A SYSTEMATIC ASSESSMENT OF SKILLED LABOUR MIGRATION BETWEEN CITIES IN SOUTH AFRICA

By

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DECLARATION

I, Takudzwa Mutize, declare that the thesis that I herewith submit for the Doctoral Degree in Economics at the University of the Free State, is my independent work and that I have not previously submitted it for a qualification at another institution of higher education.

Signature:

Date: 17 November 2023

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ABSTRACT

In recent decades, economic growth theories have increasingly emphasized human capital as a primary driver of national growth, surpassing traditional factors like physical and financial capital. Knowledge, in particular, has emerged as the key catalyst for wealth creation, relegating natural resources and physical labour to secondary roles. This shift in focus has significant implications for urban economic growth, with cities hosting a higher proportion of educated residents experiencing faster growth rates due to positive productivity and innovation externalities.

The concentration of highly skilled individuals has led to a winner-takes-all geography, creating stark economic disparities between knowledge-rich 'superstar' cities and deindustrialized 'shrinking' cities. This phenomenon, prevalent in the United States and Europe, underscores the importance of skilled migration within borders for enhancing city productivity and fostering economic growth.

In South Africa, where urbanization levels are high, current studies predominantly focus on rural to urban migration, interprovincial movements and other internal mobility trajectories for labour. The thesis addresses a research gap by systematically assessing skilled migration between cities, which has not received attention in the local literature. Utilizing the New Economic Geography theory, New Neoclassical Urban Economics theory, the human capital model and the dual labour market model, the study examines migration patterns, evaluates social mobility impacts and reviews city strategies for attracting and retaining skilled labour.

The analysis of intercity migration patterns using the Community Survey 2016 reveals the growing importance of migration between South African cities, predominantly driven by skilled individuals. The study reveals the dynamic interplay between the winners and losers in this migration landscape, emphasizing how certain cities emerge as beneficiaries while others face a drain of skilled labour. Understanding these nuanced patterns is an imperative for policymaking and strategizing to fortify city-level competitiveness and urban development.

Using the National Income Dynamic Study data, the thesis delves into the outcomes of skilled labour migration, employing descriptive analysis and sophisticated econometric methods to assess changes in income, wages and employment. The results indicate substantial economic benefits associated with urban migration and challenges conventional expectations regarding high-skilled migrants' pronounced economic advantage for the South African context.

While migration to metropolitan areas is traditionally seen as conferring additional economic benefits, the data suggests that urban migration, regardless of the destination, provides substantial economic advantages. This unexpected outcome prompts a re-evaluation of factors influencing economic outcomes, such as labour market dynamics, regional disparities and social and institutional influences. Policy and practical implications underscore the necessity of facilitating urban migration in general, given its consistent bestowal of substantial economic advantages. Irrespective of the urban destination or skill levels, fostering the flow of individuals between cities stands as a powerful contributor to incomes. Nevertheless, prioritizing local economic development and job creation, especially in smaller urban areas, holds promise to reduce dependence on migration for skilled labour, fostering a more equitable distribution of economic development across urban spaces to alleviate the strain on public resources caused by the high influx of migrants into destination cities.

The thesis concludes with an analysis of South African metropolitan Integrated Development Plans, revealing a need for greater emphasis on strategies tailored to attract and retain high-skilled migrants. Acknowledging historical inequalities in South Africa, the thesis underscores the contentious nature of high-skilled labour policies. Striking a balance between addressing historical injustices and promoting equity in attracting and retaining high-skilled professionals poses a challenge for policymakers.

Finally, the thesis emphasizes the role of municipal administrations in managing migration, highlighting their secondary role in regulation and the importance of collaboration with national and provincial entities. It suggests cost-effective measures for supporting high-skilled labour, such as migration information services.

Keywords: South Africa, skilled labour migration, New Economic Geography, New Neoclassical Urban Economics, human capital model, urban economics, knowledge economy, urban development policies, intercity migration, spatial inequality, war for talent, difference-in-differences

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LIST OF ACRONYMS

BFC: Buffalo City

NMB: Nelson Mandela Bay

ETH: eThekwini

MNG: Mangaung

CPT: Cape Town

DiD: Difference in Differences

FE: Fixed Effects

GCR: Gauteng City Region

IDP: Integrated Development Plan

MCB Mostly Former Bantustan

MCF: Mostly Commercial Farming

NEA: Not Economically Active

NEG: New Economic Geography

NNUE: New Neoclassical Urban Economics

NIDS: National Income Dynamics Study

OLS: Ordinary Least Squares

OM: Other Metros

SC: Secondary Cities

CHAPTER 1: INTRODUCTION

1.1. Background

Economic theory in recent decades has consistently emphasized the importance of human capital as a key determinant of the economic growth of nations, at the expense of the traditional drivers of physical and financial capital. The seminal works of Solow (1956), Mincer (1981), Lucas (1988) and Romer (1990) all highlight the critical role played by knowledge and skills in promoting economic development. More recently, authors such as Florida (2000) and Johnsen (2016) have argued that knowledge has become the primary driver of wealth creation and economic growth, replacing natural resources and physical labour as the engines of prosperity.

The accumulation of human capital has also been proposed as a crucial factor in the process of urban economic growth. Chinitz (1961) was among the first to suggest that cities with a higher proportion of educated residents were likely to experience faster growth rates. Subsequent studies appear to have confirmed this relationship, with researchers such as Glaeser (1994), Simon (1998), Nardinelli and Simon (2002) and Glaeser and Saiz (2003) all finding that cities with more highly skilled residents tend to grow faster than those with less educated populations.

One explanation for this trend is the concentration of highly skilled individuals in specific geographic areas, leading to positive productivity and innovation externalities. As Sunley et al. (2020) note, these externalities arise when highly skilled individuals are able to share knowledge and ideas, leading to increased innovation and productivity across a range of industries. The resulting spill-over effects can have a significant impact on regional economic growth, helping to explain why cities with highly educated populations often experience faster rates of development and higher average incomes.

As noted above, the distribution of skills is said to play a critical role in determining the economic growth and development of cities. Research indicates that the concentration of highly skilled individuals in certain cities has created a disparity in economic prospects

between knowledge-rich ‘superstar’ cities and deindustrialized ‘shrinking’ cities, resulting in an uneven winner-takes-all geography (Florida, 2002; Moretti, 2013; Mellander & Florida, 2021). This trend is most prevalent in the United States and European economies, where talent, youth, wealth and innovation are flowing towards a limited set of predominantly large metropolitan areas. This trend has led to an apparent stagnation in the fortunes of left-behind regions, with many of these areas experiencing a decline in income and life chances (Kemeny & Storper, 2020).

The distribution of skills across cities therefore appears to be critical to understanding the uneven distribution of economic growth across different regions. Furthermore, the growing concentration of highly skilled individuals in certain cities may exacerbate the challenges facing left-behind regions by attracting human resources and investment away from these areas, resulting in a negative feedback loop that perpetuates inequality and economic stagnation.

The migration of talent is said to be transforming the dynamics of skilled labour forces (Delisle & Shearmur, 2017). In addition to seeking employment opportunities and higher salaries, talented migrants are searching for improved amenities and services such as air quality and medical resources in other regions of the countries in which they live (Wang & Guo, 2023). The mobility of highly skilled individuals within borders has become critical in enhancing the productivity of cities, as these individuals bring with them knowledge, skills and innovation that can significantly contribute to economic growth (Angel & Blei, 2016).

Cities with strong industries and sectors that produce goods and services that are in demand tend to attract more highly skilled individuals (Behrens & Duranton, 2014). A key point is that the growing importance of highly skilled labour in the economic development of cities appears to coincide with a shift in their economic structure towards knowledge-intensive and technology-intensive sectors such as business services and advanced manufacturing (Yeo & Lee, 2020). Additionally, local policies such as tax incentives (Ivanov, 2019), affordable housing (Chen et al., 2022) and fast internet speeds (OECD, 2023) can make a city more attractive to highly skilled workers.

From a theoretical standpoint, the New Economic Geography (NEG) theory suggests that economic growth and development are driven by the spatial concentration of economic activity, which leads to agglomeration effects such as the clustering of highly skilled labour and industries (Storper, 2013). As a result, large cities with strong industries and sectors that are in demand are likely to attract more highly skilled individuals. New Neoclassical Urban Economics (NNUE) theory focuses on the role of cities in economic growth and development, emphasizing the important role of urban amenities in attracting and retaining highly skilled labour (Richardson, 2013).

In terms of motives for migration and migration's impact on social mobility, the human capital model emphasizes the individual's decision to migrate, contingent upon the expected benefits of moving, such as higher wages, as opposed to staying in their current location (Kan, 1999; Khwaja, 2002). Neo-classical economic theory attributes migration to variations in labour supply and demand across geographical areas. Differentials in wages motivate individuals to relocate from regions with low wages and labour surpluses to those with high wages and labour scarcities (Ravenstein, 1885; De Haas, 2008). The dual labour market theory divides the labour market into two segments: the primary labour market, which offers higher-skilled and more stable jobs and the secondary labour market, characterized by lower-skilled and less stable employment opportunities (Doeringer & Piore, 1971). Migration can be driven by individuals aspiring to transition from the secondary to the primary labour market, where they can access better job prospects.

Talented and ambitious workforce often migrates from places where they are in a "low-skills low-wage trap." The place-based policies framework serves as a compelling theory for analysing city policies, as it acknowledges the diverse economic development trajectories shaped by the unique historical evolution, assets and characteristics of different locales (Green, 2023). Targeted labour market interventions can help address the specific needs and challenges faced by different regions, thereby fostering a conducive environment for skill retention and economic growth.

1.2. Purpose & motivation of study

The purpose of this thesis is to analyse the migration of skilled labour between cities in South Africa in a systematic manner. As demonstrated in the upcoming chapter, research on the intercity migration of skilled labour has predominantly centred on the USA and European contexts, leaving a notable gap in analyses within developing country contexts. This study aims to address this gap by focusing on this form of migration in South Africa – a developing country. The literature review chapter will also reveal that while South African literature addresses labour migration between provinces and rural-urban areas, it lacks a detailed examination of skilled labour movements, more so, migration between cities. This represents another distinctive empirical contribution of this study.

Beyond filling the aforementioned literature gaps, this study makes several important contributions, including providing analyses which will help to anticipate which cities may thrive or decline in the future by examining the movement of skilled people. This is crucial given the widely argued importance of skilled labour for economic growth in cities. By analysing patterns of skilled labour migration, this research can provide insights into potential economic trends into the future.

Furthermore, the migration of skilled labour has significant economic implications for both the regions they leave and the regions they move to. In South Africa, migration patterns have been linked to economic disparities between urban and rural areas, as well as to broader issues of inequality and social exclusion (Turok, 2018). By systematically assessing skilled labour migration within an urban-to-urban migration framework, this research can illuminate these issues and offer valuable insights into potential solutions.

The study seeks to provide evidence-based recommendations for policy interventions that may address labour market imbalances and promote inclusive economic growth. Human capital is arguably a key driver of economic growth and the mobility of skilled workers is therefore an important factor in the development of human capital. By assessing the patterns and drivers of skilled labour migration in South Africa, the study can provide insights into how to develop and retain human capital within the country, which seems essential for achieving sustainable and inclusive economic growth.

A unique contribution of this thesis is that it focuses on internal movements of high human capital within South Africa, which differs from the international migration that has been the subject of recent empirical studies. The movement of people between and within metropolitan areas, has become increasingly important and has implications for the role of cities and the process of urban concentration and de-concentration (Deshingkar & Grimm, 2005). By examining the migration patterns of highly skilled labour within South Africa, this study can provide insights into the dynamics of inter-urban migration and regional skill distributions.

Research on internal labour migration in South Africa has predominantly focused on rural-to-urban migration, which is viewed as part of the larger developmental trends of urbanization and industrial transition. This is not surprising given the rapid urbanization that has occurred in the country since the end of Apartheid, with two-thirds of the population residing in urban areas in 2018, compared to just over half in 1994 (UN-Habitat, 2018). This urbanization can be attributed to the lifting of Apartheid laws that previously restricted the movement of Black South Africans into urban areas and forced them to live in homelands and townships (Strauss, 2019). These laws created spatial and social segregation and a mismatch between job opportunities and housing options (Turok, 2012). Additionally, the growth of employment in sectors outside of agriculture and mining has caused labour to move from less developed rural areas to support the expanding economies of urban areas (Arndt et al., 2019).

Despite the fact that rural-to-urban migration in South Africa has been extensively researched for over a decade and a half (Kok & Collinson, 2006), studies have tended to overlook the changing economic geography of the country's urban areas. There is significant spatial inequality in the economies of South Africa's cities, as evidenced by research conducted by Turok et al. (2017). For instance, the Gauteng City Region (GCR) has been identified by researchers as the critical economic hub in South Africa, responsible for generating over a third of the nation's economic output and a steady flow of in-migrants ensures a growing supply of workers for the regional economy compared to other urban areas (Parilla & Trujillo, 2015). Such economic growth has also translated into comparatively lower poverty rates when compared with other regions in South Africa (Statistics SA, 2019a).

Poverty and inequality levels differ across South Africa's major metropolitan cities, according to research by David et al. (2018). While the Gauteng City Region (GCR) has performed well economically, other metropolitan cities have lagged behind. However, all eight of the country's metropolitan cities have experienced growth that outpaces that of other regions (Turok et al., 2017). In addition to this, South Africa's metropolitan cities are characterized by significant polarization and disparities in labour demand. For instance, as of the fourth quarter of 2019, Ekurhuleni had the highest unemployment rate at 32%, while eThekwini had a rate of 21% (Statistics SA, 2020). In terms of skill demand at the metropolitan level, employment growth was positive but slow between 2000 and 2017 for Tshwane, Cape Town and Johannesburg, whereas job opportunities contracted in Ekurhuleni, eThekwini and Nelson Mandela Bay (Visagie & Turok, 2022).

Each local economy in South Africa's metropolitan cities has a distinct industrial sector and occupational mix that drives job opportunities. For example, the aforementioned authors point out that Johannesburg is driven by financial and legal services, while Cape Town relies on private security and tourism to create new employment opportunities (Visagie & Turok, 2022).

Highly skilled labour migration between metropolitan cities may be influenced by the unique characteristics of each local labour market, such as the demand for specific skills and the scale of such demand. Ekurhuleni's job creation is primarily focused on the airport and related logistics, while Tshwane relies on government and community services to drive employment opportunities. Johannesburg and Tshwane have a high concentration of knowledge-intensive workers, while smaller metropolitan cities tend to have greater demand for lower-skilled workers (Visagie & Turok, 2022).

