE and professional education and establishment of entrepreneurship centers.

6.1 Curriculum reform

Tlali et al. [38] observed that the curriculum in Lesotho does not sufficiently prepare graduates to start their own business. This is due to the fact that the education system in Lesotho aims educating students mainly to be employed, particularly in the civil service, rather than equipping them with skills that will lead graduates to create jobs for themselves and for others. Therefore, this calls for the curriculum reform in Lesotho to create graduates who will create jobs for themselves and others, thereby driving economic development in the country. In this chapter curriculum reform includes issues that would have an explicit impact on how the curriculum is designed

and realized, such as, teaching methodology, class size, learning hours' allocation, learning objectives, assessment and examination practices [39]. Conversely, it must be noted that curriculum reform is very expensive in terms of implementation because it requires changes in many areas that might challenge the existing beliefs and subjective realities deeply embedded in individual and organizational context. These are factors related to the high cost and risk aversion of stakeholders [40]. Curriculum reform requires huge investments in training and capacity building to teaching and learning and new material resources. This is the more reason that it needs to be planned and implemented successfully.

6.2 Extracurricular and entrepreneurship design

For effective implementation of EE, extracurricular and entrepreneurship design have to be part of EE. According to [41], entrepreneurship extracurriculars include actions, experiences, and newness, which may be organized inside or outside universities and fall outside the realm of higher education's official curriculum. In fact, entrepreneurship extracurricular activities supplement the required coursework of formal university education. These activities include but not limited to the following; entrepreneurship games, business plan competitions, exchanges, business mentoring, clubs and societies, preincubators, workshop programs, entrepreneurship support programs, developing new product and innovation competition, idea development, and business incubators [42]. These activities are foundation for experiential learning and create a supportive environment within which students enhance entrepreneurial skills and knowledge about entrepreneurial activity. They also are also very critical because they provide and develop students' capacities in leading a group or a project, developing a strategic plan, and changing risk-taking tendency [43].

6.3 Lectures human resource empowerment

The most critical factor that is required for effective implementation of entrepreneurship is the human resources. Sirelkhatim and Gangi [37] argues that the ability of lecturers to teach EE in most tertiary institutions have been fingered as a reason for the poor quality delivery. This is supported by [41] who stated that EE is not properly taught in higher learning institutions. This is as a result of lack of lecturers with practical entrepreneurial training and consciousness [43]. As a result, this constraint consequently frustrates the integration of entrepreneurship in academic programs in some universities. This misconception also equates EE to business studies and business administration, despite the difference in scope and focus of the two courses. This is supported by [44] who argues that lecturers who teach EE are mainly from economics and business administration programs in Nigeria. Lecturers must have relevant skills in EE so that they will impart knowledge required by the learners. As such, lectures should be empowered, as state by [41] arguing that empowerment in EE allows lectures to demonstrate high commitment to their work and the organization and the level of commitment can be seen from their confidence which will translate into students' satisfaction and high performance in EE.

6.4 Link between EE and professional education

In some higher learning institutions, EE is marginalized and has not been integrated into the talent training system. This means that the combination and

connection of EE and professional education in higher learning institutions is not close enough, and the curriculum of EE and students' professional courses cannot be effectively connected. The implementation of EE program through curriculum reformation and integration is done by transforming the curriculum and initiating the entrepreneur subject [45], conducting the teaching-learning process and transferring the entrepreneurial values, designing the strategy of entrepreneurship teaching concept [39], the learning of venture plan writing as the final assignment, the learning of business start-up (coaching) conducted by the entrepreneur lecturer, the Teaching through computer simulation as a media to take the students into the business. Therefore, there is a need for effective implementation of the curriculum and the engagement of qualified lecturers. This is mainly due to the fact that lecturers play a critical role in the curriculum implementation process. As such, lecturers should be provided with some trainings in order for them to understand and master the curriculum document so that they will implement it successfully. Higher learning institutions do not have enough high level of human resources that can effectively teach the course, and yet as the custodians of knowledge in society, lecturers are supposed to nurture and instill entrepreneurship culture in student's mind, and yet there is a dire need for entrepreneurial lecturers in Nigeria and Lesotho [46].

6.5 Establishment of entrepreneurship centers

Higher learning institutions should establish entrepreneurship centers that engage in training, Research and Development (R&D), consultancy, and information dissemination, and that provide follow-up services to students. The aim of these centers should be to develop an entrepreneurial mindset that encourages graduates to develop skills to see opportunities and make use of trainings that are provided for enterprising action that develops emerging economies and help to support them in introducing EE. The center should provide various courses that provide entrepreneurial and enterprise skills development. The center should inculcate a culture of entrepreneurship in the citizens through different means. Lastly, the centers should facilitate networking and exchange among universities and alumina to increase the spread and use of innovative pedagogies and teaching materials in EE.

6.6 Linking EE and unemployment

Many researchers argue that EE and graduates' unemployment are related because graduates' entrepreneurship is identified as being the natural solution for graduates' unemployment [18]. One of the main objectives of EE is to allow students to have enough knowledge to identify opportunities and create new business and provide more job opportunities for the society [47] thus, reduce unemployment particularly, among the graduates. However, [48] argues that unemployment boosts entrepreneurship and entrepreneurship negatively relates to unemployment. Nwosu B and Ohia [18] asserts that youth entrepreneurship is identified as being the natural solution for youth development. Diraditsile and Maphula [49] also posited that entrepreneurship is a key pathway for addressing youth employment challenges. Youth engagement in entrepreneurship activities is very important to reduce the high number of unemployed youth and alleviate poverty [47]. This argument is also supported [49] who strongly believes that EE is a key pathway for solving graduate's unemployment. Students' engagement in EE activities is very important to reduce the high number of unemployed graduates and alleviate poverty [48]. This is in line with the results of [24]. EE equips students

with adequate skills and training that are useful in identifying noble business opportunities [50]. It further shows support to the argument of [8] that entrepreneurial programs raise the right attitudes and behavior toward imbibing entrepreneurial spirit. Ojile and Tijani [51] also posited that the contribution of EE in reducing unemployment is seen in many countries, like Nigeria, where it has contributed to the standard of living through innovation that led to the introduction of high goods and services and conservation of foreign exchange as a result from reduced importation of machines and equipment, raw material and payment to foreign export. Generally, EE is very important and should be offered by higher learning institutions as research has shown that EE has the ability to reduce unemployment among graduate.

7. Conclusion

In conclusion, therefore, EE has the potentially to empower young graduates in order for them to be self-employed after graduation. EE has relevance today not only because it assists entrepreneurs in better fulfilling their personal needs but because of its contribution to the reduction of graduate's unemployment in many countries, Lesotho included. As a result, EE ought to be part of the university's core strategy. The inclusion of EE in all university's disciplines will greatly assist in solving this problem of high unemployment and underemployment among the graduates. Research has shown that EE is vital in reducing unemployment and supports wealth creation. Therefore, it becomes mandatory for all higher institutions to ensure full implementation of the program and skill acquisition in training students not just in theory but in practice. Entrepreneurship lectures should endeavor to be more passionate and position entrepreneurs at heart so as to be able to inculcate the same in students. Lastly, the university management, the government, and the private sector should provide special recognition and assistance in terms of technical-know-how and sponsorship to deserving entreprenurship students. If this is done, the challenge of unemployment of graduates in sub-Saharan countries will be reduced and, as such, will lead to the creation of wealth. However, it must be noted that effective implementation of EE should be well planned and managed to achieve the goal of reducing unemployment.

It is recommended that universities should strive to introduce EE through the following creativities: curriculum reform to incorporate EE in all university programs. Students should be exposed to on-the job training, the universities should do this, working together with the private sector. An establishment of an incubation center at the universities to assist with the commercialization of business ideas and products should be a priority. There must be the introduction of forums between the university, industry, and the government which will advise cross-pollination of knowledge and efforts, and uniformity among universities should be established for the recognition of prior learning. Lastly, universities should not only focus on creating a third-stream income from commercialization but also equips students to start and grow sustainable small businesses. The government should return to the drawing board to strengthen policies promoting entrepreneurship and SMEs in sub-Saharan countries. Policies should address individual countries' problems of effectively implementing EE that addresses the high graduate unemployment in sub-Saharan countries.

Author details

Regina M. Thetsane
National University of Lesotho, Maseru, Lesotho

*Address all correspondence to: makoloithetsane@gmail.com

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Chapter 5

Perspective Chapter: Youth Skills and Unemployment – Perceived Inadequate Soft Skills and Coping Strategies of Employers in Tanzania

Abel Alfred Kinyondo and Hubert Shija

Abstract

The need to equip the workforce with the relevant knowledge, skills, and abilities (KSAs) to enhance employability and economic development at large has gained momentum, particularly in the developing world. Tanzania has introduced various initiatives to ensure that its workforce is furnished with quality KSAs. Unfortunately, the problem of skills mismatch in Tanzania lingers, particularly that involving soft skills. It is in this context that this study examines soft skills that are inadequate in Tanzania and the preferred coping mechanisms by employers. Using a questionnaire survey, this study reveals that soft skills lacking among graduates in Tanzania include teamwork, communication skills, and language proficiency. Failure to transfer soft skills is attributed to the use of English as a medium of instruction, inadequate number of instructors, lack of competent instructors, lack of training facilities, and the use of outdated facilities. Findings reveal that employers in Tanzania opt to re-train and prolong the probation period for new employees as a coping mechanism. Thus, we first recommend that the government should adopt the education-employment linkage framework in designing, delivering, and updating the curriculum. Moreover, because the preferred coping mechanisms add costs to employers, we recommend that the government either reduce the skills development levy and/or reward employers who do so.