The migration of skilled labour between high-performing and low-performing metropolitan cities is likely a key aspect of the labour market, given the highly polarized nature of the market and regional disparities in demand for labour and skills. However, although some recent international studies have looked at this issue [for example Zhang et al (2020); Yu et al (2023)], there is a lack of evidence on this subject in South Africa, which has motivated this study, particularly in light of the aforementioned disparities.

This study places a specific emphasis on highly skilled labour due to their well-documented capacity to exert a more pronounced positive influence on economic growth, especially within urban contexts. Furthermore, highly skilled workers are often characterized by their increased mobility, both within domestic borders and across international boundaries, setting them apart from their low-skilled counterparts. Evidence from other countries suggests that this is because highly skilled individuals have more options to choose from when selecting a destination and can earn disproportionate returns (Haapanen & Böckerman, 2017; Kerr et al, 2017). Furthermore, the greater earnings differential between regions for highly educated labour increases the potential benefits of moving (Tassinopoulus & Werner, 1999) and they are also more responsive to local demand (Wozniak, 2010). In contrast, there is a smaller surplus in low-skilled job matches, limited creation of low-skilled jobs and limited investment in cross-city search by low-skilled labour and firms (Amior, 2015).

Education can enhance a person's ability to obtain and analyse job information using advanced search methods (Greenwood, 1997). Highly skilled individuals tend to be better informed about employment opportunities in different places and are adaptable to new environments due to their similar cultural backgrounds across regions (Tippel et al., 2017). Compared to low-skilled individuals, highly educated people may have a lower risk of unemployment, shorter unemployment spells and potentially higher earnings when they move to a new location because they are more likely to have secured a job beforehand (Haapanen & Böckerman, 2015), which reduces the risk associated with migration.

1.3. Study objectives & research questions

The main purpose of this thesis is to conduct a thorough and systematic assessment of skilled labour migration between cities in South Africa. Specifically, the study aims to achieve the following objectives:

I. Analyse the patterns of intercity migration of skilled labour.
II. Evaluate the impact of intercity migration on social mobility.
III. Review city strategies to attract and retain skilled labour.

The first research objective will be guided by the following questions:

i. What is the volume of skilled labour migration between cities in South Africa?
ii. What are the characteristics of skilled individuals who migrated between cities in South Africa?
iii. What are the self-reported reasons as to why skilled individuals migrated between cities in South Africa?

Research objective (I) seeks to make a primary analytical contribution by elucidating the dynamics of skilled labour migration between cities in South Africa, thereby facilitating the anticipation of future growth trajectories for these urban centres. Grounded in common theoretical assumptions and empirical evidence highlighting the significance of high-skilled labour for city growth, this objective aims to provide valuable insights into the interplay between skilled labour mobility and urban development.

The second research objective will be achieved by answering the following research questions:

i. What are the distinctive characteristics that set intercity migrants apart from non-migrants?
ii. Are there disparities between migrants and non-migrants concerning income and poverty dynamics?
iii. Are there differences in employment outcomes between migrants and non-migrants?

The primary analytical aim of Research Objective (II) is to examine whether there exists an economic premium for highly skilled individuals when migrating from one urban area to another. This objective serves to shed light on the comparative strengths or weaknesses of different urban labour markets or urban regional economies.

The second objective holds particular significance. As the forthcoming literature review will reveal, there is a notable dearth of studies concerning intercity migration dynamics in South Africa. To the best of the author's knowledge, this research represents a pioneering effort in

this domain, promising to advance our comprehension of this phenomenon in South Africa and its influence on the social mobility of migrants.

The third research objective will be guided by the following questions:

i. Do South African cities have strategies in their development plans aimed place to attract and retain skilled labour?
ii. How do the city-level strategies for attracting and retaining skilled labour differ across the cities?
iii. What lessons can be learned from the development plans in terms of strategies to attract and retain skilled labour?

The primary focus of Research Objective (III) is to bridge the conceptual frameworks of skills, social mobility and economic growth with the policy landscape of South African cities. This objective involves analysing whether the urban development plans align with a pro-skills agenda, thereby fostering economic growth and enhancing the prosperity of city residents. By examining the coherence between policy frameworks and the promotion of skills within urban planning, this research aims to assess the potential impact on economic development and the well-being of city dwellers.

The third objective is equally critical as it has the potential to uncover policy gaps and facilitate the formulation of recommendations for policy interventions aimed at enhancing the attraction and retention of highly skilled labour in South African cities.

1.4. Assumptions & expectations of the study

The following hypotheses formulations for the study are guided by the literature on internal migration of skilled labour, which will be discussed in this thesis. Objective one, focused on analysing the patterns of intercity migration of skilled labour, will be guided by the following hypotheses:

- The scale of intercity migration of skilled labour is likely to be higher than that for the rest of the labour force due to having more resources and employment options.
- Cities with a higher concentration of skilled labour are more likely to attract and retain additional skilled labour through agglomeration effects.
- The migration of skilled labour is influenced by the availability of social amenities and quality of life in the destination cities.

Objective two, aimed at evaluating the impact of intercity migration on social mobility skilled labour, will be guided by the following hypotheses:

- Skilled labour migration leads to an increase in employment opportunities and wages for the migrants in the destination cities and thus overall incomes.
- The net effect of intercity migration on employment opportunities, wages and incomes of skilled labour will vary depending on the type of destination cities of the migrants.
- Skilled migrants are likely to benefit from more positive gains on income and employment, compared to non-migrants.

Objective three, focused on reviewing current strategies in urban centres to attract and retain skilled labour, will be supported by the following hypotheses:

- South African cities have put in place some strategies to attract and retain skilled labour in recognition of the knowledge economy and war for talent.
- Cities are using a combination of strategies that address attracting firms and labour; and improving amenity offers.
- Cities that are performing better economically have clearer strategies in place to attract and retain skilled labour.

1.5. Methodological approach & data

To assess the movements of skilled labour between cities in South Africa, the study utilizes transition analyses. The Community Survey 2016 is an ideal data source for this objective due to its relative recency, comprehensive coverage of the country's population and detailed information on individual characteristics and migration patterns. The transition matrices will provide data on net migration of skilled labour for cities. The matrices will also show the cities that serve as significant sources and destinations for skilled labour.

To evaluate the impact of intercity migration on employment, income and wages of skilled labour, the study will utilize the National Income Dynamics Study (NIDS) data for 2008 and 2017. The study will employ a multifaceted approach, encompassing descriptive analysis and moving on towards more sophisticated econometric modelling. The objective focuses on examining the outcomes of intercity migration, with household income, employment status and wages as the primary dependent variables. The regression models will encompass Ordinary Least Squares (OLS), fixed effects (FE) and difference-in-difference (DiD) methods.

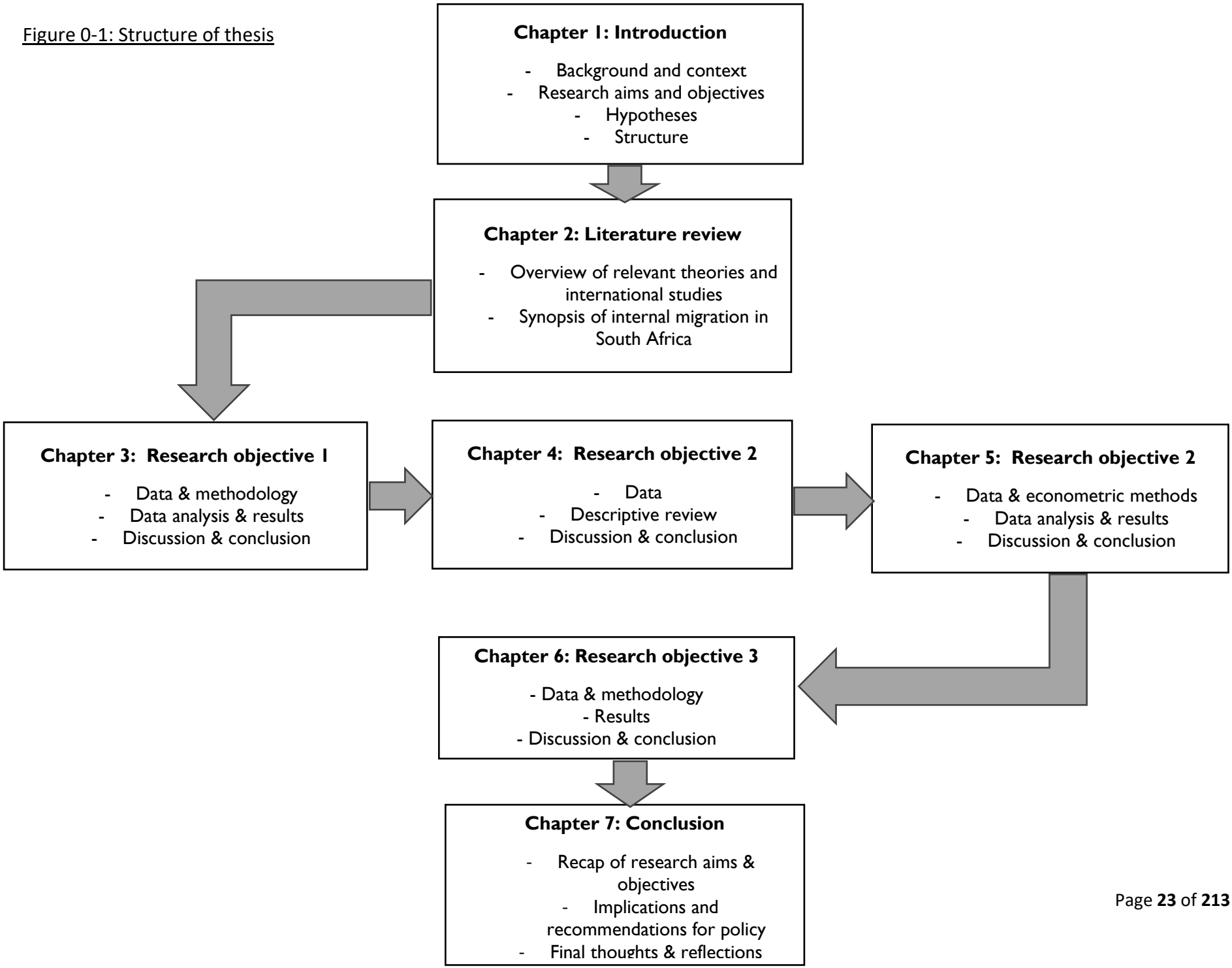
Lastly, to assess the strategies in cities put in place to attract and retain skilled labour, the methodology will involve a content and thematic analysis of the Integrated Development plans (IDPs) of the eight metropolitan municipalities of South Africa: Buffalo City, Cape Town, eThekwini, Ekurhuleni, Johannesburg, Mangaung, Nelson Mandela Bay and Tshwane. The IDPs are the central strategies of cities that communicate to residents, businesses and investors the cities long term visions and how the cities plan to achieve them. The IDPs will be reviewed to identify whether cities recognise the importance of highly skilled labour in economic growth, what strategies and policies are put in place to attract and retain this group in the cities under study, as well as identify any potential areas for improvement.

1.6. Structure of thesis

The thesis is structured as outlined in Figure 1 below. Chapter 2 introduces the theoretical frameworks employed to address the previously mentioned research objectives. Subsequently, Chapter 3 delves into the first objective, while Chapters 4 and 5 are dedicated to the second objective. Chapter 6 centres on the third objective. Each of these distinct chapters offers insights into the data, methodology, results and discussions relevant to their

respective research objectives. Chapter 7 furnishes a comprehensive summary of the research and serves as the concluding chapter of the thesis.

Figure 0-1: Structure of thesis



CHAPTER 2: LITERATURE REVIEW

Introduction

The migration of highly skilled and talented labour between cities has become an increasingly prominent phenomenon, especially in developed countries. This trend can be attributed to a variety of economic, social and even natural (climate-related) factors. As a result, researchers and to some extent, policymakers, have displayed growing interest in understanding the causes and consequences of this movement for both the cities of origin and destination as well as for the highly skilled labour which undertakes this move. Furthermore, the development of strategies to attract highly skilled labour to urban centres has become imperative for cities seeking to retain and ideally enhance their standing in the urban hierarchy.

The primary aim of this literature review is to establish a theoretical framework for examining the intercity migration of highly skilled labour. Furthermore, the chapter reviews the past local and international empirical studies that relate to the core theories discussed. The chapter then conducts a global assessment of strategies employed in urban centres to both attract and retain highly skilled and talented labour. The chapter proceeds by analysing rural-to-urban migration in South Africa. This will provide an understanding of the existing literature on internal migration in South Africa and how the current thesis aims to address knowledge gaps in this area.

2.1. Theories and literature explaining the motives of intercity migration of highly skilled labour

New Neoclassical Urban Economics (NNUE)

The NNUE theory has been employed to comprehend how amenities, which are broadly defined, influence the location choices of highly educated labour. The NNUE theory centres on the behaviours of firms in selecting locations; and of individuals and households in choosing where to live. In this framework, both firms and individuals are viewed as striving to

maximize their utilities. Firms prioritize productivity enhancement, whereas individuals aim to fulfil their preferences for income, paid amenities and non-monetized amenities (Storper, 2011).

The NNUE perspective maintains that individuals and households prioritize amenities when making locational decisions. These amenities include climate and "quality of life," which both households and individuals seek to maximize through mobility (Storper, 2013). Glaeser and Saiz (2003) contend that successful cities will be those that offer amenities that are attractive to high human capital residents, such as safe streets and good schools.
Additionally, Henderson (1986) suggests that the demand for city amenities may be higher from more educated individuals.

According to research by Bruckner et al. (1999), the marginal valuation of amenities increases with income. Assuming that education increases earning potential, this also implies that the valuation of city amenities may be positively associated with the level of education or skill. High-income or more educated individuals tend to consume a disproportionately larger share of consumer amenities than their low-income and less-educated counterparts (Glaeser et al., 2001; Hunt & Muller, 2004).

Florida's (2003) study of the "creative class" in the USA suggests that highly mobile creative workers decide where to live based on the cultural amenities and quality of life available in a location. In this perspective, whereas people previously relocated for job opportunities, in the post-industrial economy, jobs follow these mobile creative workers who choose where to live. For instance, the NNUE theory posits that individuals and households are inclined to relocate to areas like the San Francisco Bay Area, which host prominent technological companies. This choice is driven by a strong preference for interacting with fellow highly skilled workers and a high appreciation for the various amenities offered in those regions. Consequently, firms tend to cluster in such locations to tap into this pool of skilled labour and capitalize on their enhanced productivity (Storper, 2011).

Empirical literature on determinants of intercity migration of high skilled labour - NNUE

The literature on amenities provides empirical evidence for migration based on amenity differences. In his 2002 study, Florida investigated the location choices of knowledge workers in selected states in the USA. He defined knowledge workers as young professionals in technology-based industries and measured amenities using a combination of arts, culture, outdoor recreational activities, nightlife, bars and restaurants.

Florida (2002) found that quality-of-place was critical in attracting knowledge workers who could choose cities and regions that were attractive places to live and work. He also found that leading high-technology regions rated highly in terms of quality-of-place, with high levels of amenities and environmental quality. A combination of high levels of amenities and environmental quality was found to be necessary for successful technology-based regions with a large pool of knowledge workers.

While Florida's study is one of the pioneering studies in the high skills and amenity discourse, it has some limitations worth noting. Florida's study only focused on workers in technology-based industries and did not include other knowledge workers in industries such as financial services and pharmaceuticals. Additionally, the study focused on the occupations of workers and did not consider education level.

Cullen and Levitt (1999) analysed data from 127 cities in the USA to investigate the relationship between crime and urban flight. The study found that while crime led to a decline in city population due to out-migration, households with higher levels of education were more sensitive to changes in crime rates when making migration decisions. The study highlights the significance of non-consumption amenities, such as safety, in influencing the location choices of highly skilled labour.

Arora et al. (2000) utilized the 1990 United States Census 5% Public Use Microdata Sample (PUMS) to investigate how the location patterns and geographic distribution of firms in 67 metropolitan areas are influenced by their need for human capital with varying levels of knowledge or skills, ranging from less than a high school education to graduate degrees. The authors used indices to measure culture (non-profit art museums and galleries, public television stations, performances of fine arts and musical groups, etc.), recreational

opportunities (restaurants, public golf courses, national parks, etc.) and climate (number of very hot or cold days), as well as other amenity measures such as housing prices and diversity or the gay index. The study argued that the location preferences of workers are a significant factor in the location of firms, particularly those with a higher proportion of knowledge workers.

The authors found a clear correlation between areas with higher endowments of human capital and higher than average quality-of-place. Arora et al. (2000) suggest that the impact of quality of place/amenities goes beyond determining the geographic distribution of human capital, as it also influences the distribution of industries.

Kodzrycki (2001) analysed the factors affecting location decisions of recent graduates in the United States, using the National Longitudinal Survey of Youth from 1979 to 1996. The study found that graduates primarily moved to states with better economies or more attractive characteristics, such as higher employment growth, lower unemployment, higher pay, lower housing costs, or better amenities. This further highlights the role of amenities in the location decisions of highly educated individuals.

Hansen et al (2003) conducted a study in the USA to investigate the high out-migration of college graduates from western Pennsylvania. The study surveyed recent college graduates from three Pittsburgh-area universities about their career and location decisions. The study found that amenities such as cultural attractions, nightlife, outdoor recreation, ethnic and social diversity, affordable housing, transportation, growing opportunities in science and technology and climate, played an important role in the decision to stay in the Pittsburgh area.

Mellander and Florida (2006) conducted a study of the Swedish labour market to investigate the factors that influence the distribution of human capital and the creative class. They found that while the presence of universities was critical for a talent-driven economy, factors such as service delivery and tolerance also played significant roles in attracting talent to certain regions. The study revealed that tolerance was related to attracting both conventional human capital and creative occupations such as arts, design and entertainment. Meanwhile, service

diversity was related to the distribution of conventional human capital, the creative class and creative professionals. These factors were found to be complementary rather than competitive in attracting different types of talent to different regions.

Wang & Wu (2011) investigated the impact of natural amenities on urban development in US metropolitan areas, using census and climate data. The study found that locations with higher levels of natural amenities tended to attract and accumulate more human capital, in the form of more productive workers.

Zhang et al. (2020) studied the geography of innovation in Chinese cities and the role of amenities. The research found that air quality, sunshine, public transportation and educational resources were significant factors contributing to city-level differences in innovation. Amenities were associated with local innovation systems through two pathways: attracting more skilled workers and improving the productivity of local workers. However, the study did not provide a systematic causal analysis of whether amenities were the primary factor in attracting talent to cities.

Limitations of Neoclassical Urban Economics on framing migration of highly skilled labour

The NNUE theory suggests that amenities are the main determinant of the migration of highly skilled labour between cities. However, this theory has been challenged both theoretically and empirically. The focus on amenities implies that high-skilled labour does not prioritize job availability or wage differentials. This is open to debate. The theory also assumes that firms are fluid and can easily relocate based on the supply of labour, but other factors such as the cost of capital, trade costs and scale economics also play a role in firms' location decisions (Storper, 2011).

Traditional theories of economic development suggest that amenities result from the interaction between workers and firms, not the other way around. For example, when demand for labour increases, wages and wealth also grow, leading to higher demand for amenities such as entertainment and cultural experiences. Furthermore, a limitation of the NNUE theory is the time lag between shifts in transportation, land use and lifestyle options of

highly skilled labour, making it difficult to predict changes and obscure the link between behaviours and preferences (Storper, 2013).

To clarify, some empirical studies have indicated that economic factors may be more important than amenities in explaining the migration of labour. For instance, Glaeser & Saiz (2003) studied "skilled cities" in the United States between 1970 and 1990 and found that these cities grew due to their increasing economic productivity, rather than an increase in amenity levels. Arntz et al (2021) found similar results in Germany, where high-skilled individuals were primarily motivated by interregional income differentials. While amenities weakly contributed to spatial sorting processes, the most effective way to attract human capital was through higher wage levels. Put simply, criticisms of the above-mentioned theories argue that skills and amenities follow jobs, rather than the other way round.

New Economic Geography (NEG) theory

The NEG theory explains the emergence of large agglomerations based on increasing returns to scale and transportation costs. It emphasizes the linkages between firms, suppliers and consumers (Fujita & Thisse, 2009). The theory has made significant advances in understanding spatial concentration and the spreading out of industries and how the concentration of jobs, people and firms arises (Storper, 2013). Unlike the NNUE amenities theory, the NEG theory is primarily concerned with production, the resulting demand for labour and its impact on the locational decisions of highly skilled labour. Agglomeration economies denote the advantages that businesses and employees reap due to their nearness to each other (World bank, 2009).

One benefit of agglomeration is the ability to share infrastructure like transport and telecommunications, which often have fixed costs regardless of the number of users. Proximity to customers and suppliers also reduces transportation costs (Botler & Robey, 2020). When transportation costs are a factor, attractive locations for production are those close to markets and suppliers. This concentration of production attracts mobile factors of production, such as labour which has better job and consumption opportunities in concentrated production areas. This creates a positive spiral where the concentration of the labour force leads to more demand for consumption goods in that location, making the region

more attractive to producers (Moretti, 2010). Additionally, as more firms move to these cities, they take advantage of the increased consumer base (Storper, 2013).

To clarify, the location of labour and firms is not primarily determined by amenities, but rather by the benefits of agglomeration. Sharing infrastructure and locating closer to customers reduces transportation costs for firms. Employees relocate to minimize the distance to thriving markets; despite agglomeration pushing up labour costs, companies refrain from relocating to regions with lower wages. This is because such a move would result in losing the advantages of being close to suppliers and consumers. (World Bank, 2009). Rather than people moving to cities with better amenities, the movement of industries and job opportunities causes people to move. The NEG theory explains how clusters of firms in the same industry or closely linked industries locate together and how labour moves to follow jobs in these clusters.

Agglomeration economies refer to the benefits that come from the concentration of economic activity in a particular geographic area. These benefits often translate into better job opportunities for people with higher levels of education. This is particularly true in urbanized areas, such as metropolitan areas, where there is a larger pool of highly qualified labour available for firms to hire (Botler & Robey, 2020). The NEG theory explains how highly skilled individuals tend to cluster together due to their preference for interaction (Glaeser, 2007). This clustering of high-skilled people in a particular area can create a positive feedback loop, where the presence of highly skilled individuals attracts additional highly skilled people to the area. This, in turn, leads to increased productivity and collaboration among skilled workers, who can learn from each other more quickly and utilize specialized technologies that firms have invested in (Botler & Robey, 2020).

Agglomeration effects happen when certain regions have a lot of people with advanced skills, which can lead to higher rewards in those areas compared to others. Examples of places with agglomeration effects include Silicon Valley, Hollywood and Wall Street, as well as top university departments, research centres and professional sports teams. These places attract talented individuals and can create a self-perpetuating cycle of success through high skilled

labour attraction and subsequent networked ecologies of innovation and production (Crescenzi et al., 2019).

The NEG theory can provide insights into the intercity migration of highly skilled labour in South Africa by emphasizing the importance of agglomeration economies. South Africa's major cities like Cape Town and Johannesburg have higher concentration of skilled labour and strong closely linked industries than smaller cities. These cities can further attract skilled labour from other less skilled and less economically performing regions.

Empirical literature on determinants of intercity migration of high skilled labour - NEG

In 2007, Pons et al. conducted a study to see if the availability of markets had an impact on the migration choices of Spanish internal migrants in the early 1900s. They found that workers' decisions on where to live were directly influenced by the market potential of the regions they were considering. Spanish workers tended to be drawn to industrial areas, which reinforced the clustering of industry in those regions (Pons et al., 2007).

In 2009, Faggian & McCann studied the migration of human capital in Great Britain, focusing on the first employment destinations of university graduates. They found that graduates were highly mobile across regions and that regions with high economic activity tended to attract more graduates (Faggin & McCann, 2009). This study suggests that unlike the focus on amenities for migration decisions, skilled people are drawn to areas showing growth and likely to have high labour demand.

Fu and Gabriel (2012) conducted a study on labour migration in China, examining the impact of regional human capital agglomeration. They found that high-skill migrants were more likely to be attracted to regions with high concentrations of human capital, while low-skill migrants showed little interest in co-locating with high-skill workers. This study adds to the discussion regarding the importance of interaction and physical proximity among highly skilled individuals.

Another study conducted by Yu et al. (2023) lends further support to the notion of the significance attributed to physical proximity among highly skilled individuals. Yu et al. (2022) investigated the impact of regional human capital agglomeration on migrants' destination choices in China between 2011 and 2016. They discovered that migrants tended to prefer destinations with high concentrations of human capital. However, the impact of human capital agglomeration varied among skill-based migrant groups. Low-skilled migrants were less influenced by destination human capital agglomeration than their high-skilled counterparts.

Limitations of New Urban Geography

The NEG theory provides valuable insights into the decision-making process of highly skilled individuals when choosing a location as it suggests that these individuals are attracted to locations with high levels of human capital and agglomeration economies. However, it fails to account for their preferences for amenities like clean air. It does not consider the fact that some people may prefer living far away from city centres to avoid pollution caused by the concentration of industries (Schmutzler, 1999). Furthermore, the NEG theory cannot explain why individuals and businesses would opt for locations with lower wages and limited access to consumer goods or unpriced amenities (Storper, 2011).

The NNUE and NEG theories: commonalities and criticisms

The NNUE and NEG theories present differing perspectives on the migration of highly skilled labour, but they share common ground in several ways. Both theories recognize that the reasons for migration among highly skilled individuals are distinct from those of low-skilled ones. In addition, they both emphasize the importance of social interactions among highly skilled individuals in shaping migration patterns.

The NNUE theory highlights the role of "knowledge networks" and the exchange of information among highly skilled individuals in shaping migration patterns. Similarly, the NEG theory emphasizes the benefits of clustering of highly skilled individuals in driving innovation and economic growth.

Although the two theories provide compelling explanations for why highly skilled individuals migrate from one city to another, Visagie and Turok (2022) have criticized them for being overly deterministic in their predictions about the changing spatial distribution of production. The authors argue that specific geographical outcomes, whether convergent or divergent, are not necessarily inevitable. This is because there are numerous intervening variables that can disrupt the high-level causal processes proposed by these two perspectives.

The migration patterns of highly skilled individuals can also be influenced by their life course, including their age and stage of career development. As people progress through different stages of their lives and careers, their preferences for amenities and lifestyle factors may change, leading to shifts in their migration patterns. There is a growing body of literature that supports the idea that some skilled migrants are primarily motivated by employment opportunities and wages rather than amenities and lifestyle factors and this differs with the age of migrants (Gottlieb, 2003; Clark & Huang, 2004; Nathan et al., 2005; Whistler et al., 2008). The cities that tend to attract young and highly qualified workers are those with strong and thriving labour markets, while those that are losing highly skilled labour tend to have a low demand for labour (Champion and Coombes, 2007).

In other words, while the two theories offer valuable insights into the motivations of highly skilled labour, they may not fully account for the complexity of real-world situations. There are various factors that can impact the migration patterns of highly skilled individuals, such as changing economic conditions, government policies, age and social and cultural factors.

2.2. Non-mainstream theories on highly skilled labour migration

Localization and agglomeration economies

While the NEG and the NNUE theories are widely recognized as the main approaches to explain intercity migration of the highly skilled, there are other theories that provide alternative perspectives.

The theory of localization economies posits that firms and industries tend to cluster in specific geographic locations to take advantage of the benefits that come from being in close proximity to other firms and industries in the same sector (Baldwin et al., 2008). The development of specialized labour markets and a network of suppliers and customers can lead to increased productivity and lower costs, which in turn attracts more firms to the area. Alfred Marshall, a British economist, is often associated with the founding of this theory in his book "Principles of Economics" (1890).

In the context of intercity migration of high-skilled labour in South Africa, the theory of localization economies may provide insight into the dynamics at play. For example, if a particular industry is concentrated in a specific region, workers with the necessary skills may be drawn to that area in search of better employment opportunities. In turn, the concentration of skilled labour in that region may attract additional firms and industries, which could create a virtuous cycle of economic growth and development.

Research conducted in other countries has shown that the theory of localization economies can help to explain migration patterns among high-skilled workers. For example, a study by Moretti (2013) found that high-skilled workers tend to cluster in specific cities in the United States, which has led to the development of specialized labour markets and a concentration of innovation and entrepreneurship in those areas. Specialisation fosters learning, higher levels of expertise and stronger capabilities.

The NEG theory of agglomeration economies and the theory of localization economies are two related but distinct concepts that have been developed by economists to explain the spatial distribution of economic activity. Although they share similarities, they are not exactly the same. Both theories emphasize the benefits of clustering for firms and industries. The theory of localization economies suggests that firms and industries tend to cluster in specific geographic locations to take advantage of the benefits that come from being in close proximity to other firms and industries in the same sector. This can lead to the development of specialized labour markets and a network of suppliers and customers, which in turn can increase productivity and lower costs. The NEG theory of agglomeration economies similarly emphasizes the benefits of agglomeration, but also takes into account the role of

transportation costs and trade in shaping the spatial distribution of economic activity (Commendatore et al., 2015).