Keywords: unemployment, youth, soft skills, employers, Tanzania

1. Introduction

Equipping the workforce with job-relevant knowledge, skills, and abilities (KSAs) is one of the biggest challenges facing countries around the world as the world is grappling with record high unemployment rates [1, 2]. This is especially so in developing and emerging economies as skills mismatches are a persistent concern [3]. It is not surprising then to see that many nations across the globe put much attention towards building and improving KSAs because they contribute to employability, high-quality productivity, and standard of living [1, 4, 5].

Literature puts KSAs into various categories based on their orientation. They include foundation [4], technical positioning [4, 6], modern information and communication technologies [4], cognition [4, 6], order (ref. [7] as cited in ref. [4]), and emotion [4, 6]. Socio-emotional KSAs are also known as soft [4], noncognitive [4, 6] personality traits [4] or behavioral competencies [6]. They shall be henceforth referred to as soft skills.

It is now a well-known fact that the workforce needs both technical and soft skills to propel prosperity through quality productive work (see [6, 8]). Subsequently, there is some hope that by being equipped with proper KSAs, the ever-growing working population in Africa will soon increase the pace of poverty reduction and economic development especially since its population is rather youthful [4]. However, African countries will only realize that hope once they narrow down the widening and dynamic skills gap [4]. It is against this background that many African countries, including Tanzania, have established policies to address the skills misalignment challenge, albeit with limited success [4].

However, even though for the past 30 years, many Sub-Saharan African (SSA) countries have increased their expenditure on education sevenfold; the region is still languishing at the bottom in the world's skilled workforce rank [4]. The evidence further suggests that the primary and lower secondary completion rates and cognitive skills across age groups in the region are low [4]. In many SSA countries, the adult literacy rate is also below 50%, and functional literacy and numeracy are also low [4].

In Tanzania, efforts to improve KSAs have been directed towards improving technical and vocational education and training (TVET) to enhance graduates' employability skills, thereby boosting economies through competency-based education and training [9, 10]. To make this work, the government established the Department of Technical and Vocational Education and Training (DTVET) in the ministry responsible for education to manage two TVET quality-overseeing bodies, namely, the National Council for Technical Education (NACTE) for technical education and training and the Vocational Education and Training Authority (VETA) for vocationial education and training [3].

Despite all initiatives to bridge the skills mismatch in Tanzania, many employers still find it difficult to get graduates with adequate KSAs tailored for their businesses [11]. Moreover, data from East Africa depict Tanzania as one of the worst-performing countries in terms of producing graduates with KSAs that are required in the market. Specifically, 61% of graduates in the country lack pertinent KSAs, whereas the proportion in Burundi stands at 55%, in Rwanda at 52%, and in Kenya at 51% [3].

Munishi [3] reveals that graduates in Tanzania lack practical communication skills, teamwork, investigative and analytical skills, initiative/self-motivation, drive, flexibility, and time management. Furthermore, the graduates seem to lack innovativeness and communication skills, notably the inability to express themselves orally and in writing as well as a poor command of the English language, all of which fall under the soft skills category [12, 13]. It is not surprising then that according to ATE [11], value-added per employee in Tanzania is alarmingly 43% lower than that in Kenya, 54% lower than that in China, and 37% lower than that in India.

It is fair then to conclude that soft skills constitute a major challenge among graduates in Tanzania. Thus, it is important to examine how the labour market in Tanzania copes with those skills gaps. In a rather nonscientific report, ATE [11] attempted to unlock this matter by arguing that businesses ought to employ foreigners and/or retrain locals to close the soft skills gap. However, methodological limitations (unrepresentative sample, unclear analytical techniques) and the fact that the study is

relatively old, make the ATE study difficult to rely on. Indeed, with the tightening of immigration laws prohibiting the employment of foreigners in areas where locals 'have required skills' and the corresponding cost of hiring them, the solution given by ATE does not seem to be sustainable. It is in this context that the present study seeks to examine the adequacy of soft skills and the employers' coping strategies for narrowing the soft skills gap in Tanzania.

The present study is guided by three research questions: i) To what extent do TVET programmes inculcate soft skills?, ii) Which soft skills are inadequate according to employers?, and iii) What are their coping strategies to address shortages of soft skills? Answers to these questions are critical because they add to the current debate on the skills gap and can inform national employment policies and strategies. The strength of the study is anchored on the fact that it uniquely draws its data from four main actors of the labour market, namely, TVET students, TVET and non-TVET graduates, TVET instructors, and employers selected across the country.

2. Literature review

2.1 The concept of training and its theories

Learning in training is generally informed by three main theories. These are behaviorism, cognitivism, and humanism [14–16]. We succinctly discuss them in this subsection.

Behaviorism, which provides the first known learning perspective, involves the analysis of observable behaviors of individuals. Under this theory, learning is described and eventually rewarded based on observable changes in the behavior, attitude, or performance of individuals [14, 15]. According to this theory, people learn (or respond to stimuli) in two main ways. First, individuals learn by replicating personal or other people's behaviors that result in a possible reward. Second, they learn by refraining from personal or other people's behaviors that could result in a 'punishment.' Simply put, behaviorism proposes that individuals such as TVET students learn by responding to certain incentives or disincentives.

Meanwhile, cognitivism concerns itself with examining mental processes involved in learning. It proposes that perceptions in individuals are formed by the mental identification of patterns in observed events [16]. Bruner, Goodnow, and Austin [17] concur with this view by stating that cognitive learning can be explained by the mental categorization of events. They argue that the only way individuals learn is by assigning information they get to existing information categories within their brains. Subsequently, individuals only formulate new categories if the information they process does not fit the existing ones.

Although cognitive learning is an upgrade to behaviorism, it is often criticized by researchers [15, 18] for ignoring the importance of critical reflection in learning. Indeed, categories formed in the human mind are usually 'culturally induced'; therefore, unless they are 'reframed,' their interpretations may be misleading [18, 19]. For instance, a TVET student relying on cognitive learning without applying critical reflection techniques is prone to making decisions according to the status quo, which may not necessarily be the correct way of approaching the issues at hand.

Humanism, on the other hand, is concerned with enhancing the way an adult learner is instructed [20]. It departs from the theories of behaviorism and cognitivism by assuming that human behaviors can also be determined by factors other than

experiences or environment, particularly when a learner is effectively trained [16]. The chief among humanistic theories of learning is andragogy, which proposes that the way adults learn is significantly different from the way children learn, otherwise known as pedagogy [21, 22].

Knowles [23] advocated andragogy on the assumption that adults can self-direct their learning process. It is assumed that in instances of self-directedness in adult learning, adults have an intrinsic ability to plan, execute, and evaluate their learning processes without any external support. Furthermore, andragogy proposes that adults are self-motivated, ready, need to learn, and are capable of incorporating their experiences in the learning process [20]. It is not surprising, then, that andragogy advocates argue for more experiential types of training based on real-life tasks, unlike the more theoretical approaches that are popular in pedagogy [24]. A typical adult such as a TVET student would therefore be expected to self-direct his/her learning process.

Understandably, andragogy has been fiercely criticized by several adult education theorists [18, 24] due to inherent weaknesses in its principal assumptions. These include assumptions that generalize the ability of adults to self-direct their learning processes and to motivate themselves, as well as the flawed assumption proposing that all adults can ably apply experiences in their learning process. In reality, adults, including TVET students, have varying personalities and learning styles [25]. It follows, therefore, that any training program that blindly applies andragogic assumptions may prove to be fruitless.

The potential differences in the ability of adults to learn suggest that there may be a need to mix pedagogical and andragogical approaches when designing training programs for adults such as TVET students [24]. Even Knowles [23], the pioneer of andragogy, later admitted that pedagogy and andragogy should not be separated when training adults. Merriam [19] concurs with this position by arguing that adult education and training programmes such as TVET may work more effectively if designed as a continual learning process that ranges from 'teacher-directed learning to student-directed learning.' In turn, this can be enhanced only if training institutions work closely with employers when designing and delivering training programs. It is against this background that the education-employment nexus is what we discuss next.

2.2 Education-employment linkage

Although the effectiveness of training and vocational education and training (TVET) depends on the collective efforts between training institutions and employers, the same has hardly been prioritized [26]. Busemeyer and Schlicht-Schmälzle [27] provide for a better education-employment linkage (EEL) framework. However, their framework only manages to capture the involvement of employers at the macro level, hence, ignoring involvement at the school level, that is, participating in the modeling education process.