The key difference between the two theories lies in the level of analysis. The theory of localization economies focuses on the internal benefits of clustering within a region, whereas the NEG theory of agglomeration economies places greater emphasis on the external benefits of clustering that arise from trade and transportation linkages. In other words, the theory of localization economies is more concerned with the local economic benefits of agglomeration, while the NEG theory of agglomeration economies takes a broader, more global perspective. Localisation economies are concerned with the benefits to specific sectors, whereas agglomeration economies are cross-cutting and apply to multiple sectors within a city or region.

Despite these differences, both theories can help explain the spatial distribution of economic activity and have been used to analyse patterns of migration among high-skilled labour. Theories explaining the migration of highly skilled workers and their impact on employment and wages.

The human capital theory

The human capital theory is a widely accepted explanation for why people migrate from one place to another. This theory suggests that individuals view migration as an investment in themselves, weighing the expected future returns against the expected costs of migration before making a decision (Sjaastad, 1962). The individual's objective function reflects a regional earnings differential and the direct costs attendant to moving. In cases where the discounted earnings gain exceeds moving costs, the individual responds by migrating to the more attractive region; otherwise no locational change occurs (Nakosteeen and Zimmer, 1980).

According to the theory, human capital is the main driver of migration decisions. Through migration, people can gain access to opportunities beyond their current activity space, such as better-paying jobs, higher-quality education and opportunities for personal and

professional development. Hicks (1932) argument was that differences in net economic advantages, chiefly wages are the main cause of migration.

Harris and Todaro developed a model of rural-urban migration, which is often referred to as the "Harris-Todaro Model." In this model, they argue that migration is driven not only by differences in wage rates but also by differences in expected income and unemployment rates between rural and urban areas (Todaro, 1969).

According to the Harris-Todaro Model, individuals living in rural areas may migrate to urban areas in search of higher wages, even if the expected income and unemployment rates are not necessarily better than those in rural areas (Todaro, 1969). This is because rural areas may have limited opportunities for income generation and social mobility, which can make the uncertain prospects of urban employment more attractive.

The decision to migrate is not taken lightly, as it involves significant costs and risks, including financial costs associated with relocation and the potential loss of social support networks. However, if the expected future returns are higher than the expected costs of migration, individuals or families may choose to migrate (Lauby & Stark, 1988). The Harris-Todaro model was originally developed to explain rural-to-urban migration in developing countries, but its principles can also be applied to the intercity migration of highly skilled labour in a developing country context like South Africa.

In the case of intercity migration of highly skilled labour, the model suggests that wage differentials and employment opportunities are key factors driving migration. Highly skilled individuals tend to have greater mobility and flexibility in their career choices, allowing them to seek out the most attractive job offers in larger cities. In addition, they may be drawn to larger cities because of the greater availability of specialized services, research opportunities and a more diverse range of cultural and social experiences.

However, as with rural-urban migration and intercity migration in general, the Harris-Todaro model suggests that the impact of migration on wages can be complex. If the rate of migration of highly skilled workers exceeds the rate of job creation in the destination city, then the

increase in the supply of labour can lead to a decline in wages over time. Alternatively, if the rate of job creation outpaces the rate of migration, then wages may rise due to increased competition for highly skilled workers (Todaro, 1980).
Overall, the Harris-Todaro model provides a useful framework for understanding the drivers of intercity migration of highly skilled labour and its principles can be applied to various settings to explain migration patterns and their impacts on labour markets.

Neoclassical economic theory

While Human Capital Theory primarily emphasizes the role of individuals in seeking out areas where their specialized skills are in high demand, Neoclassical Economic Theory focuses on the influence of market forces. In Human Capital Theory, differences in expected "returns on investments" in individuals' skills, knowledge and abilities partly explain varying inter-individual propensities to migrate. This theoretical framework provides insight into why individuals with higher education often exhibit a higher migration propensity, as they anticipate better wage and employment prospects (de Haas, 2010).

Detractors of Human Capital Theory argue that disparities in wage distribution or employment opportunities cannot solely be attributed to variations in individuals' human capital. Instead, they contend that these differences stem from labour market segmentation driven by institutional and social factors. This perspective offers more comprehensive explanations for inequalities within the labour market by considering underlying structural and institutional dynamics. (Seo, 2021).

Neo-classical economic theory attributes migration to variations in labour supply and demand across geographical areas. Differentials in wages motivate individuals to relocate from regions with low wages and labour surpluses to those with high wages and labour scarcities (Ravenstein, 1885; De Haas, 2008). While this theory can help explain migration of labour between cities and their impacts on wages, this migration model neglects to consider additional factors, such as historical connections, family and community interactions, as well as the influence of intermediaries who facilitate migration by organizing transportation (O' Reilly. 2023).

Dual labour market theory

The Dual Labour Market theory, developed by sociologists including William J. Wilson and E. Wight Bakke, posits that there are two distinct segments in the labour market: the primary market, which consists of well-paying, stable jobs with opportunities for advancement and the secondary market, which is characterized by low-paying, temporary and unstable jobs (Zhou & Bankston, 2016). Migration can be driven by individuals aspiring to transition from the secondary to the primary labour market, where they can access better job prospects.

When comparing the human capital theory and the dual labour market theory, the difference is that human capital theory focuses on the supply side of labour markets (mental ability, education, job training skill formation and experience, while the dual labour market theory focuses on the demand side of labour markets – industry size, technology, profits and how they affect labour segmentation (Sharda, 1998).

Local labour market theory

Local labour market theory, on the other hand, focuses on the importance of regional factors in determining employment opportunities and wages. The theory suggests that labour market outcomes are shaped not only by individual characteristics such as education and experience but also by local factors such as the availability of jobs, the quality of education and training and the level of economic development. Thus, intercity migration can have varying effects on labour market outcomes depending on the characteristics of the destination region (Topel, 1986).

While Human Capital Theory, Neoclassical Theory, Dual Labor Market Theory and Local Labor Market Theory offer distinct perspectives on labour migration, they share several similarities such as the focus on economic factors in influencing migration decisions, rational decision-making of individuals and the emphasis on individual agency in making migration decisions.

In evaluating the impact of intercity migration on employment opportunities and salaries of highly skilled labour, the human capital theory, dual labour market theory and local labour market theory provide useful frameworks for understanding the underlying mechanisms at play.

Empirical literature on intercity migration's impact on employment, wages and income

The early literature suggests that migration, particularly among highly skilled individuals, is associated with positive wage returns (Bartel, 1979; Narkotseen and Zimmer, 1980; Hunt & Kau,1985; Borjas et al., 1992; Yankow, 1999; Yankow, 2003).

More recent literature has also looked at the impacts of intercity migration on wages. In their study, Fehn and Frings (2018) investigated the returns to regional mobility by analysing a sample of job-to-job transitions in Germany. By using linked employer-employee data, they estimated a wage decomposition that incorporated individual, firm and match fixed effects. Their preliminary findings indicated that regionally mobile individuals experienced a 28% increase in wage levels, while those making a job-to-job transition in their local labour market region experienced a 24% increase. Furthermore, the researchers found that workers generally moved to higher-paying firms, although this effect was the smallest for regionally mobile workers. Additionally, job-to-job transitions resulted in relatively better matches for workers, with regionally mobile workers benefitting the most from the increase in match quality.

In their study on intercity migration in China, Liu et al. (2018) observed that during the periods under examination and when comparing migrants to non-migrants, wages experienced a greater increase for migrants after migration compared to their non-migrant counterparts. Additionally, the research revealed that migration into the three largest cities resulted in the most substantial wage premium, while migrating to cities within the same province of the city of origin showed the smallest increase in wages.

Lora (2020) utilized panel data for Colombia and a difference-in-differences treatment effects methodology to estimate changes in labour outcomes following intercity migration. The study compared workers in similar circumstances who moved to a new city (the treatment group)

with those who stayed in the same city (the control group). Results showed that migration was significantly associated with higher annual real wage growth for those who moved. The largest wage gains were observed among low-wage workers, those employed by small firms and those who moved from medium or small cities.

However, it is worth noting that this study only focused on a panel of formal workers and excluded informal workers, which may limit the generalizability of the findings. This exclusion may limit the generalizability of the findings to the broader population, including those who are more likely to be employed in the informal sector. Additionally, the exclusion of informal workers may underestimate the wage gains associated with migration since informal workers often experience more significant wage gains than formal workers.

Zhao (2023) conducted a study using three waves of data from a nationally representative survey, the China College Student Survey (2010, 2013 and 2015), to investigate whether Beijing, Shanghai, Guangzhou and Shenzhen have become "upward social class escalator regions" for young adults in China. The findings suggest that migrating to these cities is positively associated with higher earnings attainment and the economic benefit from relocation is greater than that experienced by migrants in other regions of China.

Behind these empirical findings on highly skilled intercity migration and mostly positive employment outcomes is the aforementioned peculiar advantages that they possess including higher demand for them in cities experiencing growth leading to increase in their probability to get employment and better salary offer. Additionally, highly skilled workers often have stronger professional networks, which can aid in their job search and enhance their job prospects.

2.3. The global war for talent: A review of urban skills policy frameworks and strategies to attract and retain highly skilled labour

Theoretical frameworks for evaluating city policies aimed at attracting and retaining highly skilled labour

Spatially agnostic policies are those deemed universal in their scope, such as those pertaining to trade, land use regulation, or labour, as noted by Castells-Quintana and Royuela (2018). Advocates of such approaches argue that intervention, irrespective of contextual factors, represents the optimal strategy for resolving what they perceive as the dilemma between prioritizing development in specific places versus focusing on the broader populace. These policies are posited to ultimately contribute to a more equitable distribution of wealth across geographical regions over time (OECD, 2011).

In contrast, place-based policies have traditionally been reactive measures aimed at addressing disparities in income and labour markets. The conventional strategy has involved targeting underperforming regions, typically identified by their lagging economic output, with sector-specific interventions and funding for training programs aimed at fostering convergence and economic growth (Green, 2023). Proactive policies, on the other hand, acknowledge the multifaceted challenges facing individuals, businesses and regions. This approach entails recognizing the diverse regional development trajectories encountered by different functional economic zones and advocating for integrated place-based development strategies that span various policy domains, while involving participation from public, private and civil society entities. This approach blends both top-down and bottom-up approaches to development (Green, 2023).

Given that regions exhibit distinct economic development paths influenced by their historical evolution, unique assets and characteristics, it follows that different place-based policies may be applicable. For instance, rural areas with aging populations, labour shortages, dispersed settlements and inadequate transport and digital infrastructure may require different place-based policies compared to major metropolitan areas. Similarly, some metropolitan areas may contend with issues of congestion, while others struggle with low employment and productivity levels. Additionally, regions may boast varying sectoral strengths, necessitating tailored business development policies. Despite these variations, common challenges may still persist across local areas and neighbourhoods (Green, 2023).

Place-based frameworks focus on the importance of local context and place-specific factors in shaping economic outcomes. These frameworks emphasize the importance of understanding the unique assets and challenges of a specific geography, in this case, urban

centres and developing strategies that are tailored to local conditions. Space and location really matter, both to the development possibilities of particular territories and to the life chances of households (Todes & Turok, 2018). Secondly, the place-based approaches also addresses the matter of knowledge in policy interventions, specifically, who possesses the appropriate knowledge to take action in a particular location and at what time (Barca et al., 2012).

Examples of place-based frameworks that have been applied to urban centres include the asset-based development framework, which emphasizes the importance of building on local strengths and assets (Friedman, 2007) and the social capital framework, which highlights the role of social networks and relationships in shaping economic outcomes (Mpanje et al., 2018).

The utilization of a place-based approach is highly advantageous for analysing the strategies employed by South African cities to attract and retain high-skilled labour. As alluded to in the introductory chapter of the thesis, each city within South Africa possesses unique strengths and characteristics in terms of labour composition, sector performance and economic development trajectories. For instance, certain cities may excel in specific industries or sectors, while others may have distinct labour market dynamics driven by factors such as demographic trends, infrastructure development, or historical evolution. By adopting a place-based approach, policymakers and analysts can tailor their analyses and interventions to account for these localized variations and capitalize on the specific strengths and opportunities present in each city.

Review of global city strategies to attract and retain talent

The idea of a global competition for talent and the rise of a new global meritocracy within corporations (Chambers et al., 1998) has been viewed as a key factor in the success of the world's leading companies (Weiss and MacKay, 2009). In order to attract and retain talented individuals, organizations must establish innovative recruitment practices, promote individuality within the company culture and provide ongoing opportunities for professional development (Michaels et al., 2001).

This war for talent has also extended beyond national borders, leading to brain drain for less developed nations and brain gain for developed nations (Hercog2019). For nation-states, competing in this war for talent involves significant changes in immigration, education, economic and social policies in order to attract and retain talented individuals. Many countries now skew their immigration controls to favour people with scarce skills and/or substantial financial resources. Such efforts reinforce the hegemonic development model of the competition state (Ng, 2011).

The competition for talent is not limited to corporations and national borders, but also extends to cities within national borders. In the present knowledge-based economy, the primary production resource that firms, regions, nations and particularly cities compete for is talent, which is not constant but mobile. Therefore, in the 21st century, attracting, nurturing and retaining knowledge workers has become an essential ingredient of urban competitiveness strategies (Audretsch et al., 2015).

Cities have become the primary social and economic unit for the knowledge economy due to their crucial role in organizing, utilizing, drawing and retaining talent (Audretsch et al., 2015). Some cities are developing and implementing policies to attract foreign talent, while others are focusing on attracting and retaining talent from within the country, specifically from one city to another. Although strategies aimed at attracting foreign talent have been well documented (Silvanto & Ryan, 2014; Brown et al., 2015; Reiner et al., 2017), those aimed at intra-national talent attraction and retention have received less attention.

This review outlines various strategies employed by different cities to attract and retain skilled and talented individuals, not from foreign countries, but from other regions within the same country. Such strategies have significant implications for local economic growth, innovation and competitiveness, making it critical to examine them more closely later on in the thesis, within the South African setting.

Topeka: Cash Incentives for Relocation

In the United States, Topeka, the capital city of Kansas, introduced the Choose Topeka program through the Greater Topeka Partnership. This program offers a cash incentive of up to $15,000 to highly skilled workers who relocate to Topeka and purchase a local home, or up to $10,000 if they rent the housing in the area (Hrenchir, 2022). The program's aim was to attract professionals to the Kansas state capital, which had been suffering from "brain drain" for several years (VioletPR, 2022). In its first year, Choose Topeka attracted 40 highly skilled workers and generated a $3.2 million regional economic impact. These workers moved from cities across the United States, including New York and San Francisco (VioletPR, 2022). This program demonstrates how cities can use incentives to attract and retain talented individuals, even in smaller cities that have previously struggled to compete for talent. Additionally, it highlights the potential for economic growth and development that can result from such initiatives.