Renold et al. [26] provided what may be the best EEL framework yet, building on the theoretical framework advanced by Rageth and Renold [28]. They define EEL as the extent actors from the education sector, sharing power with actors from the employment sector at every stage of providing TVET. This includes a range of activities from partaking in designing the curriculum and delivering it to students to updating the curriculum based on market feedback.

Here, we argue that the human capital theory provides the rationale for EEL. This is because it provides for the linkage between education and training and organizational performance. In other words, it gives an elaborate link between training and the

benefits that the trainee and their organizations can reap because of the acquisition of KSAs. Human capital theory (HCT) is the subject of the next discussion.

2.3 Education and training: the human resources development (HRD) perspective

Effective education and training can potentially improve the performance of both TVET students and their organizations. Indeed, the literature in the HRD field strongly suggests the existence of a possible link between the improved performance of TVET graduates and their organizational performance [15, 29]. Specifically, human capital theory (HCT) in the HRD field, which is hereby used, contends that organizations can create, maintain, and retain human capital (HC) if their workforce is exposed to relevant training programs, thereby improving the performance of both the workforce and that of the organizations in which they work [5, 15, 29, 30].

HCT suggests that exposing learners to effective training programs can (i) 'create' or equip TVET students with relevant KSAs, (ii) 'maintain' KSAs acquired by learners by constantly updating training programs to reflect the latest and most relevant KSAs, and (iii) help to 'retain' their jobs through improved individual performances.

One should note the subtle difference between the terms human resource (HR) and human capital (HC). According to Orton, Marcella, and Baxter [31], although all members of the workforce can collectively be referred to as HR, only the workforce with quality KSAs qualify as HC. This fact is further emphasized by Kramar et al. [29] who defined HC as the list of KSAs and other relevant human characteristics that an individual must have to perform a particular job. Subsequently, HR can be transformed into HC if they are equipped with KSAs that are relevant to the roles they ought to perform.

The logic behind HCT suggests that trainees who have been transformed into HC will perform at a vastly improved level, which in turn can potentially improve the performance of their organizations [29, 30, 32, 33]. Thus, it suggests that the acquisition of KSAs is beneficial to both trainees and their organizations.

2.4 Soft skills and unemployment

The International Labour Organization [34] posits that soft skills improve the employability of the youth and other job seekers. This argument is in line with the view of the World Economic Forum that soft skills such as critical thinking and analysis, problem-solving, and self-management skills are increasingly demanded by companies [35]. Moreover, soft skills such as team working, communication, and analytical and logical thinking are highly required by industries [34].

Moreover, Blundell [36] argues that soft skills can help youth access better jobs. While formal education still matters, Blundell points out that for those with lower or no formal education, soft skills could be used as an aid to reverse their poor job prospects. In other words, there will always be a need for soft skills in the workplace. Blundell [36] lists tasks in the workplace that will always need soft skills and they include problem sensitivity, coordination, taking responsibility for outcomes of other workers (management skills), working in groups or teams, and sensing the consequence of errors.

There is empirical evidence supporting the link between soft skills and unemployment. For example, according to Deming [37], employers have always preferred teamwork and collaboration as well as oral and written soft skills as skills they demand from their prospective employees. In a survey conducted in 2017 by the National

Association of Colleges and Employers [37], the ability to work as a team was the most preferred skill among new college graduates, followed by written and verbal communication skills. Surprisingly, the above-mentioned skills were placed well ahead of problem-solving skills, analytical/quantitative skills, and similar attributes that are overemphasized in formal educational settings (Ibid). Importantly though, however one looks at it, soft skills are crucial in abating unemployment among youth.

3. Method

Both quantitative and qualitative data have been collected using a questionnaire survey. Qualitative data were collected using open-ended questions in the questionnaire to reveal and compare the views of participants on the capacity of the TVET programme and the desires of employers.

Samples were drawn from the populations that included VET students, VET and non-VET graduates, employers, and VET college staff (mostly instructors: 97%). The sample sizes were 210 for VET students, 207 for graduates (157 being VET and 50 being non-VET graduates), 105 for VET college staff, and 49 for employers. Key informants were in Arusha, Dar es Salaam, Dodoma, Lindi, Mbeya, Morogoro, and Mwanza regions. These were the regions where the zonal headquarters of VET were in Tanzania.

A combination of purposive and convenience sampling techniques was employed to select the cases. The purposive sampling method means criteria are set and people who meet them are included in the sample [38]. The convenience sampling approach means people are selected because they are readily available to a researcher [38, 39]. These methods are easy, quick, and inexpensive [38]. Criteria for the selection of units of analysis included the availability of VET centres and colleges and the availability of businesses and factories, which employed either VET, non-VET graduates, or both.

In analyzing quantitative data, frequency, proportion, cross-tabulation, Chi-square, and Spearman Rho tests were employed. Measures of central tendency and dispersion such as the mean and standard deviation were also employed. Coding (the process of systematically categorizing extracts in qualitative data to identify themes and patterns) was also used to analyze qualitative data. Coding entails the identification and organization of topics, themes, and concepts emerging from the data and their relationship [38, 40, 41]. Themes and concepts were generated, and patterns were observed and embedded in the HCT to form a conceptual analysis.

4. Results

4.1 Sample characterization

As stated in the methodological section, this research comprises four data sources, namely, TVET students, TVET staff, VET and non-VET graduates, and employers. We analyze them below.

4.1.1 TVET staff

Participants belonged to both genders, but men were almost twice as many as women (64.8%; n = 68). The same pattern was revealed among the instructors, wherein about two thirds of the instructors were men (64.5%; n = 60). However,

among senior instructors, the gender was much more balanced. Instructors had different ages whose range was 46 years. The minimum age was 24 years, whereas the maximum was 70 years. The average age of all TVET staff was 39 years (*SD* = 10.611). Additionally, according to the normal curve and the histogram, the age scores are not normally distributed. Of 105 staff, one third (*n* = 35) were youth. Additionally, around three quarters of staff (*n* = 80) had aged between 24 and 47 years. The group aged between 24 and 47 years had more women (81.1%; *n* = 30) than the other groups. Similarly, it had more men (73.5%; *n* = 50) than the other groups.

Two thirds of the participants (*n* = 70) were married, whereas slightly less than one third (*n* = 33) were single. The proportion of married men (71.4%; *n* = 50) was higher than married women (28.6%; *n* = 20). Additionally, there were almost as many single men (54.5%; *n* = 18) as single women (45.5%; *n* = 15). Only women lost their spouses. There were about three quarters of married men (*n* = 50), whereas single men were around one-third (*n* = 18). Married women were slightly more than single women (54.1%; *n* = 20).

Half of the participants (52.4%; *n* = 55) had a college-level education. One fifth (*n* = 22) of the staff completed secondary education, whereas a few of them (14%; *n* = 15) had a bachelor's degree. Additionally, TVTE graduates among instructors were very few (9.5%; *n* = 10). Instructors had worked with VET colleges and centres for a period between a few months and 38 years. The average working time for all staff was 7.5 (*SD* = 6.98) years. The duration of working with VET College and centres was not normally distributed as skewness was 1.594, whereas kurtosis was 3.356. Additionally, the normal curve and histogram illustrated that the scores were not normally distributed. About one third of the staff (*n* = 38) worked for a maximum of years between 1 and 5 years, whereas another one third of them (*n* = 31) worked for a period between 6 and 10 years. Furthermore, a few members of the staff (10.5%; *n* = 11) worked for a period between 0 and 4 years, whereas some (13.3%; *n* = 14) worked for a maximum of years between 11 and 15. They also held various job positions in VET colleges and centres. Most participants were instructors (97.1%; *n* = 102). Of 102 instructors, six were senior instructors. Additionally, a few instructors had administrative roles (2.9%; *n* = 3). Others were two managers and a deputy principal.

4.1.2 Graduates

On average, the age of participants was 26.8 (*SD* = 3.979) years. The mode was 24 years, whereas the median was 27 years. The age scores were not normally distributed as the skewness was 0.203, whereas the kurtosis was −0.747. Similarly, the values of mean, median, and mode were not the same. The minimum age was 19 years, whereas the maximum was 34 years. A quarter of graduates (26.7%; *n* = 56) were married, whereas about three quarters (72.9%; *n* = 153) were single. One graduate was divorced. Of married graduates, nearly three quarters (71.4%; *n* = 40) were males, whereas a quarter of them (28.6%; *n* = 16) were females. Moreover, many graduates were males, whereas slightly less than half were females. Additionally, among the women graduates, most of them were single (80.7%; *n* = 67). The graduate who was divorced was a man. Graduates aged 30 years and above were married (69%; *n* = 33), whereas most of the graduates aged between 20 and 24 years were single (99%; *n* = 67). Likewise, a simple majority of those aged between 25 and 29 years were single.