Bilbao: Use of technology and personal contact to attract talent

Bizkaia Talent is a non-profit organization established in 2005 to attract, connect and retain highly skilled people in the areas of knowledge and innovation in the Basque Historical Territory of Bizkaia, Spain. To attract, bind and retain highly skilled individuals, Bizkaia Talent employs a mix of personal contact and advanced technology. Through its Relocations & Be Basque Dual Career Centre, the organization helps people move to the Basque Country, while its Be Basque Talent Meetings and Conferences facilitate personal contact with talent all over the world. The Basque Talent Map, Career Development Centre and Basque Talent Observatory are digital tools that reinforce this personal contact (CIO Bulletin, 2023).

The Basque Talent Map is a database of over 16,000 highly qualified professionals living in more than 100 countries who want to be connected to the Basque Country. The International Professional Networking Meetings connect these professionals with companies and recruiters in a very personal way, allowing them to meet with a lot of Basque companies that have shown interest in them. Bizkaia Talent also offers a free service for HR professionals in Basque organizations to reach a lot of professionals who have already shown interest in their country (CIO Bulletin, 2023).

The program is a real-world example of how a region can create initiatives to attract, connect and retain highly skilled individuals. It offers insights into how a non-profit organization can act as a facilitator to improve the environment for talent to thrive in a specific region.

The program's use of a digital platform to connect talent with Basque companies and its focus on personal contact is also noteworthy. This approach provides a unique combination of high-tech and high-touch strategies that could be useful in the design of similar programs elsewhere.

Cologne: Municipals & economic ambassadors

While national authorities issue residence and work permits, the municipal government can speed up the process. For instance, the city administration of Cologne in Germany has improved the functioning of the responsible institutions to process and issue these permits within four weeks. In some cases, municipal authorities have acted as guarantors to facilitate the issuance of necessary documents for migrants, particularly for highly skilled migrants in managerial positions. Cologne has focused on using "economic ambassadors," successful businesspeople from other countries who have positive impressions of the city and share their experiences with others while abroad. Utilizing economic ambassadors is considered more effective than advertising campaigns since they provide a personal perspective and are therefore more credible and persuasive. Additionally, this approach directly reaches the elites who are of most interest to the cities (Fobker et al.,2014).

Oulu: Curbing brain drain

Although municipal administrations cannot fully prevent the brain drain of graduates, they can work together with universities to align the education system with the job market demand of the city, potentially retaining some of the talent. For example, the city of Oulu in Finland attempted to train psychologists at a local university with the expectation that they would work in the municipal sector, but many of the graduates ended up leaving for other regions or finding jobs in the private sector. This highlights the importance of not only aligning

education with the job market demand, but also creating incentives and opportunities for graduates to stay in the city (Kvashnin, 2022).

Accra, Johannesburg, Lagos, Nairobi: role of private Sector

Across Africa, cities such as Accra, Johannesburg, Lagos and Nairobi have witnessed substantial investments, particularly in technology and tech hubs, facilitated through collaborations with private sector entities like Liquid Telecom, Standard Bank and MTN. These investments, coupled with the establishment of high-speed internet networks achieved by deploying fibre optic cables across these urban centres, have enticed major tech corporations such as Microsoft, Google, Visa and Amazon to establish centres in these cities (Norbrook et al., 2020). This, in turn, attracts talent from other urban areas, underscoring the crucial role of the private sector in creating opportunities for highly skilled workers through the establishment of companies and co-working spaces.

Accra, Ghana has implemented policies to improve its infrastructure and establish co-working spaces that are critical for the productivity and interaction of highly skilled workers. Several coding academies and training programs such as Impact Hub, iSpace and Workshed have been set up in the city. As a result, Accra has become a hub for talent from across Ghana, West Africa and around the world (Jackson, 2021). Recently, Twitter chose Accra as its African headquarters, where it will manage all of the platform’s activities for Africa and conducted a massive recruitment drive for specialists in product, design, engineering, marketing and communications (Beykpour & Adegbite, 2021). The private sector's role in attracting talent to cities by setting up companies is crucial and should not be overlooked in policy discussions about retaining highly skilled workers.

Having reviewed the above strategies, it would be empirically important to analyse what kind of strategies are in place in South African cities to attract and retain highly skilled labour, It is also important to note that the competence of municipal administrations in migration varies by country and is significantly inferior to the competence of national governments. They often operate with severe financial constraints, limited technical capabilities and without the right to initiate legislation (Kvashnin, 2022). Thus, their influence in attracting highly skilled

migrants can be limited. This could provide insight into how developing countries can create an environment that is conducive to innovation, entrepreneurship and economic growth and attract and retain highly skilled workers.

2.4. Rural-to-urban migration in South Africa

As countries develop, their populations tend to shift away from agriculture and towards manufacturing and services. This transition usually involves urbanization and the expansion of urban job markets, as noted by Kuznets & Murphy (1966) and McMillan & Headey (2014). Rural-to-urban migration of labour is a significant aspect of South Africa's ongoing structural transformation. It has been a consistent trend in the economic history of the country since the late 19th century, which followed the discovery of gold and diamonds. This trend emerged due to the need to exploit labour and natural resources and it has played a crucial role in shaping the country's patterns of urbanization and its development path, as highlighted by Wilson (2001) and Turok (2012).

South Africa has a higher level of urbanization (68%) as compared to the Sub-Saharan average (40%) (UNPD, 2018). Rapid urbanization in recent decades has been attributed to the lifting of Apartheid laws which restricted the Black South African population to move to urban areas and forced them to live in homelands (Bakker et al., 2019). These laws caused spatial and social segregation and a mismatch between jobs and homes (Turok, 2012) resulting in most of the Black population living in predominantly rural areas.

Historically, rural to urban migration in South Africa was driven by the search for work opportunities in urban centres, particularly in the mining sectors, as noted by Bryceson & MacKinnon (2012). During the apartheid era, this trend continued due to the government's policy of "separate development," which resulted in neglect and underdevelopment of rural areas, compelling many people to move to urban centres in search of employment opportunities. Economic opportunities remain the primary driver of urbanization in South Africa, with cities consistently surpassing the rest of the country in terms of economic and employment growth, as highlighted by Turok (2012).

Industrialization, the faster growth of sectors outside agriculture and mining in the past decades has also caused South Africa's labour to move from less developed rural areas to support the growing economies in urban areas (Arndt et al, 2019). This movement of people towards urban areas is helping to decrease the spatial mismatch and promote urbanization by enhancing the development of skills in urban areas and fostering greater racial diversity. However, it has also had negative consequences, particularly for those left behind in rural areas.

Rural areas in South Africa are often characterized by high levels of poverty, underdevelopment and limited access to basic services such as healthcare, education and infrastructure (Hlalele, 2012). The migration of skilled labour from these areas to urban centres has exacerbated these problems, leading to a vicious cycle of underdevelopment and poverty. On the flip side, mass migration puts strain on urban housing and services and contributes to the deterioration of urban areas, leading to widespread dissatisfaction among the population living there (Shilpi et al., 2018).

The high levels of urbanization in South Africa have significant implications for analysing intercity migration of high skilled labour. With the high levels of urbanization in South Africa, it is expected that migration between urban areas will be more common than migration from rural to urban areas because the majority of the country's population now lives in urban areas.

2.5. Circular migration in South Africa

Circular migration, which refers to the temporary and repeated movement of people between different geographic locations (Kathleen, 2009), has been a common feature of the South African labour market before and after Apartheid (Posel & Marx, 2013). Circular migration in South Africa, as well as in other parts of the world, is typically linked to the movement of people from rural to urban areas, primarily for employment opportunities (Makiwane & Gumede, 2020). In the past, circular migration was linked to the Apartheid regime's system of regulating movement. This meant that black South Africans who were employed in mines and cities were not allowed to settle in these areas permanently. As a result, the workforce,

mainly made up of men, moved back and forth between urban workspaces and rural homes where they could live permanently (Wentzel & Tlabela, 2006). Workers would migrate from rural areas to the mining towns and cities, where they would work for a period of time before returning home.

The pace of migration from rural to urban areas increased following the removal of influx controls from cities during the 1980s (Turok, 2014). The connections between urban and rural areas have continued after the end of the Apartheid era. Very high and sustained rates of unemployment in cities, the lack of formal and low-cost housing in urban areas and higher costs of living in urban areas have been identified as factors that have influenced the persistence of circular migration after Apartheid (Posel & Marx, 2013; Posel, 2020). Over time, circular migration has become more diversified, encompassing a range of sectors and skill levels.

Circular migration is an important phenomenon to consider when analysing intercity migration of highly skilled labour in South Africa because almost nothing is known about it. Highly skilled professionals often have greater social and economic mobility, which can allow them to engage in circular migration as a strategy for maximizing their earning potential and accessing new opportunities. For example, professionals may work in a major urban centre for a few years, gain valuable experience and connections and then return to their hometowns to start their own businesses, to take up new positions, or even to retire.
However, circular migration can create challenges for employers who rely on highly skilled labour, as the temporary and intermittent nature of circular migration can make it difficult to retain workers and invest in their training and development (Wickramasekera, 2011).

2.6. Studies on internal migration of labour in South Africa

In the context of South Africa, internal migration of labour has been a significant area of research for several decades (Kok & Collinson, 2006). While there has been a growing interest in international studies on intercity migration of highly skilled labour, the South African context remains relatively underexplored. This is particularly striking given the increasing

globalization of the economy and the growing importance of highly skilled labour in a range of sectors.

In this part of the literature review, we turn our attention to local (South African) studies on internal migration of labour, specifically focusing on interprovincial migration and rural to urban migration of labour which have received much empirical interest. Despite not directly addressing intercity migration of highly skilled labour, these studies provide valuable insights into migration patterns and their implications on labour markets.

In their study, Oosthuizen and Naidoo (2004) sought to quantify and describe migration to Gauteng province by analysing the 2001 Census and the September 2002 Labour Force Survey. Their analysis compared the experiences of in-migrants to those of non-migrants and intra-Gauteng migrants. The study revealed that a substantial proportion of Gauteng residents were either born outside the province or had moved into the province in the inter-census period, indicating a relatively mobile population. While in-migrants constituted about half of the population with post-matric qualifications, they were found to be less educated overall than the rest of the Gauteng population and were more likely to be engaged in relatively lower skilled occupations and sectors. The study highlights the importance of understanding the education level and occupational characteristics of in-migrants within broader patterns of labour migration in the country.

Cornwell and Inder (2004) explored the relationship between internal migration and unemployment in South Africa, using data from the October Household Survey conducted between 1993 and 1994. Their research aimed to investigate whether rural-urban migrants were more likely to experience unemployment, informal sector employment or underemployment compared to non-migrants. The results of their analysis indicated that recent migrants were more likely to be involved in informal work than the overall average rate of informal employment. However, they found that recent migrants performed better in finding formal employment compared to non-migrants who were searching for jobs and were much less likely to experience unemployment. The findings suggest that internal migration can have a positive impact on employment outcomes for migrants, particularly in terms of finding formal employment opportunities.

Finn et al. (2012) examined the performance of migrants in comparison to non-migrants using the 2008 and 2010 waves of the NIDS. The study found that most movers remained within the same province they were in at the beginning of the survey period. The research further revealed that movers were on average 3.5 years younger than non-movers and tended to have gained significantly higher net household incomes per capita, which was influenced by moving to smaller households. Movers were also found to have a better chance of maintaining employment than non-movers, with a higher percentage of discouraged movers finding work compared to non-movers.

Despite more favourable employment outcomes, the study also found that labour market earnings were lower for movers than for stayers, on average. The study highlights the importance of investigating the underlying factors contributing to the difference in labour market earnings between movers and stayers. It will also be interesting to investigate whether the findings from this thesis corroborate with the study by Finn et al., (2012) particularly with regards to the performance of intercity migrants compared to stayers.

Mbatha and Roodt (2014) conducted a study on rural to urban migration in South Africa using the first two waves of the NIDS. The study aimed to compare the performance of rural to urban migrants in the labour market with that of non-migrants and to investigate the impact of explanatory variables such as education, age, gender and race on employment status. The study found that the performance of rural to urban migrants was not relatively poorer in the formal employment sector compared to that of urban to urban and urban to rural migrants.

The same study also found that the odds of finding employment in the informal and formal sectors improved for most migrants, although the odds were relatively low in informal markets for those moving from urban to rural areas. Furthermore, being younger and possessing a matric qualification were two variables that were substantively associated with observed migration. Being middle-aged (30 to 60 years old) was also associated with a higher likelihood of being able to participate in the labour force. Meanwhile, the majority of the youth (15 to 30 years old) were unemployed, even though they were the most likely to

migrate. In the 2008 to 2010 NIDS datasets, the highest number of migration cases occurred in the age groups 15–30 and 31–45 years (Mbatha and Roodt, 2014).

Buwembo (2015) conducted a study that aimed to examine the labour market outcomes, specifically in terms of employment and earnings, of individuals who migrated from Limpopo to Gauteng compared to those who stayed in Limpopo for two consecutive periods between 1996 and 2011, using Census data. The study revealed that migrants to Gauteng experienced better labour market outcomes than non-migrants who stayed in Limpopo. However, the gap between the labour market outcomes of migrants and non-migrants declined between the 2001 and 2011 censuses. Furthermore, the study found that migrants to Gauteng were more likely to belong to the high-income group compared to non-migrants in Limpopo, although the gap between the two groups was decreasing.

Kollamparambil (2017) conducted a study using the NIDS Wave 1, Wave 3 and Wave 4 datasets spanning from 2008 to 2014 to analyse the impact of internal in-migration on regional income inequality in receiving areas. The author found that while migration leads to lower unemployment rates among migrants, they still have a higher unemployment rate compared to non-migrants. This higher unemployment rate among migrants is a predominant contributor to rising urban income inequality in urban areas, which can be attributed, at least in part, to rural-urban migration.

The study also found that the unemployment rate contributes to narrow income inequality, but it does not contribute significantly to broad income inequality. Furthermore, districts with higher average individual income and a higher proportion of the labour force with above matriculation education levels are seen to have higher income inequality. The study suggests that while informal sector employment is not a significant factor in determining income inequality, it contributes significantly to wage inequality (Kollamparambil, 2017).

Visagie and Turok (2020) investigated the impact of rural to urban migration on the economic circumstances of migrants using NIDS data collected between 2008 and 2014. The study sought to explore whether rural-urban migration is associated with an improvement in economic circumstances for migrants. The findings revealed that despite the challenges

migrants face in accessing urban labour markets, many were able to secure jobs and increase their incomes. In 2008, four-fifths of rural-urban migrants were living below the poverty line, compared with only one-third in 2014. A total of 385,000 migrants managed to escape poverty over the period. The study further indicated that migrants improved their economic and social circumstances much more quickly than the remaining rural residents or urban residents. The results also suggested some degree of fluidity between rural and urban areas, with a considerable number of relatively better-off urban residents moving to rural communities.

Kleinhans and Yu (2020) investigated the impact of interprovincial migration on labour market outcomes in the Western Cape and Gauteng, two highly developed and popular inter-provincial migration destination provinces in South Africa. They used data from the South African Census 2011 to analyse the characteristics and labour market outcomes of short- and long-term inter-provincial migrants, intra-provincial migrants and permanent residents. The study found that inter-provincial migrants, both short- and long-term, were likely to be young unmarried African urban residents with 11-12 years of education on average, coming from households with three members. Interestingly, the inter-provincial migrants enjoyed lower unemployment rates than the permanent residents, but the intra-provincial migrants had the lowest unemployment rate and the highest share of employed individuals involved in formal sector activities.

Furthermore, compared to the permanent residents, the study found that both short- and long-term inter-provincial migrants into Western Cape and Gauteng were about 3% more likely to be employed. The study also examined migrants from the Eastern Cape to the Western Cape and migrants from Limpopo to Gauteng and found that both groups enjoyed a much higher labour force participation rate and lower unemployment rates than individuals who remained in their respective provinces (Kleinhans & Yu, 2020).

Posel's (2020) study provided important insights by updating trends in labour migration using data from the National Income Dynamics Study (NIDS). Through an analysis of four waves of data, Posel found that labour migration has continued into the second post-apartheid decade, but with considerable variability in its extent. Specifically, the study found that migration for

employment reasons declined during the global financial crisis but increased during a period of economic recovery and modest employment growth. This study provides an important contribution to the literature on labour migration trends in South Africa, highlighting the need to consider the economic context and global events in understanding the dynamics of labour migration.

While South African literature has provided valuable insights into internal migration patterns, much of the existing research has overlooked the specific context of intercity migration and its impact on the labour market. Moreover, the current literature frequently lacks a distinct focus on high-skilled labour. However, as revealed in the international literature review, the skill levels of migrants play a crucial role in comprehending the drivers and impacts of intercity migration.

Additionally, the literature has focused on migration from rural to urban areas or interprovincial migration and other internal movements of people (see Table 2-1), with no explicit attention given to intercity migration. Intercity migration is a unique phenomenon that requires separate attention as it involves the movement of highly skilled individuals between different urban centres, which has significant implications for regional development and urban planning. Therefore, a significant gap exists in the literature regarding intercity migration and its impact on the labour market in South Africa, particularly among highly skilled workers.

As urbanization levels continue to rise in South Africa, the movement of people between cities is becoming increasingly important to understand, particularly in the context of highly skilled labour. Urban-to-urban migration can be driven by a range of factors, including job opportunities, access to better infrastructure and quality of life considerations (Macdonald & Winklerprins, 2014). In contrast, rural-to-urban migration tends to be driven primarily by economic factors, such as seeking employment and better wages (Huy, 2009).

Table 0-1: South African literature on internal labour migration

Author/s	Year of publication	Purpose	Type of internal migration focus
Oosthuizen & Naidoo	2004	Investigate internal migration to the province of Gauteng with the aim to quantify and describe migration to Gauteng from one of the other eight provinces.	Interprovincial
Cornwell & Inder	2004	Investigate connection between internal migration and unemployment.	Rural to urban
Finn et al	2012	Examined the performance of migrants in comparison to non-migrants	Non-specific (just a change of location)
Mbatha & Roodt	2014	Assess how different types of migration impact on employment status and labour market outcomes in South Africa	Rural to urban
Buwembo	2015	Investigate labour market effects in terms of employment and earnings of migration from Limpopo province to Gauteng province	Interprovincial
Kollamparambil	2017	Analyse the impact of internal in-migration on regional income inequality on receiving areas.	Intra and interprovincial
Visagie & Turok	2020	Assess whether rural to urban migration is associated with an improvement in economic circumstances	Rural to urban
Kleinhans & Yu	2020	Examine how internal migration has affected the labour market outcomes in Gauteng and the Western Cape.	Interprovincial
Posel	2020	To update trends in labour migration using new data from NIDS	Rural to urban

Source: Author's compilation

City growth and the role of technological shifts

Urbanization and urban growth are important topics to consider in the context of intercity migration of highly skilled labour in South Africa. Cities are key economic and social centres, where many highly skilled jobs are concentrated. As such, the growth and development of

cities can have a significant impact on the employment opportunities available to highly skilled labour. South Africa's largest cities, including Johannesburg, Cape Town and Durban, have experienced significant growth in recent years (SACN, 2016). These metros and the other five, boast the highest concentrations of skilled labour, possess significant research and development capabilities and offer services and products that extend well beyond their municipal borders (SACN, 2016).

The growth of South Africa's cities is likely to continue in the coming years, as more individuals migrate from rural areas to urban areas and as more highly skilled workers move between cities. This growth will have implications for the availability of housing, transportation and other infrastructure in these cities, as well as for the labour market and the economy as a whole.

Economic and technological shifts play a significant role in shaping migration patterns in South Africa. Technological advancements have led to changes in the nature of work, with many industries shifting towards knowledge-based activities (Harris, 2001). This has resulted in a concentration of highly skilled workers in specific urban areas, leading to increased demand for such labour in those cities (Visagie & Turok, 2022).

The growth of certain industries and the decline of others can also impact intercity migration patterns. For example, the decline of the mining industry in some areas has led to a decrease in demand for labour in those areas (Burger & Woolard, 2005), leading to outmigration of workers to other cities with more employment opportunities. On the other hand, the growth of the tech industry in certain cities such as Cape Town has led to an influx of highly skilled workers, creating a demand for additional housing (Property 24, 2023).
Economic factors such as income differentials between cities can also influence intercity migration patterns. High-income cities tend to attract highly skilled labour from other cities, which can result in a brain drain from those cities (Berry & Glaeser, 2005). This can have negative implications for the economic development of those areas, as well as exacerbating income inequality between cities.

2.7. Conclusion

In conclusion, this literature review has provided a comprehensive overview of the theoretical frameworks that will be employed in the analysis of intercity migration of highly skilled labour in South Africa. The chapter has looked at studies on the factors that influence intercity migration of highly skilled labour and also those that analysed the impacts of intercity migration of labour migrants on their income, employment and wages. In addition, the review has examined the strategies that are typically utilized to attract highly skilled labour to particular cities.

The chapter has also explored existing studies on the internal migration of labour within South Africa and highlighted the lack of research on intercity migration, despite its growing importance as the country continues to urbanize. This gap in knowledge serves as a strong motivation for the present study. The study has underscored the importance of understanding both urban-to-urban and rural-to-urban migration patterns, as these have unique implications for the labour market and economic development.
Moreover, the literature review has emphasized the significance of cities and their growth in South Africa and how economic and technological shifts have spatial implications that impact the distribution of human capital within the country.

Moving forward, the next chapter of this thesis will focus on objective 1, which is to analyse the patterns of intercity migration of highly skilled labour. By doing so, the study aims to contribute to the existing literature and enhance our understanding of the interplay between migration, human capital and economic development in South Africa.

CHAPTER 3: PATTERNS OF INTERCITY MIGRATION OF SKILLED LABOUR IN SOUTH AFRICA BETWEEN 2011 AND 2016

3.1. Introduction

Skills play a crucial role in driving urban economic growth and the distribution of a country's human capital among its cities significantly impacts their growth trajectories and the disparities in prosperity or poverty. Therefore, it is empirically essential to understand both the scale and nature of skilled labour movement between cities within a country. The existing literature on intercity migration of skilled labour has predominantly focused on the USA and Europe, with relatively few studies conducted in developing countries.

In the context of South Africa, studies on labour migration have primarily examined other forms of migration, such as interprovincial and rural-to-urban migration, while overlooking the intercity dimension, particularly concerning skill levels. As a result, there is a notable gap in the literature regarding the movement of skilled workers between cities within South Africa.

This chapter marks the first step towards achieving the research objectives outlined in this study. The primary aim of this chapter is to analyse the patterns of intercity migration of skilled labour in South Africa between 2011 and 2016. Research objective (I) seeks to make a primary analytical contribution by elucidating the dynamics of skilled labour migration between cities in South Africa, thereby facilitating the anticipation of future growth trajectories for these urban centres. Grounded in common theoretical assumptions and empirical evidence highlighting the significance of high-skilled labour for city growth, this objective aims to provide valuable insights into the interplay between skilled labour mobility and urban development.

To achieve this, the analysis begins with a description of the Community Survey 2016, including the sample size and methodology utilized. Subsequently, the chapter presents the findings and engages in a discussion on the patterns observed.

The analyses conducted in this chapter have four key objectives: (i) to determine the volume of skilled labour migration between cities in South Africa, (ii) to describe the characteristics of skilled individuals who migrated between cities (iii) to assess the net migration flows of skilled labour between cities in South Africa and (iv) to identify the self-reported reasons as to why skilled individuals migrated between cities in South Africa.

Through these analyses, this chapter provides insights into the nature and scale of intercity migration of highly skilled labour in South Africa. The chapter concludes by drawing research and policy implications from the findings, highlighting the key considerations for policymakers and stakeholders as they navigate the implications of skilled labour migration for economic growth and development.

3.2. Surveys for studying internal labour migration in South Africa

South Africa offers a diverse range of surveys that serve as valuable resources for studying internal labour migration. As detailed in the literature review in Chapter 2, numerous surveys have been extensively employed in the study of internal labour migration within the country. These surveys include the Census, Labor Force Survey, Community Survey, October Household Survey (OHS), KwaZulu-Natal Income Dynamics Survey (KIDS) and National Income Dynamics Study (NIDS). Additionally, less commonly used but still significant surveys like the South African Migration and Health Survey, Agincourt Health and Demographic Surveillance System and the Migration Household Survey have contributed to the body of knowledge in this field.

By incorporating data from these surveys, researchers can gain a more nuanced understanding of the intricate patterns and underlying factors of internal labour migration in South Africa. Notably, the literature review conducted in Chapter 2 highlights a notable gap in the exploration of migration between South African cities. To address this gap, a comprehensive, representative survey is essential. The Census and the Community Survey are both suitable options due to their extensive coverage. However, it's important to acknowledge that the latest available Census data is from 2011 and is thus somewhat dated as is the 2007 census. In contrast, the Community Survey from 2016 offers more recent

insights, making it a preferred choice for this chapter. This recent data provides a unique opportunity to investigate the most current trends and patterns of intercity migration of skilled labour in South Africa.

3.3. Data

Community Survey 2016

The Community Survey is a large-scale household sample survey conducted to bridge the information gap between two censuses (2011 and 2021) Its main objective is to provide population and household statistics at municipal level to government and the private sector to support planning and decision making (Statistics SA, 2016a). The survey has been carried out in 2001, 2007 and 2016, with the most recent survey conducted between March and April 2016, collecting data from 1.3 million households across South Africa (Statistics SA, 2016a). The survey provides data on various topics, including migration patterns of individuals and their education level, all of which are important for the current analysis.

In addition to being nationally representative and having a large sample size, the Community Survey 2016 offers several advantages over other surveys used in previous literature. First, it covers a wide range of geographic areas, including municipalities, making it possible to analyse intercity migration patterns in greater detail. Second, the survey includes questions about reasons for migration, which can provide insight into the factors driving skilled labour migration in South Africa. Finally, as aforementioned, the Community Survey 2016 is the most recent large-scale survey, providing up-to-date information on migration patterns and trends in South Africa. These advantages make it an ideal data source for this study.

The Community Survey 2016 serves as a valuable resource for tracking the movement of skilled individuals between different municipalities from 2011 to 2016. It offers insights into the local or metropolitan municipality of both previous and current residence, facilitating the analysis of labour migration patterns. Moreover, the survey includes data on education levels, providing a proxy for skills and aiding in the examination of labour migration based on educational attainment.

Question 3.7.2.9 establishes the local/metropolitan municipality location of an individual's usual residence in 2016, while question 3.7.2.16 determines the local/metropolitan municipality where the individual resided in 2011 before relocating to the current location. Additionally, the data includes codes that distinguish between urban areas, tribal/traditional areas and farm areas, enabling a comprehensive examination of migration trends between urban and rural areas.[1] This information can be juxtaposed with specific intercity migration patterns, which are the focal point of this study.

Furthermore, the Community Survey 2016 provides additional demographic information, such as gender, population group and marital status of individuals. This data will be instrumental in linking intercity migration patterns with the characteristics of the individuals involved, enhancing the depth of the analysis.

A limitation of the Community Survey is that it only records the most recent move. There are cases where a respondent may have moved municipalities more than once between 2011 and 2016.[2] In these instances, the CS 2016 only records the municipality of the last move as the previous municipality of residence. Therefore, it is not possible to identify cases of multiple moves, although such migration histories could provide valuable insights. Additionally, because the CS 2016 only records a "move" when the current place name is different from the previous one, this does not allow for identification of cases of circular or return migration where a migrant moves from one municipality to another and then returns to the original municipality within the five-year period.[3]

While circular migration is an emerging category in South African migration studies, it constitutes a relatively small share of total migration (Posel & Marx, 2013). It is typically

[1] https://www.datafirst.uct.ac.za/dataportal/index.php/catalog/611/related-materials

[2] Question 3.7.2.9, 'In which local/metropolitan municipality does [interviewee] usually live?' is used to determine an individual's location in 2016. Question 3.7.2.16, which determines the individual's location in 2011, asks, 'In which local/metropolitan municipality did [interviewee] live before moving to this place?' The metadata document clarifies that the latter question refers to individuals who had not been staying at the current place since October 2011. This question required the municipality in which the respondent lived before moving to the present dwelling. If the respondent moved more than once, the enumerator was instructed to select the local/metropolitan municipality of the last move (Statistics SA, 2016b).

[3] To address this data gap, a question could be added to the Community Survey to record all the moves a respondent has taken in the past five years where they have been a resident in a municipality for a significant period. This would allow for a more comprehensive understanding of internal migration patterns and return migration.

framed as a return to rural areas rather than migration between cities (Collinson et al., 2003; Hosegood et al., 2005; Clark et al., 2007).

Another limitation of the Community Survey is that it only captures migration data for the last five years, making it impossible to conduct longer-term migration analysis. The extent of intercity migration would naturally expand when considering a longer time horizon, such as a 10-year period in the Census. However, a five-year timeframe remains a reasonable period for review.