Three quarters were VET graduates (75.8%; *n* = 157), whereas non-VET graduates were 4 times fewer than VET graduates (24.2%; *n* = 50). In VET qualification, there were more men (62.4%; *n* = 98) than women; whereas in non-VET qualifications, there were as many men (52%; *n* = 26) as women (48%; *n* = 24). A 2 x 2 chi-square test for independence was conducted to examine the relationship between VET and non-VET qualifications and gender. The result indicated that there was no significant association between these variables, X^2 (1, N = 207) = 1.308, p = .253, Phi = .091. A third of VET graduates (33%; *n* = 52) completed Level III, another one third finished Level II (33%; *n* = 52), whereas about a quarter of VET graduates completed Level I (27%; *n* = 42). One graduate did an apprenticeship training, whereas another one completed Level IV. A handful of them (6%; *n* = 9) did not specify their levels. In Level III, female graduates were 4 times as few as their male counterparts; whereas in Level II, they were as many as males. In Level I, women were slightly less than men.

4.1.3 Employers

The sampled organizations had different ages. One firm aged less than a year, whereas one had 82 years. Nearly three quarters of these establishments existed for years between 0 and 29 years (73.5%; *n* = 36). The ones that existed between a few months and 9 years (32.7%; *n* = 16) were slightly more than those with years between 10 and 19 (26.5%; *n* = 13). The firms which fell in the group of 20–29 years were almost 2 times as small as those in the group of 10–19. The number of employees across the firms varies. For example, one company employed a minimum of three people, whereas another one employed a maximum of 2700 people. A Spearman Rho test was conducted to examine the relationship between the age of the organization and the size of staff employed. The results indicated that there was no significant association between variables: r_s = .153 and p = .293. The total number of people who were employed in the sampled firms was 13,843. Of these, 57.7% (*n* = 7988) were males, whereas 42.3% (*n* = 5855) were females. Slightly over two thirds of the organizations (69.4%, *n* = 34) hired women with VET qualifications, whereas one third of the firms (30.6%, *n* = 15) did not.

Firms were also different in terms of ownership. Non-state-owned companies were 4 times as many (80%; *n* = 39) as state-owned establishments (20%; *n* = 10). Non-state organizations were also divided further into sole proprietorship (51%; *n* = 25), partnership (general or limited; 4.1%; *n* = 2), corporation (C and S; 20.1%; *n* = 10), and limited liability company (LLC; 4.1%; *n* = 2). From a different perspective, this description indicates that individuals owned half of the organizations as they fell under sole proprietorship. Moreover, corporations were as many as state-owned entities, but each of these categories was almost 3 times less than a sole proprietorship. As **Table 1** shows, employers fall under different sectors such as manufacturing and construction.

Firms employed people with various education qualifications attained from different educational institutions such as universities. Of 13,232 employees, 19.9% (2633) had university qualifications, 20.8% (2751) possessed VET qualifications, and 1.5% (204) had Folk Development College (FDC) qualifications. Some workers (57.8%, *n* = 7644) had other qualifications apart from University, VET, and FDC qualifications.

As **Table 2** depicts, two thirds of the employers had staff with different types of qualifications like university, VET, and other qualifications apart from FDC qualifications. A few employers had staff with FDC qualifications. Again, of these

Industry	Count	%
Manufacturing	9	19
Electricity, gas, steam, and air conditioning supply	2	4
Water supply, sewerage, waste management, and remediation activities	3	6
Construction	1	2
Wholesale and retail trade, repair of motor vehicles and motor	6	12
Transportation and storage	1	2
Accommodation and food services	6	12
Information and communication	1	2
Education	5	10
Other services	2	4
Unreported (missing data)	13	27
Total	49	100

Source: Fieldwork data, 2018.

Table 1.
The industry of the establishments.

Qualification	Count	%
UVFO	6	12.2
UVF	3	6.1
UV	6	12.2
U	1	2.0
VF	1	2.0
V	2	4.1
UVO	21	42.9
VO	9	18.4

Note. *U stands for University qualifications, V for VET, F for FDC, and O for other qualifications.*
Source: Fieldwork data, 2018.

Table 2.
Employers with staff with different types of qualifications.

employers, most employed people with VET qualifications (see **Table 2**). The results indicated that the association between the variables was not significant: X^2 (4, N = 49) = 3.981, p = .409, and V = .409.

4.1.4 VET students

The participants had both female and male gender, but the number of females (54.8%; *n* = 115) was slightly higher than that of males (45.2%; *n* = 95). Participants were aged between 16 and 34 years. Their mean was 21.8 (*SD* = 3.157), the mode was 20, and the median was 21. The age scores were close to a normal distribution as the measures of central tendency were equal, but the skewness was 1.202 and the kurtosis

was 2.086. Only four participants got married, whereas the rest were single (98.1%; *n* = 206). Of these four, three were males, whereas one was a female. Additionally, the youths who got married were already adults. Most students (90%; *n* = 189) completed their secondary education, whereas a few of them (5.7%; *n* = 12) completed their primary education. Moreover, four students completed their TVTE and three finished their tertiary education. The ones who were married completed their secondary education.

Students were learning in three categories of VET colleges, namely, faith-based organizations (FBO; 33.3%; *n* = 70), private individuals (33.3%; n = 70), and VETA (33.3%; *n* = 70). Of those who were married, three were students at VETA colleges, whereas one studied at FBO-VET College. Very few students (1.4%; *n* = 3) were employed. Only one of the four married students was employed, whereas the other two employed students were single.

4.2 TVET programmes in Tanzania

TVET colleges and centres are very critical in building and improving skills. Increasingly, over time, public and private sectors have established VET colleges and centres (see **Table 3**). The large share of colleges was owned by the government (37%; *n* = 39) and FBOs (40%; *n* = 42). There were few colleges which were owned by the private sector (23%; *n* = 24). Most students (71%; *n* = 149) enrolled in courses to improve their KSAs to become competitive in the labour market. A few students (5%; *n* = 11) joined colleges as an alternative route to a university education.

As **Table 4** indicates, the colleges and centres enrolled students for short- and long-term training. According to World Bank [42], short-term training does not

Start year	VETA	Central government	Private company	Private individual	FBO	Total
1969–1978	7	2	1	4	7	21
1979–1988	7	5	0	0	12	24
1989–1998	4	3	0	2	12	21
1999–2008	0	2	1	6	7	16
2009–2017	7	2	0	10	4	23
Total	25	14	2	22	42	105

Source: Fieldwork data, 2018.

Table 3.
Time of VET colleges/ centres commencement.

Course duration	Gender	
	Female	Male
Long courses	38% (10,615)	53.3% (23,608)
Short courses	62% (17,271)	46.7% (20,666)
Total	100% (27,886)	100% (44,274)

Source: Fieldwork data, 2018.

Table 4.
Students enrolment within gender categories.

exceed 6 months, whereas a long one lasts for more than 6 months. Students who followed short courses were almost as many as those who pursued long courses, but they had a different level of education when they joined such courses. Also, a gender gap persisted in enrolled students and course duration. For example, in long-term courses, men were about twice as many as women. However, in short courses, the gender gap was relatively small (see again **Table 4**).

VET colleges offer a range of courses such as accountancy, agriculture, and bricklaying. Most instructors (97.1%; n = 102) taught and trained their students based on approved teaching guides, but there were different editions of such guides. Due to the variation of editions, someone may wonder whether the difference is related to courses or currency or both courses and timeliness.

VET programmes are delivered theoretically, practically, and through fieldwork attachments, but subjects such as the English language did not have formal practical and fieldwork attachments. The findings showed that theory and practical were combined, but as **Table 5** shows, high priority was given to practical training. For example, instructors allocated more time for practical training than lecturing. The same pattern was also featured in assessing students learning through assignments and examinations (see **Table 6**).

Weight (%)	**Teaching**	
	Theory	**Practical**
10–19	1% (1)	7.6% (8)
20–39	45.7% (48)	1.9% (2)
40–50	37.1% (39)	11.4% (12)
Above 50	16.2% (17)	79% (83)
Total	100.0% (105)	100.0% (105)

Source: Fieldwork data, 2018.

Table 5.
Proportions of theory and practical weight in teaching.

Measures	**Theory**	**Practical**	**Fieldwork**
Mean	39.42	46.23	13.99
Median	40	50	10
Mode	40	50	10
Standard deviation	17.280	17.094	13.037
Skewness	1.711	−1.295	.951
Kurtosis	4.363	1.666	.516
Minimum	0	0	0
Maximum	100	80	50

Source: Fieldwork data, 2018.

Table 6.
Theory, practical and fieldwork weight in the examinations.

Supervision visits	Count	%
Once a week	32	30.5
Once a month	30	28.6
Once in 3 months	16	15.2
Once in 4 months	1	1.0
Once in 6 months	11	10.5
Never	15	14.3
Total	105	100.0

Source: Fieldwork data, 2018.

Table 7.
Frequency of fieldwork supervision visits.

Note, however, that practical training requires the availability of excellent infrastructure, particularly modern laboratories, and workshops. Findings from this present study indicate that some VET colleges and centres lacked adequate training facilities. Worse still, those available facilities were mostly outdated.

VET students participated in fieldwork attachments, and their instructors supervised them (see **Table 7**). During the supervision visits, instructors focused on some aspects of learning, and they assessed their students to find out whether they were learning. The instructors also focused on the application of KSAs, which they taught before fieldwork attachments. In their fieldwork assessment, they also considered soft skills such as teamwork, creativity, customer care, and diligence. They also observed the dimensions of punctuality, morale, ability, efficiency, and new learning.

Instructors also play a significant role in developing skills sets [42–46]. The findings indicated that most students (86.7%; n = 182) found that their instructors were excellent, and many students (85.2%; n = 179) also found them devoting sufficient time to teaching. However, these instructors had some competence and commitment issues; as on average, some students (6.7%; n = 14) doubted the capacity of their instructors. This is what some of the students had to say on the matter.

> *"Instructors should undergo more training to cope with the current developments"* (Student 04).

> *"They should hire not only better instructors but also those with experience"* (Student 06)

> *"There also should be instructors with high capacity and experience"* (Student 07).

> *"There should include sufficient instructors with good knowledge and specialised in different fields to meet the needs of students. Moreover, when there are good, specialised instructors, there must be many graduates with good knowledge and skills"* (Student 148).

The results also showed that instructors were not sufficient, as one in four instructors exceeded working hours in a week. Yet according to the Employment and Labour Relations Act of 2004, the maximum number of working hours a day is nine, whereas

in a week is 45 hr. Students noticed the burden that their instructors faced, and these are some of their recommendations.

> *"In my view, to improve teaching and training in our centre, more instructors should be recruited"* (Student 11).

> *"More instructors should be recruited because you find one instructor teaches two to three courses the thing which is difficult"* (Student 120).

> *"Instructors should have adequate knowledge and skills, not only those with certificate level. More instructors should be recruited"* (Student 14).

As part of the continuous professional development, colleges and centres evaluated the performance of their instructors and trained them. Soft skills were also included in the on-the-job training of instructors. The courses that were offered were academic counseling, car driving, computer, construction, disaster management, electricity, entrepreneurship, food production or making, health and safety, and housekeeping. Other courses were labour markets, language, management and leadership, marketing and sales, mechanical, social life skills, tailoring and embroidering, and teaching.

The English language is used as the medium of instruction. However, this medium of instruction posed learning challenges to some students, especially those who joined colleges after completing their primary education where Kiswahili is the medium of instruction. Most secondary school leavers did not have that problem because the medium of instruction in post-primary education is English. Both students and instructors agreed to the challenges brought about by the use of English as a medium of instruction, and this is what some of them had to say about it.

> *"We need to be taught in Kiswahili because most of us are standard seven leavers who do not know the English language".* (Student 126)

> *"I suggest instructors of technical subjects use Kiswahili rather than the English language for the majority of us to understand well. Most of us are not fluent in English because we have completed primary education".* (Student 127)

> *"The English language has become a challenge for students to understand lessons quickly when I give them language assignments".* (Staff 104)

> *"English language, which is a medium of instruction poses a big challenge to students as they are not good at that language".* (Staff 24)

In summary, results indicated that TVET programmes comprise technical and soft skills. However, the delivery sounds challenging because of the language of instruction and the capacity of instructors.

4.3 Perceived missing/ inadequate soft skills

More VET graduates enter the labour market immediately after completing their courses successfully. However, a few of them (11%; n = 23) started to search for jobs while they were still pursuing their courses. As **Table 8** depicts, between 2001 and

Years	Male		Female		Total	
	Count	%	Count	%	Count	%
2001–2002	38	0.8	31	1.1	69	0.9
2003–2004	52	1.0	61	2.2	113	1.4
2005–2006	102	2.0	50	1.8	152	1.9
2007–2008	191	3.8	144	5.2	335	4.3
2009–2010	224	4.4	129	4.7	353	4.5
2011–2012	464	9.2	277	10	741	9.5
2013–2014	680	13.4	267	9.6	947	12.1
2015–2016	1447	28.5	722	26.1	2169	27.7
2016–2018	1874	37.0	1088	39.3	2962	37.8
Total	5072	100.0	2769	100.0	7841	100.0

Source: Fieldwork data, 2018.

Table 8.
Number of graduates in the period between 2001 and 2018.

2018, for each class, graduates increased from 69 to 2962, respectively. Except for 2003–2004, there were more male graduates than their female counterparts (see again **Table 8**).

Graduates spent between weeks and years getting a job. For instance, many graduates (67%; n = 95) were employed within around 11 months after completing their studies, whereas some of them (30%; n = 43) got jobs after a year of their graduation. Moreover, findings indicated that as graduates delayed getting a job after their graduation year, the probability of securing employment decreased. However, some factors prevented them from securing jobs. These included few job opportunities, favoritism, skills shortage, and skills mismatch.

Employers also had different views about the soft skills VET graduates possess. The findings indicated that the degree of possessing those skills varied across VET graduates and between VET and non-VET graduates. The soft skills in question here are teamwork, independence, innovation, punctuality, attention, obedience, confidence, self-control, self-awareness, trustworthiness, integrity, hard work, spirit, smart dressing, cleanliness, diligence, curiosity, English language skills, and communication skills. Although employers depicted mixed perceptions towards graduates' soft skills, they mostly appreciated VET graduates as shown by some of them below.

> *"VET graduates are good at team working."* (Employer 32, non-manufacturing sector)

> *"VET graduates work very hard/diligently knowing that we employ the good performers."* (Employer 21, manufacturing sector)

> *"VET graduates are trustworthy."* (Employer 18, non-manufacturing sector)

> *"VET graduates are not punctual."* (Employer 19, non-manufacturing sector)

> *"VET graduates are punctual."* (Employer 31, non-manufacturing sector)
>
> *"VET graduates are working very hard possibly it is because of going to colleges, so they are very eager to work."* (Employer 25, non-manufacturing sector)
>
> *"Although they are warned about phone addiction, they could be warned before completing their courses."* (Employer 03, non-manufacturing sector)
>
> *"I have only one problem with them, which is the way they dress. They do not have good/decent clothes."* (Employer 24, non-manufacturing sector)
>
> *"They dare to perform new tasks without being asked to do them."* (Employer 15, non-manufacturing sector)
>
> *"To be honest, I like their discipline so much."* (Employer 28, non-manufacturing sector)
>
> *"They are innovative, for example, in installing electric cables."* (Employer 26, non-manufacturing sector)
>
> *"Generally, they do not have sufficient communication skills. They also lack leadership skills."* (Employer 02, manufacturing sector)
>
> *"They have a language problem. They are faced with communication barriers. This is the primary weakness of VETA graduates since English is the official language in most companies, so communication becomes difficult."* (Employer 22, non-manufacturing sector)

The views of the employers indicated that VET graduates had a higher level of soft skills than non-VET graduates, but the findings within VET graduates were conflicting. On the other hand, findings of the perception of employers on the availability of soft skills in the labour markets revealed that such skills as teamwork and communication were inadequate.

4.4 Employers' coping strategies

Employers have continued to employ VET graduates even though they appear to have inadequate soft skills. What seems to be their main coping strategy is to retrain them and extend the probationary period. This is how some of the employers explained it.

> *"When they join us, we see the need to re-train them as they lack workplace experience"*. (Employer 02, manufacturing sector)
> *"It is critical to improve the capacity of staff to improve the quality of our industry for the sustainability of our industry. For example, when we install new equipment, we train workers to improve productivity"*. (Employer 15, non-manufacturing sector)

In a way, the dearth of soft skills among graduates seems to emanate from a technical-loaded curriculum that VET has as **Table 9** shows.

Skills	
Technical	**Soft**
Awarding apprentices	Self-awareness and -evaluation
Computer	Customer care
Disaster management	Tackling the work
Electricity	leadership
Domestic	
Electric meter	
Power substation	
Entrepreneurship	
Health and safety	
Induction/orientation	
Lining maintenance	
Mechanical	

Source: Fieldwork data, 2018.

Table 9.
Training courses offered to employees.

As stated above, employers prolonged the period of probation for their new employees who had inadequate skills. A probationary period is a time when a new employee to a position is assessed to see whether they have the right knowledge, skills, and ability to perform duties [47, 48]. The practice was well captured by one of the interviewed employers.

> "*We sometimes extend their probationary period up to one year*". (Employer 02, manufacturing sector)

The results from this section are straightforward. Indeed, they clearly indicate that staff re-training and the extension of a probationary period are the two strategies used to improve the KSAs of graduates at the workplace.

5. Discussion

This study examines perceived inadequate soft skills and coping strategies of employers in Tanzania. To do so, it was guided by the following key research questions: i) Do TVET programmes inculcate soft skills?, ii) Which soft skills are inadequate according to employers?, and iii) What are their coping strategies to address shortages of soft skills? This is how they were answered over the course of the analysis.