An additional limitation of the Community Survey data is that it solely indicates whether a person has relocated to a different city, without providing details about the specific city or place of employment. This lack of information includes cases of remote work, especially in knowledge-intensive sectors. Nevertheless, remote work is typically a minor component in the South African labour market (especially considering the 2011 to 2016 period of study) and this limitation is unlikely to significantly affect the interpretation of the results.[4]
Despite the aforementioned limitations, the Community Survey remains a suitable survey tool with the necessary data to comprehend the patterns of skilled migration in South Africa.

3.4. Methodology

The approach to describing inter-city migration in this chapter is descriptive. To conduct the migration analysis, the CS 2016 person data file was obtained from the Datafirst website[5] (University of Cape Town) and analysed using STATA. The dataset contained 3,328,867 individual cases. To ensure that only individuals within the legal working age of South Africa (15 years to 64 years) were included in the analysis, the sample was restricted to individuals aged between 20 years and 64 years at the time of the survey in 2016. This age restriction is important because it helps to ensure that the sample used in the analysis is representative of the working population and thus more relevant to the research objective of understanding

[4] In future surveys, it may be beneficial to consider incorporating a question regarding whether the individual is employed at their current place of residence or engaged in remote work. This addition has the potential to provide a more comprehensive understanding of the relationship between the location of residence and the actual place of work, contributing to a more nuanced analysis of the state of the labour market.
[5] https://www.datafirst.uct.ac.za/dataportal/index.php/catalog/611/related-materials

the patterns of intercity migration of highly skilled labour in South Africa. The remaining sample size was 1,825,089 individuals.

The key variables for profiling migrant characteristics are

The next stage of the analysis involved creating spatial typologies based on the municipal codes that come with the CS 2016 data for the 226 local municipalities in South Africa. To gain a better understanding of internal labour migration dynamics in the country, I grouped the sample into five spatial types/municipal types: (i) The Gauteng City Region (GCR), (ii) Other metropolitan municipalities (OMM), (iii) Secondary Cities (SC), (iv) Mostly Commercial Farming areas (MCF) and (v) Mostly Former Bantustan (MFB) areas.

The use of spatial typologies allows for a more nuanced analysis of migration patterns in South Africa, as it enables us to compare the extent of inter-metropolitan flows of people with that of other flows such as MFB to GCR, secondary cities to metro flows, reverse flows and other possible flows which would be empirically interesting. This approach also provides a useful framework for understanding the spatial distribution of different population groups and other socio-demographic factors that might influence migration patterns.

The Gauteng city region is delineated as the primary economic centre of South Africa, encompassing the Johannesburg metropolitan city, Ekurhuleni metropolitan city and the Tshwane (formerly Pretoria) city. Consequently, economic and social prospects are primarily clustered within the Gauteng city region, contributing around 40% of the country's gross domestic product (GDP), despite occupying a mere 2% of South Africa's total land area (Chakwizira et al, 2018). Given the functional and economic interconnections between these areas, it makes sense to consider them as a single unit for the purposes of this migration analysis. This is supported by research on polycentric urban regions, which suggests that spatially merged functional economic areas, as well as social and cultural connections, are characteristic of such regions (Davoudi, 2003). By combining the three metros, we can better understand the inter-metropolitan flows of people within the GCR, as well as the connections between this region and other areas in South Africa.

The OMM category comprises five municipalities: Buffalo City, City of Cape Town, City of eThekwini, Mangaung and Nelson Mandela Bay. Following Makgetla (2010), this study classifies 19 cities into Secondary Cities and exclude Buffalo City and Mangaung (see Annex 1) which were reclassified as metros in 2011 (SA news, 2010). To track the migration patterns of labour across the different spatial types, the spatial type categories are created based on individuals' reported previous municipality of residence in 2011 and their current municipality of residence in 2016.

Defining internal migration & intercity migration

Defining internal migration can be a complex and problematic task (Bell et al, 2015). In its simplicity, internal migration refers to the movement of people within the borders of a country from one location to another (Rees & Kupiszewski, 1999; Kok & Collinson, 2006). While the concept seems straightforward, there are many nuances that make it difficult to define and measure.

One challenge in defining internal migration is determining what qualifies as a move. Is a move from one town to another within the same district considered migration, or is it only moves between different municipalities or provinces that count? Should a person who moves to a neighbouring municipality but continues to work and socialize in their previous municipality be considered a migrant? These are just some of the questions that complicate the task of defining and measuring internal migration.

Another challenge is the lack of consistency in definitions and methods used by different researchers and organizations (Kok & Collinson, 2006). Some studies define internal migration based on changes in the place of usual residence, while others use changes in the place of enumeration or registration. This can lead to differences in the number and characteristics of migrants identified, making comparisons between studies difficult.

Furthermore, there are issues with the accuracy and completeness of migration data (Niedomysl & Fransson, 2018). Administrative records such as census and registration data may not capture all moves, particularly those that are short-term or irregular. Survey data, on

the other hand, may suffer from recall bias or sampling issues that limit their representativeness.

Defining intercity migration also comes with its issues for example because many large cities span over the political boundaries of more than one municipality (the main reason why workers may not reside in the same municipality where they work) (Lora, 2020). In this research, the Gauteng city region (GCR) is considered a prime example of the complexities inherent in defining urban areas, especially in the context of intercity migration. The GCR, encompassing cities like Johannesburg, Ekurhuleni and Tshwane, extends beyond mere administrative boundaries. Instead, it functions as a cohesive and interconnected economic and social entity, in line with the concept of a functional region. Residents of the GCR often move freely within the region, transcending municipal divisions in their daily lives. This perspective acknowledges the GCR's role as a single region with shared economic and social opportunities, despite comprising multiple individual cities and municipalities. It reflects the real-life experiences of urban dwellers, where the concept of a city goes beyond administrative lines.

Intercity migration involves movement between two distinct municipalities or metropolitan areas over a 5-year period (Li et al., 2023). For the current study, intercity migration refers to the migration process in which the previous city of residence and current city of residence are not the same. The CS 2016 data includes information on changes of residence or "place", which may refer to an area, suburb, or location within the same municipality. For the purposes of this analysis, the study is not considering people who move within the same municipality as migrants. Additionally, since the GCR is treated as one economically connected area, the study is not considering migration between municipalities within the GCR as part of this analysis. However, movements from or to the GCR and other metropolitan municipalities, such as eThekwini, or between spatial types are counted as migrations and included in the analysis.

The concept of skills

Skills are complex and abstract concepts that can be difficult to define and measure at an aggregate level because they are socially constructed and not always observable. This has created challenges in defining and measuring the skilled population in migration research. In the past, various methods have been used to define the highly skilled population, including using education levels, work experience, wage level, or occupational classification (Weinar & von Koppenfels, 2020).

Each of these definitions has its benefits and limitations. For instance, using education levels to define the highly skilled can be advantageous as it is relatively easy to measure in self-reported surveys and administrative data and can be used as a proxy for skills (Galobardes et al., 2006). However, it may not necessarily reflect an individual's actual skills or work experience. Using occupational classification to define the highly skilled can be more precise and may reflect the actual skills needed for specific jobs. However, it may also be limited by the availability and accuracy of data on occupation classifications. Wage levels can also be influenced by factors such as demand and supply of labour, discrimination and unequal pay, leading to inaccuracy in reflecting the skills of workers in different cities.

In the case of the CS 2016, the lack of employment information of respondents limits the ability to define the highly skilled population using work experience or wage levels. Therefore, the education module of the survey (question 3.7.5.7) is used to determine the highest level of education attained by respondents, ranging from "no education" to having a "doctoral degree." While this method may not necessarily capture all aspects of an individual's skills, it can still provide valuable insights into the educational attainment of migrants.

In this study the definition of skill levels adopted by the Department of Higher Education and Training (DHET) in their 2019 report on *Skills Supply and Demand in South Africa is utilized*. According to this definition, individuals who have completed no schooling or only pre-matriculation education are classified as low-skilled, while those who have completed post-matriculation education or above are classified as skilled labour. This definition is considered reasonable because post-secondary education has been shown to have high earning and employment returns in South Africa when compared to lower levels of education (Rogan, 2018). Moreover, this definition has the advantage of encompassing individuals who have

acquired specific vocational skills, such as welding or plumbing, in addition to those who have obtained traditional university degrees.

Approach for descriptive analysis

The first part of the descriptive analysis of intercity migration of skilled labour will focus on calculating the number of migrants per spatial type, determining the total number of migrants, the percentage distributions of migrants by spatial type and estimating the percentage share of migrants of each spatial type. This will provide an overview of the population distribution across different spatial types including urban and rural areas.

For the initial analysis, the study examines the extent of migration into five distinct spatial types, allowing for the determination of the total number of internal migrants in South Africa's working-age population between 2011 and 2016, categorized by spatial type. This analysis offers insights into which spatial types are more attractive to labour migration. To calculate the total number of migrants (TM), the following formula is used:

$$TM = GM + OMM + SCM + MCFM + BM \ldots\ldots\ldots \text{[3.1]}$$

where:

GM represents migrants within the Gauteng City Region.

OMM represents migrants in Other Metros.

SCM represents migrants in Secondary Cities.

MCFM represents migrants in Mostly Commercial Farming Areas.

BM represents migrants in Mostly Former Bantustan Areas

Furthermore, the percentage share of migrants of the spatial type population enable a deeper understanding beyond the absolute numbers of migrants within each spatial type. By comparing these percentages with the population of each spatial type, we can make comparative assessments of regions where labour migration plays a prominent role in population dynamics. The formula to calculate the Percentage share of migrants in the spatial type population ($PMIGSPAP_i$) is:

$$PMIGSPAP_i = (MSPAT_i \,/\, SPATPOP_i) * 100 \ldots\text{.[3.2]}$$

Where $MSPAT_i$ is the number of migrants in a specific spatial type i and $SPATPOP_i$ is the total population of spatial type *i*.

Lastly, the percentage distribution of migrants by spatial types allows us to know which regions of the country are a hotspot for labour migrants and perhaps anticipate changes in the population composition of the areas. This will also enable us to determine whether migration into urban areas (including the GCR, OMs and SCs) constitutes a significant proportion of labour migration in comparison to migration into other non-urban areas. The formula for the percentage distribution of migrants by spatial type ($PMSPAT_i$) is:

$$PMSPAT_i = MSPAT_i/TM * 100 \ldots \text{[3.3]}$$

Where $MSPAT_i$ is the number of migrants in spatial type *i* and *TM* is the total number of migrants in all spatial types combined.

Characteristics associated with migration

Next, the study then provides a cross-sectional picture of the characteristics associated with migration patterns across different spatial types, with a particular focus on migration into and out of metros. To achieve this, both continuous and categorical variables have been added to the descriptive analysis.

The main variable of interest is education level completed (a proxy for skill). The introduction and literature review have already suggested how the skilled have a higher likelihood to migrate compared to their lower skilled counterparts.

The continuous variable, age, is included to understand how age may be related to migration patterns. For instance, younger individuals may be more likely to move to pursue educational opportunities or to establish themselves in a new job market (Cortright, 2014). On the other hand, older individuals may be more likely to stay in their current location due to family ties or retirement.

Marital status, a categorical variable, is separated into married or cohabiting or not married/not cohabiting. This variable can help us understand how family status may be correlated with migration patterns. For example, married individuals with children may be less likely to move due to their responsibilities to their family. In contrast, unmarried individuals may be more likely to move in pursuit of job opportunities or personal interests (GuBhaju and De Jong, 2009).

Gender is another categorical variable included in the analysis, separated into male and female. This variable can help us understand if gender is correlated with migration patterns. For example, men may be more likely to migrate than women, particularly for employment-related reasons (Pedraza, 1991).

Population group is another categorical variable, separated into Black African, Coloured, Indian/Asian and White. This variable can help us understand how race or ethnicity may be related to descriptive migration patterns. For example, different racial or ethnic groups may have different experiences and opportunities within the labour market, which may affect their decision to migrate (Frey et al., 2005).

Lastly, the study creates a female marital status category to examine whether migration moves of married females may be different from those who are not. Literature suggests that married females are less likely to migrate (Kanaiaupuni, 2000). This could be because f family responsibilities such as children and spouses which can limit their mobility. This variable may help provide insight into this trend.

The descriptive results of these variables will help provide initial insights into how the skills level and other individual characteristics may be related to migration patterns and behaviours. For example, if the study finds that skilled individuals are more likely to migrate than low-skilled individuals, this may suggest that migration patterns are influenced by employment opportunities. Additionally, if the study finds that married people are less likely to migrate than unmarried ones, this may suggest that family responsibilities may be playing a significant role in migration decisions.

To provide a comprehensive analysis of intercity migration patterns, it is necessary to examine both migration into and out of metropolitan areas. In the Community Survey 2016, question 3.7.2.18 asks migrants about the main reason for their move to the new place, with responses ranging from divorce and education to seeking employment or other business reasons. By combining these reasons into categories of family, education, employment, housing and other, the study can gain insight into the factors that drive internal migration and destination preferences among migrants. Descriptive statistics of these reasons can provide a perspective on the migration decisions of individuals and the factors that influence these decisions.

Examining migration into and out of metros can provide additional insights. For example, those migrating into a metro area may be seeking employment opportunities, while those moving out may be motivated by housing or lifestyle preferences. By analysing these different flows separately, the study can gain a better understanding of the push and pull factors that influence migration patterns within South Africa.

Transitional analysis

A cross-sectional picture can only show the share of migrants who moved into and out of the denoted spatial types, including cities. However, it fails to show from which specific spatial types this labour is moving into and out of, potentially presenting a limitation to our analysis. To better understand the scale and nature of intercity migration of skilled labour, the study will conduct a transitional analysis that tracks the mobility of individuals across the five spatial types previously categorized. Transition matrices detail for each possible initial spatial type in period one, what percentage of individuals finds itself again in the same spatial type (or in other spatial types) by period two. For a transition matrix, each cell denotes the propensity of moving between an initial spatial type **i** to a final spatial type **j**. Each cell of the transition matrix is a percentage, shown by this formula:

$$T_{ij} = (P_{ii} + P_{ij}) * 100 \text{ ….[3.4]}$$

Where:

- T_{ij} represents the percentage of individuals from initial spatial type i who are in spatial type j by period two.

- P_{ii} is the proportion of individuals who remain in the same spatial type (i to i).
- P_{ij} is the proportion of individuals who move from spatial type i to spatial type j.

This formula helps quantify the transition between spatial types over two time periods, showing what percentage of individuals stay in the same type and what percentage move to different types. From the matrix, most importantly we can examine the percentage share of people who transition into the categorized spatial types, including cities, **j**, that is from the other spatial types **i** (MFB and MCF). Conversely, we can examine those who made the inverse transition.