Concerning research Question 1, the findings indicated that TVET programmes comprise socio-emotional skills because TVET instructors participated in social life skills training workshops; and during the field attachments, social life skills were evaluated. The fieldwork attachment assessment covered social skills such as teamwork and punctuality. Despite the delivery of socio-emotional skills, there are four

challenges that also influence the delivery of such programmes. First, English, which is the medium of exchange, seems to be a huge problem. This is because most TVET students are primary school leavers whose language of instruction is Kiswahili. This seems to be a problem even on the side of instructors themselves. Second, instructors seem to be few, forcing them to work over and above the average working hours. Relatedly, the competence of instructors to transfer KSAs to students has been put into question by some students. Finally, most VETs seem to lack modern equipment in their laboratories, and those with a few are the outdated ones. All these challenges have a bearing on the probability of quality KSAs transfer to trainees.

Findings on the challenges facing TVET programmes in Tanzania are consistent with several other past studies [3, 4, 11, 43, 45]. Indeed, these studies discovered that the TVET programme requires improvement; for instance, to upgrade physical infrastructure including laboratories and workshops.

As for research Question 2, although the findings of the availability of soft skills in the labour market are mixed, it was found that some VET graduates do not possess adequate soft skills. The results showed that some VET graduates did not demonstrate teamwork, independence, punctuality, paying attention to work, obedience, confidence, self-control, self-awareness, and trustworthiness. Other social skills that the graduates did not possess included integrity, smartness, cleanliness, diligence, curiosity, and communication skills (English language skills). Findings have revealed that the reason behind this problem is the fact that the curriculum is loaded with technical courses, thereby neglecting the soft skills side of the courses.

Some of these findings are in line with the results of previous studies on this topic. For example, Munishi [3] also discovered that many VET graduates in Tanzania had difficulties in communication including the English language. Sudan et al. [49] as cited in World Bank [2] also found that businesses in India demanded English language skills as well. For instance, information technology (IT) and IT-related services increased the demand for technicians with good English language skills by about 500,000 annually (ref. [49] as cited in ref. [2]). Moreover, Oster and Millett [50], as cited in World Bank [2], found a positive association between the establishment of new call centres and an increase in enrolments in English language schools located nearby such centres by 6%. The 2008 Indonesia and Philippines employer surveys indicated communication skills were one of the three soft skills that were highly demanded by employers ([2], p. 13).

Moreover, the findings of the 2009 Vietnam employer survey were consistent with the result of this research about punctuality. The study revealed that punctuality was a top behavioral competency in the priorities of employers ([2], p. 13).

Finally, on Question 3, the results show that employers try to address the issue of the soft skills gap by re-training their staff and extending their probationary period. The finding on staff re-training is partly consistent with the results of ATE [11]. However, it departs from ATE [11] by showing that rather than hiring foreigners in the quest for quality KSAs, employers in Tanzania opt to extend the probation period of new employees as a coping strategy. Again, contrary to ATE findings, this research did not reveal whether temporary employment was one of the coping strategies, although many employees had temporary contracts. We believe that the findings in our study are more reliable and valid because while the ATE study focused on manufacturing, tourism sectors, and businesses that were located in Dar es Salaam, this presented study covered more sectors and regions, making it more representative in nature.

6. Conclusions

The need to equip the workforce with relevant KSAs to enhance economic development has gained momentum, particularly in developing and emerging economies. Expectedly, countries worldwide have designed policies geared towards improving KSAs because they contribute to high-quality productivity and standard of living.

In line with this move, Tanzania established the Department of Technical and Vocational Education and Training (DTVET) responsible for managing NACTE and TVET, two bodies that oversee technical education and training and vocational education and training. Even then, the problem of skills mismatch in Tanzania continues to linger, particularly that involving soft skills. This study was set out to examine whether TVET colleges and centres train soft skills adequately. Furthermore, it attempted to identify soft skills that are inadequate in Tanzania and highlight coping mechanisms that employers have been using to surmount the challenge.

The analysis revealed that over time, more TVET colleges and centres have been opened. These institutions were owned by different sectors like the public and private. Furthermore, the public and FBOs had a large share of ownership. They enrolled men and women in their long- and short-term courses, but long-term courses had more men than women; whereas in the short-term courses, the gender was somewhat balanced. The programmes were delivered theoretically, practically, and through attachments. Additionally, most institutions prioritized the practical approach to teaching and training. Despite these initiatives, the infrastructure was inadequate and outdated, and some instructors did not have enough of the latest knowledge and skills. Moreover, some teaching guides appeared to be outdated because they were published in the distant past.

Results also showed that despite TVET colleges and centres' efforts, there are soft skills that are lacking among VET and non-VET graduates. The most critical insufficient skills are teamwork, communication skills, and language fluency. The reason behind the lack of transfer of soft skills in Tanzania is attributed to, as indicated above, the use of English that is not universally understood by both students and instructors. Other reasons include the adequate number of instructors, lack of proper KSAs among instructors, lack of training facilities, and outdated ones in relation to the modern labour market. Nevertheless, employers seem to perceive that VET graduates have superior soft skills compared with their non-VET counterparts.

Unlike results from the ATE study, which suggested that employers cope with the mismatch of skills by hiring foreigners and offering temporary employment to new employers, this study reveals that employers in Tanzania opt to not only re-train but also prolong the probation period to equip new employees with relevant KSAs. This of course has a cost implication for employers.

We thus recommend that the ministry responsible for education should fully adopt the EEL framework that requires the total participation of both educationists and employers in designing and delivering as well as updating the curriculum. Moreover, because this study has shown that employers are coping through re-training new employees and lengthening probation periods, we recommend that the government must either reduce the skills development levy and/or reward employers who re-train their new employees and prolong probation periods as both options do add costs to their business ventures.

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Author details

Abel Alfred Kinyondo[1*] and Hubert Shija[2]

1 University of Dar Es Salaam, Tanzania

2 REPOA, Dar es Salaam, Tanzania

*Address all correspondence to: kinyondoabel@yahoo.com

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Chapter 6

Unemployment and Underemployment of People with Disabilities: An Untapped Resource within the Global Economy

Tammy Jorgensen Smith, Christine Hugh and Scott Fontechia

Abstract

Global data indicate people with disabilities have disproportionately high unemployment and underemployment rates, often earn less than those without disabilities, and face barriers to education that further impede access to high-paying jobs. Some of the challenges to social and economic inclusion of people with disabilities include inaccessible physical environments; lack of access to transportation, assistive technology, and high-quality service delivery; communication barriers; discrimination; and stigma within society and the workforce. This chapter provides a clear understanding of the persistent issue of unemployment and underemployment of people with disabilities and identifies multiple benefits related to employing individuals with disabilities. Implications for policy and practice to address challenges and barriers to employment and societal inclusion of people with disabilities are presented as a starting point for facilitating global economic growth and stability by tapping into this underutilized resource.

Keywords: unemployment, underemployment, disabilities, workforce, global economy

1. Introduction

According to the World Health Organization, an estimated 1.3 billion people worldwide experience disability [1]. This equates to approximately one in six people or 16% of the global population. Worldwide, people with disabilities are less likely to be employed than people without disabilities and more likely to be underemployed, in part-time or temporary positions, and earning lower than average salaries [2]. A factsheet developed by the United Nations states, in developing countries, 80–90 percent of persons with disabilities of working age are unemployed, whereas, in industrialized countries, the figure is between 50 and 70 percent [3].

Despite the disconcerting unemployment data for persons with disabilities, many countries are facing shortages in the labor force due to demographic shifts, an aging workforce, and retirement of the post-World War II baby boomer generation [4]. According to third-quarter employment data for 2021 as reported by the Pew

Research Center, in the United States, 50.3 percent of adults 55 and older reported being out of the labor force due to retirement [5]. Additionally, the recent global COVID-19 pandemic has reduced the number of people in the workforce due to death, expedited retirement, and an increased disability demographic resulting from survivors with long-term symptomology [6]. The pandemic created a global health crisis that resulted in public lockdowns and disruption in the workforce worldwide. The slow and uncertain progression of the pandemic had a profound effect on the global economy and labor market. According to Verick et al., the long-lasting and unpredictable impact of the COVID-19 pandemic will require changes in policies and practices to facilitate the shift of resources to "new sectors that have the potential to create decent and productive employment" [6]. A restructuring of the labor market and recruiting from diverse talent pools are two viable solutions to the current job crisis and labor demands. People with disabilities are one of the largest underutilized labor pools [7]. They comprise the largest minority group worldwide, making them a sizable untapped talent resource [1].

Work is central in people's lives, and, in many cultures, a major aspect of identity [8]. Employment has been shown to be correlated with personal dignity, independence, well-being, social engagement, and sense of purpose [9]. For many people, job security, sustainable income, and contributing to society are common motivators for obtaining and retaining employment [10, 11]. Relative to their non-disabled counterparts, unemployed people with disabilities are as likely to want a job and are similar in their views of the importance of income, job security, and other valued job characteristics [11].

In addition to high unemployment rates, underemployment is also common among those with disabilities with only about 35% of employed individuals with disabilities occupying full-time positions [12]. Underemployment occurs when "workers' jobs don't use all their skills, education, or availability to work" [13]. Being unemployed, underemployed, or working in a role that is not aligned with a person's interests can negatively impact several areas of life. Studies indicate that unemployment is associated with lower quality of life, diminished access to education and healthcare, feelings of isolation, hopelessness, loss of self-esteem, limited social life, and reduced consumption patterns due to lack of financial stability [9]. People with disabilities have typical monthly expenses and higher than average medical bills for disability related treatments, medications, assistive devices, and other costs associated with disability. With fewer opportunities for full-time employment with benefits, people with disabilities have a more difficulty being fully independent. They often find themselves in a poverty trap because they cannot risk losing their disability related medical and fiscal benefits. In the United States, the complex, ever-changing welfare system provides disincentives to work [14]. One must prove they cannot work to be eligible for benefits, and disability payments are reduced when working (based on a complicated government formula). Additionally, people are not properly educated on work incentives that are meant to help people to become independent of the welfare system.

2. The persistent issue of unemployment and underemployment of people with disabilities

People with disabilities are underrepresented in the workforce [4, 15]. Compared to people without disabilities, a disproportionate number of individuals with disabilities are unemployed or underemployed. In the United States, this does not consider

the 8 in 10 people with disabilities who are not represented in the labor force because they are not working or looking for work [16]. When individuals with disabilities are not registered as unemployed, they become an invisible labor statistic, skewing the data, and making them more likely to be overlooked by policy makers [17].

Several factors contribute to the high levels of unemployment and underemployment of people with disabilities. To begin, the term "disability" implies a lack of ability [10, 18]. This language may contribute to low expectations for persons with disabilities and an association with being less capable and less competent than a person without a disability. Language is powerful. Linguistics scholars consider language as a cultural, social, and psychological phenomenon [19]. Understanding the definition of the term "disability" and its complexities is critical to removing the negative connotations that may be associated with it. Identifying new, empowering language surrounding "disability" may shift perspectives related to the abilities and capabilities of this group of individuals.

Disability is a complex concept with multiple dimensions – people can be disabled by environmental factors as well as by their bodies [4]. The International Classification of Functioning, Disability, and Health (ICF) suggests a multidimensional approach to understanding functioning to include interaction between disability and contextual factors [4, 16, 20]. Social and biopsychosocial models of disability recognize differences in abilities but posit that the disability is not the presenting issue; rather, inaccessible physical environments, communication barriers, and lack of access to transportation, technology, transition programs, postsecondary education, high-quality service delivery and supports create barriers to employment for this population [21].

Despite laws supporting persons with disabilities in the workplace, stigma, fear, and preconceptions impact hiring decisions. Common misconceptions are that people with disabilities; cannot do the work, take longer to learn, need expensive accommodations, require more help than others, cannot get things done in a timely manner, will make co-workers uncomfortable, have higher levels of absenteeism, and have trouble getting along with others [8]. In turn, what we see in the workplace are negatively biased performance expectations and the assumption that applicants with disabilities are not capable of taking on challenging or complex duties [22]. In the disability community, ableism is a common term used when referencing a person or an employer with these negative misconceptions of a person's ability. Employers may have a lack of awareness or knowledge regarding hiring a person with a disability, concern over disability related costs (accommodations, health insurance, etc.), fear of legal liability, and assumptions that people with disabilities do not want challenging careers, all which may impact employment practices and outcomes [10]. In addition, recruitment and hiring practices may inadvertently deter people with disabilities from applying [10, 23]. Practices include posting to inaccessible job boards and websites, unconscious or conscious bias in hiring practices, and inflexibility with the interview process [10]. Negative perceptions can be found at the individual or systematic level. The effect of such biased views translate into lack of opportunity for promotions and advancement. People with disabilities are less likely to be salaried or to have benefits [24] and they are more likely to be employed part-time [10]. On average, people with disabilities earn 63 cents for every dollar a nondisabled person earns [25].

Stigmas, misconceptions, and discriminatory behaviors within the workplace make it difficult for individuals with disabilities to represent themselves authentically at work, often withholding pertinent information about their disability. People with non-visible disabilities, such as mental illness, learning disabilities, traumatic brain

injury, and chronic health conditions (diabetes, cancer, digestive disease, etc.) choose to conceal due to fear of negative repercussions and stigma and to not feel different or disconnected from their colleagues and peers [10, 26, 27]. Disclosure may be required when accommodation is needed. When necessary, the person may choose to only disclose to selected staff or leadership [10, 28]. If a person chooses to disclose, employers are typically not prepared for disclosure discussions, and they may be unsure how to implement them [10].

Employers may not be knowledgeable of requirements and responsibilities regarding implementation of reasonable accommodations and they may not know the right questions or responses for supporting an employee who is making an accommodation request. Reasonable accommodations are job adjustments or modifications in the workplace that enable a person with a disability to successfully perform essential functions of the job, but do not create an unreasonable burden or undue hardship for the employer [4]. Accommodations are often perceived as physical changes to an environment, a large investment of a person or organizations time, or purchasing items when in fact many accommodations are quite simple to implement and do not require much financial investment [4]. In fact, approximately 59% of accommodations cost nothing and most equate to about $500 per employee [29]. Examples of reasonable accommodations may include adjustments to a break schedule, providing checklists and time management tools, and shifts in communication style, among others.

The barriers people with disabilities face to obtaining integrated, competitive employment are not just at the employer level. Individuals with disabilities may have been subjected to a lifetime of low expectations that have led to self-doubt, lack of self-confidence, amotivation, anxiety, and depression among other self-limiting barriers and behaviors [4]. Lack of social and economic inclusion of people with disabilities may create feelings of social isolation. Limited disability inclusion policies and practices may lead to difficulty forming interpersonal relationships and natural supports at work [4]. Increases in work demands and intensity that correlate with worker shortages may contribute to physical and mental health issues for all employees, not just those with disabilities.

3. Benefits of hiring people with disabilities

Companies that embrace best practices for employing and supporting employees with disabilities in the workforce outperform their peers [30]. The Disability Equality Index (DEI) is a tool utilized to measure the culture, leadership, community engagement, support services, employment practices, access, and supplier diversity. A 2018 study conducted by Accenture Research utilized the DEI to assess 140 large companies within the United States on levels of workplace culture and inclusion. The study found that companies that stand out in terms of disability inclusion were, on average, two to four times more likely to outperform their peers in terms of total shareholder returns [28]. Research shows hiring people with disabilities leads to increases in business performance, levels of innovation, employee productivity, and return on investment via training, market shares, and shareholder values [29]. Employees with disabilities have higher engagement levels and retention rates, leading to up to 30% lower turnover for employers [29]. Additionally, diverse workplaces have been shown to have high workplace morale and better reputations among consumers [31].

Several common characteristics of people with disabilities lend to them being valuable employees. Many times, people with disabilities have to be creative to adapt

to the world around them, often not designed with their disability in mind, and in turn develop problem-solving skills, persistence, forethought, and willingness to try new things [29]. Workers with disabilities tend to be more motivated to work, often fueled by the difficult process of obtaining the job and wanting to keep it once finally secured. These high levels of motivation manifest as other benefits for their employer, such as being friendlier on the job, performing consistently at high levels, achieving high performance evaluation scores, and being loyal, long-term employees [30]. These qualities aren't just beneficial to the employer, they also create a better business/work environment for coworkers and customers [30, 31].

Employers lack awareness and understanding of the untapped talent pool and potential benefits of hiring individuals with disabilities. As of 2022, the unemployment rate of persons with a disability in the United States was 7.6%, a figure more than double the rate for persons without a disability [16]. The misconceptions regarding the cost of reasonable accommodations versus the return on investment of disability inclusion are stark in contrast. As mentioned previously, many companies are concerned about the cost of accommodating employees with disabilities while a high percentage (approximately 59%) of accommodations cost nothing and others average less than $500 per employee [28]. In the United States, when hiring people with disabilities, many employers qualify for tax incentives, such as the Work Opportunity Tax Credit (WOTC), and funding for accommodations and accessibility, such as the Disabled Access Credit [16]. Employment candidates accessing services through U.S. State Vocational Rehabilitation Agencies may have access to an even greater pool of resources and funding, such as job coaching, reimbursed wages, discretionary spending, and more to alleviate any potential business costs [32].

Persons with disabilities make up the third largest market segment [33]. Employees with disabilities are tax payers and less reliant on benefit systems. A study by the American Institutes for Research, found that the total post tax income of working-age people with disabilities is approximately $490 billion [33]. According to the International Monetary Fund, Gross Domestic Product (GDP) measures the monetary value of final goods and services produced in a country in a given period of time [34]. If one percent of people with disabilities joined the U.S. labor force, the GDP could be boosted by up to $25 billion [29]. People shop and spend money where they work and feel represented. A 2016 Nielsen study found that individuals with disabilities and their families tend to be more brand loyal, shop more, and spend more per trip than the average customer [29, 35]. People with disabilities comprise a significant portion of the consumer market. Companies should ensure products are inclusive and accessible for a diverse group of customers. Employers with diversity hiring practices and policies for equal opportunity employment should make them visible to attract more workers who have disabilities.

4. Implications for policy and practice

Current policies, around the globe, are lagging in addressing the high unemployment rate of people with disabilities [4, 10]. Some countries have instated quota systems that require a percentage of workers with disabilities to be employed at qualifying businesses. The penalty for not meeting these quotas is typically a tax or other fine. In response, companies have often looked inward to meet these requirements, pressuring current employees to disclose disabilities to retain their positions and helping the company attain their numbers [4]. Other employers simply pay the

fines to release themselves from the requirement of fulfilling the quota. Results show an underwhelming and questionable impact on disability employment figures and a model that frames employees with disabilities as a burden or requirement to meet, rather than valuing them for their contributions to the workplace. It creates and perpetuates a stereotype that workers with disabilities are being hired to meet legislative policies rather than for their merit.

Many countries have passed legislation to prevent or address discrimination and accommodations in the workplace [4]. Some examples of this type of legislation include the Equality Act in the United Kingdom, the Disability Discrimination Act in the Netherlands, and the Social Code IV in Germany, the Employment Equity Act in Canada, and the Americans with Disabilities Act (ADA) in the United States. Similar to European legislation, the ADA has mostly been used to defer and reduce discrimination and provide access to accommodations. However, the enforcement of the ADA is widely considered to be inconsistent at best and it has not shown correlation with increasing employment rates for the disability community [4]. Low disability employment rates in the United States are generally attributed to the aforementioned misconception regarding the cost of accommodations, discrimination in hiring practices, and the existing stigmas and stereotypes surrounding disability [4]. Employment First policies, being adopted by states within the United States, ensure that policies and legislation are available in a clear, simple language format and include information on how the policy/legislation will be implemented and regulated [35].

4.1 Recommendations for policy makers

- Provide financial assistance for accommodations, assistive technology, transportation, postemployment supports, and other expenses related to gaining and maintaining employment. These investments amount to less than costs associated with providing disability benefits and allow beneficiaries to contribute to society by becoming tax paying citizens.

- Support disability awareness campaigns that promote knowledge of systems and supports available for individuals with disabilities seeking employment; reduce stigma and discriminatory practices; and mitigate fear/uncertainty by employers through provision of information, resources, and incentives that highlight the benefits of hiring individuals with disabilities.

- Enforce antidiscrimination legislation. Evaluate the impact of legislation to ensure effectiveness and inform needed amendments/revisions and new policies.

- End subminimum wage practices and other pay gaps related to disability, gender, race, and other factors.

- Develop policies that require individuals with disabilities to seek vocational rehabilitation (VR) services upon stabilization or within two years of diagnosis.

- Strengthen the public VR infrastructure/system by expanding programs to reduce VR counselor workload and caseload size, provide training and resources to ensure availability of highly qualified, credentialed VR professionals; increase salary rates to reduce turnover of VR employees.

- Reform disability benefit systems to be user-friendly and to promote utilization of available work incentives. Include continuous access to healthcare necessary for maintaining employment (i.e. medications, therapies, durable medical equipment, etc.).

- Focus research funding on efforts to identify solutions to problems and causes of low employment rates for people with disabilities.

4.2 Recommendations for employers/businesses

- Leverage the talent pool through recruitment processes that do not create barriers (i.e. inaccessible electronic job boards, company websites, technology platforms such as Zoom); provide diversity friendly signals; advertise broadly; instate formal disability hiring policies and retention strategies; partner with employment agencies that serve persons with disabilities (i.e. VR), and offer internships and apprenticeships for on the job learning [10]

- Train human resources staff and supervisors on effective interviewing approaches for candidates with disabilities [10, 36, 37]; discuss essential duties of the job; use a consistent approach to selection (i.e. structured interviews); prepare for discussions regarding disclosure and reasonable accommodations [10, 38]

- Create a workplace/organizational climate that facilitates safe and constructive disclosure [10]; promote inclusive and accessible work environments; include disability in diversity and inclusion statements and as part of the company's core values; model a disability inclusive culture through day to day practices; not just compliance-based or legislative requirements [10, 39]

- Invest in employee resources and formal training on inclusion, etiquette, and disability awareness; address biases; challenge stigmas

- Ensure opportunities for promotion/career advancement; individuals with disabilities should occupy roles at all levels including top management positions; rebrand disability through high expectations and achievements

- Implement universal design for the benefit of all employees. Universal Design is the design and composition of an environment so that it can be accessed, understood, and used to the greatest extent possible by all people regardless of their age, size, ability or disability [40]

- Offer flexible schedules and telework options [10, 40]; Task differentiation – customize positions that make optimum use of the work capacity and talents of all employees [4]; cross-train employees

4.3 Recommendation for practitioners

- Utilize a multidimensional approach to career development by addressing multiple areas of individual functioning and consider the impact of contextual

factors; stress work related social skill development; understand an individual's health and functioning beyond the disability diagnosis [15, 41]

- Focus on the training and retention of highly competent employment specialists who provide vocational rehabilitation services for persons with disabilities [42]. Recognize that offering lower than average salaries/wages for service providers results in high turnover which is costly and contributes to lack of continuity of service provision.

- Offer flexibility in service provision that recognizes and utilizes the talents of service providers who work best with the individual with a disability and those who may be most effective in employer engagement activities. Consider a team approach to service provision that maximizes the specific competencies and talents of service providers on the team and minimizes gaps in services due to turnover and other factors.

- Utilize a multifaceted approach to vocational assessment that combines valid and reliable instruments that have been normed to the target population (i.e. person with a learning disability) with qualitative approaches that involve observation and time spent in natural/community settings to best understand the unique talents, skills, interests, and support needs of each job seeker. Employ individualized strategies for identifying employment options (based on unique needs and circumstances).

4.4 Recommendations for persons with disabilities and their families

- Establish and maintain high expectations for family members with disabilities to promote maximization of talents, skills, and community involvement including postsecondary education and employment.

- Become aware of laws that protect against discrimination; one in three are not [43]. Promote self-advocacy and self-determination skills for individuals with disabilities.

- Strive for a well-developed vocational identity which involves an individual's goals and interests related to work; contributes to increased confidence, better decision making, and improved ability to manage environmental factors that impact career development [15, 43].

- Develop a "work personality" that consists of a combination of internalized values related to work and externalized behaviors that manifest in the work environment. Work personality consists of motivation, self-concept and needs related to work behaviors [15, 44, 45] and impacts work adjustment and adaptation to work environments [45, 46]. Work adjustment is the ability of a person to adjust and adapt to the changing work environment. It contributes to job retention and stability over time and is an important construct for career development [46].

5. Conclusion

Multiple factors have led to a global labor shortage. Employers should recognize people with disabilities as an untapped talent pool and leverage this vital resource.

Policy makers must to develop and enforce policies and legislation that empower persons with disabilities to engage in competitive, integrated employment while protecting necessary healthcare services and providing postemployment supports that promote job retention. Policies and legislation must be evaluated to ensure effectiveness in promoting the full inclusion of people with disabilities in the workforce and community. Individuals with disabilities and their families should strive to maintain high expectations and advocate for full inclusion by voting and making their voices heard. Funding of research that identifies effective solutions to workforce inclusion of people with disabilities and access to needed services, supports, and resources will propel workforce initiatives that promote inclusive employment practices and lend to a global economic growth and stability by tapping into this underutilized resource.

Author details

Tammy Jorgensen Smith*, Christine Hugh and Scott Fontechia
Department of Child and Family Studies, College of Behavioral and Community Sciences, University of South Florida, Tampa, Florida, USA

*Address all correspondence to: smithtj@usf.edu

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This book brings together research on the issue of unemployment with a focus on its nature, causes, and the strategies that are currently being utilized in various jurisdictions to combat it. The issue is complex and multidimensional and is a serious challenge in both developing and developed countries. The chapters in the book highlight in a nuanced way the key theoretical aspects of the problem, the attempts that have been made in specific countries to measure its extent, the shortcomings of these efforts, and better metrics that can be applied to analyze it. This is important because measurement of unemployment is a critical step in successfully formulating and targeting policies that can be effective in remedying it. An important strength of the book is its empirical orientation and its illumination of aspects that are easy to gloss over, such as people with disabilities who are a valuable and underutilized resource but who are often ignored in the discourse on development and labor markets. Furthermore, the book addresses critical emerging issues such as the implications of globalization and social and technological change on unemployment. The book is rich in the breadth of policies presented, thus making it particularly useful to diverse audiences such as legislators, academic researchers, policymakers, and students of economics, development, public policy, and project design and management.

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