Additional transition matrices are included to illustrate the inward and outward labour migration into and out of the eight metros. Within the OM category, further detail is provided by splitting it into five distinct metros, namely Buffalo City, Cape Town, eThekwini, Mangaung and Nelson Mandela Bay. It is important to note that the GCR will still be treated as a single, cohesive "city." This approach offers a more detailed examination of labour migration patterns among South African cities. T

hrough this analysis, the study will investigate how both skilled and low skilled labour have moved across the spatial types and which metropolitan areas in South Africa gained or lost skilled labour between 2011 and 2016. Net migration will be calculated by subtracting the outward flow of individuals from the inward flow, providing a more complete picture of migration patterns. The formulas for calculating net migration are as follows:

$$Net\ Migration\ for\ spatial\ type\ i\ (NetMig_i)\ for\ all\ labour = N\_in_{\_i} - N\_out_{\_i} \ldots . [3.5]$$

Where:

- $N\_in_{\_i}$ represents the number of all sampled individuals who moved into spatial type *i* from a different spatial type between 2011 and 2016
- $N\_out_{\_i}$ represents the number of all sampled individuals in spatial type *i* who moved to a different spatial type between 2011 and 2016.

$$Net\ Migration\ of\ Highly\ Skilled\ Labour\ for\ spatial\ type\ i\ (NetHSMIG_i) = NHS\_in_{ii} - NHS\_out_{ii} \ldots \text{ [3.6]}$$

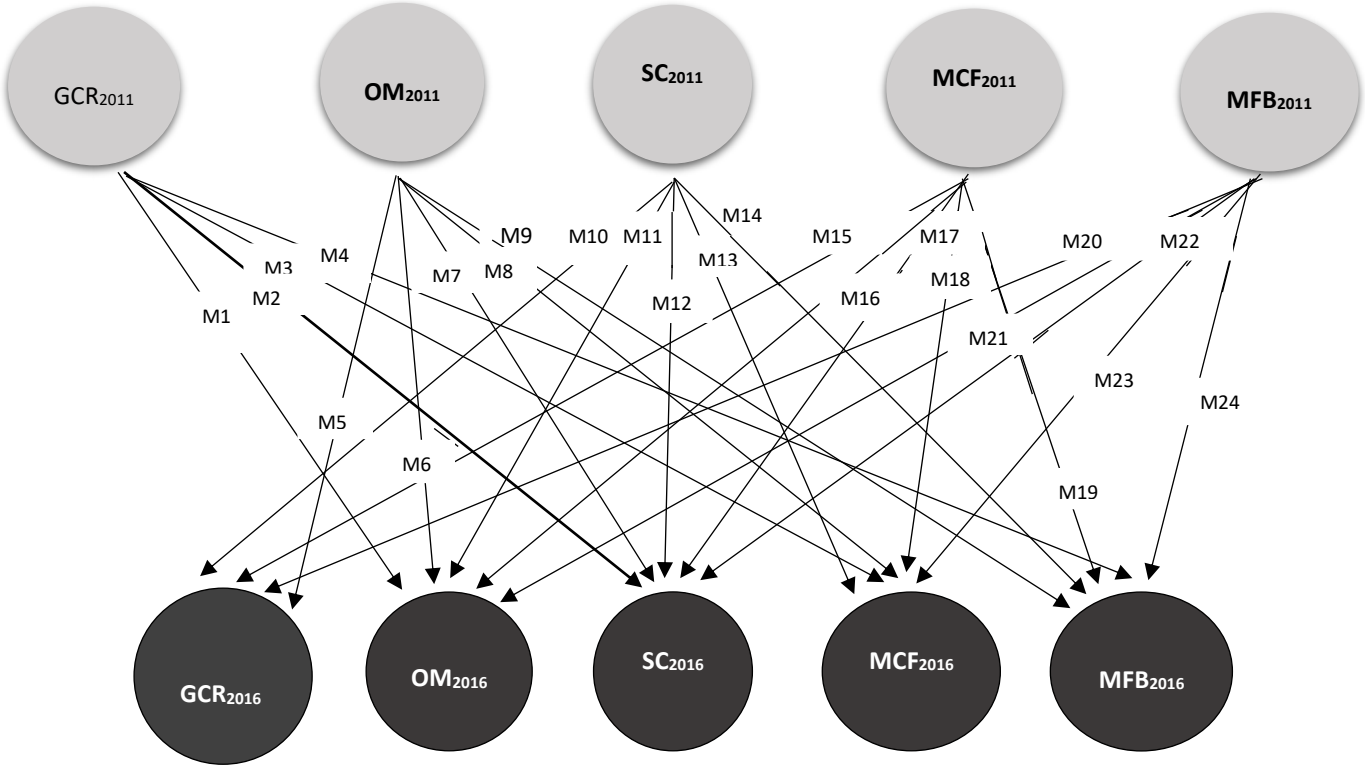
where:

- *NHS_in_ii*: Number of highly skilled individuals who moved into Spatial Type i from a different municipality between 2011 and 2016
- *NHS_out_ii:* Number of highly skilled individuals in spatial type *i* who moved to a different spatial type between 2011 and 2016

The migration pathway matrices provide a visual representation of in-migration, out-migration and net migration of labour across metropolitan municipalities and the five spatial types, with the GCR cities treated as a single origin and destination point. The matrices are used to identify the different pathways that internal migrants took between 2011 and 2016, taking into account the data restrictions mentioned earlier.

Figure 2, presented below, illustrates the various possible migration pathways. This analysis allows for an examination of the patterns of migration, including the direction and magnitude of flows and the identification of the primary origins and destinations of highly skilled labour. The figure below displays the migration pathways for intercity migrants between 2011 and 2016. The light grey circles represent the spatial type of residence in 2011, while the black circles represent the spatial type of residence in 2016. The lines labelled *M1* to *M24* denote the 24 possible moves that migrants could have taken across the defined spatial types. However, it is important to note that any internal movement within the GCR is not counted as an intercity migration (because the GCR is treated as a single functional market) from this analysis, as evidenced by the lack of a line connecting GCR2011 with GCR2016.

Figure 0-1: Various migration pathways for labour across the five spatial types



Source: Authors' own illustration
Notes: GCR: 'Gauteng City Region'; OM – Other Metros; SC- Secondary Cities; MCF- Mostly Commercial Farming areas; MFB- Mostly Former Bantustan areas

3.5. Descriptive statistics

Overall migration patterns by spatial type

Table 3-1 provides the proportion of migrants and non-migrants between 2011 and 2016. The numbers are weighted to provide estimates of the overall scale of migration for the national population. The statistics are reported with a confidence level of 95% to demonstrate their reliability. The large sample size of the Community Survey ensures a robust and reliable representation of migration patterns for the national population, allowing for more accurate estimates and in-depth analysis.

The table presented below provides some important insights regarding the distribution of the population and patterns of migration in South Africa. It is clear that urbanization is a major phenomenon in the country, with almost 60% of the population aged between 20 and 64 years residing in cities in 2016.[6] The table also reveals that migration of labour is an important feature in South Africa, with internal migrants comprising just over 3% of the population.[7] While it may seem like a small percentage, it still represents close to 1 million people of working age who had moved within the country over a five year period.

Table 0-1: The size and share of migration by spatial type

	Population total	**Number of migrants**	**Distribution of migrants by municipal types**	**Share of migrants of municipal population**
GCR	23.71% [23.63%,23.78%] 7,303,729	218,787	22.18% [21.73%,22.64%]	3.00% [2.93%,3.07%]
OM	19.93% [19.86%,20.00%] 6,141,625	149,333	15.14% [14.70%,15.59%]	2.43% [2.35%,2.51%]
SC	15.43% [15.37%,15.49%] 4,724,849	195,029	19.77% [19.32%,20.23%]	4.13% [4.02%,4.24%]
MCF	18.66% [18.59%,18.72%] 5,748,442	257,145	26.07% [25.63%,26.52%]	4.47% [4.39%,4.56%]
MFB	22.27% [22.21%,22.33%] 6,891,982	166,138	16.84% [16.52%,17.17%]	2.41% [2.36%,2.46%]
Total	100% 30,810,626	986,431	100%	3.20% [3.17%,3.24%]

Source: CS 2016; own estimates

Notes: 95% confidence interval in parentheses. Sample is made up of people between the ages of 20 and 64 in 2016. See Makgetla (2010) for appendix of municipal types. Migrants refer to those who had moved into the municipality within the last five years. The Gauteng City-region (GCR) is treated as one functional urban area. The data are weighted.

Commercial farming areas and secondary cities exhibited the highest proportion of migrants relative to their respective total population, standing at approximately 4.5% and 4.1%,

[6] Cities here are GCR+OM+SC

[7] Number of migrants/Total population

respectively. These findings imply that migration is a significant demographic factor for the entire working-age population, extending beyond urban areas.

In terms of the distribution of migrants across the five spatial types, the table suggests that movement of labour into cities is high, with 57.1% of all migrants moving to a city (GCR, OM or SC) between 2011 and 2016. The GCR received the largest share of migration into cities, followed by secondary cities and other metros. This could be due to the greater availability of job opportunities and other amenities in the GCR, as well as its status as the economic hub of the country.

Overall, the table provides a valuable starting point for understanding the distribution of the population and patterns of migration in South Africa. While Table 3-1 has provided an overview of the distribution of internal migration across different spatial types, including metros. However, it does not indicate the specific origins and destinations of the labour movements. Therefore, the transition analysis presented in Table 3-2 is necessary to explore this aspect.

Table 0-2: The previous residence of migrants by current spatial type

Previous / Current	GCR	OM	SC	MCF	MFB	Total (%)
GCR	N/A	10.63% [9.80%-11.52%]	23.64% [22.60%-24.72%]	21.43% [20.50%-22.40%]	44.30% [43.15%-45.45%]	100%
OM	17.94% [16.47%- 19.52%]	12.19% [11.13%-13.34%]	12.42% [11.42%-13.51%]	24.42% [23.00%-25.90%]	33.03% [31.67%-34.41%]	100%
SC	21.59% [20.59%-22.62%]	8.27% [7.42%-9.20%]	15.19% [14.07%-16.38%]	22.72% [21.71%-23.77%]	32.24% [31.06%-33.44%]	100%
MCF	15.24% [14.57%-15.95%]	14.82% [14.15%-15.51%]	16.97% [16.26%-17.70%]	28.88% [28.00%-29.77%]	24.10% [23.21%-24.90%]	100%
MFB	18.64% [17.94%-19.40%]	13.69% [13.00%-14.40%]	13.68% [13.01%-14.37%]	13.56% [12.90%-14.24%]	40.44% [39.46%-41.43%]	100%
Total	14.10% [13.71%-14.49%]	12.00% [11.63%-12.38%]	16.85% [16.43%-17.29%]	22.75% [22.31%-23.21%]	34.29% [33.80%-34.78%]	100%

Source: CS 2016; own estimates

Notes: 95% confidence interval in parentheses. Sample is made up of people between the ages of 20 and 64 in 2016. Previous residence refers to the most recent migration event, noting that some individuals may have moved multiple times in the past five years. Moving within the GCR is not counted as a migration. However, an individual could move from one metro (such as CPT) to another (such as ETH). The data are weighted.

Based on the transition matrices provided, it is clear that labour in South Africa is highly mobile and is not restricted to one particular spatial type. There is a significant amount of movement from one spatial type to another, as indicated by the low diagonal proportions in the transition matrices. The observation that internal migration in South Africa is characterized by significant movement from one spatial type to another suggests that the country's population is highly mobile and fluid in terms of residential location.

The fact that very few people stay in the same spatial type indicates that there is a constant flow of people between different regions of the country, which may have significant implications for the social, economic and political landscape of South Africa. For example, migration can affect the availability of labour in different regions, as well as the demand for housing and other services. It can also affect the political landscape, as the migration patterns may lead to changes in voting patterns and representation in different areas.

In terms of rural to urban migration versus intercity migration (light grey shaded area), it appears that rural to urban (dark grey shaded area) migration is more prevalent, particularly from the rural areas to the GCR. The proportions of migrants who arrived in the GCR who had come from MCF or MFB is in the majority. This suggests that there is a significant pull factor towards urban areas, particularly the GCR, which may be due to better job opportunities or access to services.

However, intercity migration (light grey shaded area) is still large and significant, with high levels of movement between SC and GCR and OM. For example, amongst migrants who settled in the GCR in 2016, the proportion of people who were previously living in a SC or OM was 23.64% and 10.63% respectively (i.e., more than a third of migrants living in the GCR had come from other cities). It is perhaps surprising that the proportion of labour that moved directly from OM to GCR was only 10.63% as we would expect high migration of labour between metros as compared to between metros and secondary cities. There may be other factors at play, such as differences in job opportunities, quality of life, or other factors that are influencing where people choose to live and work. It is possible that OM offers sufficient

economic opportunities and quality of life that residents are not compelled to migrate to GCR. Additionally, the high cost of living in GCR may deter potential migrants.

Regarding migration into SC, it is interesting to note that 15.19% of migrants living in SC had moved from another SC which was higher than the share arriving from OM. This could be because secondary cities in South Africa often have their own economic and social structures, which create opportunities for local mobility. Additionally, secondary cities often serve as regional hubs for smaller towns and rural areas, which could also contribute to higher rates of migration within this spatial type. Secondary cities in South Africa have played a crucial role in managing urbanization. These cities have reduced the burden of housing and infrastructure from larger metropolitan areas, while also supplying goods and services to rural centres and the rapidly growing urban centres (Marais & Cloete, 2016)

Overall, the initial transition matrices have provided valuable insights into the patterns and trends of internal migration in South Africa. While migration from rural municipalities remains the majority of migration cases in cities, intercity migration is still a significant share making up a third of all migrants who had arrived in the GCR in 2016; two-fifths of all migrants who settled into OM and just less than half of all migrants who had settled in SC.

Characteristics of intercity migrants

Whilst the transition matrices in Table 3-2 illustrate the magnitude of migration flows between South Africa's spatial types it is also important to explore the demographic characteristics of these migrants. In this context, Tables 3-3 and 3-4 provide detailed information on the age, race, skill level, gender, marital status and female marital status of individuals who moved into and out of metros between 2011 and 2016. By examining these characteristics, we can gain a better understanding of who is more likely to move.

Table 3-3 reveals some interesting differences in the characteristics of migrants depending on where they had come from. Migrants into metros from all spatial types had an average age of 31 years. Migrants into metros from other cities had slightly higher average ages than those from rural municipalities. The highest average age was observed for migrants from GCR (36 years) and the lowest for those from MFB (28 years). There could be several reasons for this

observation. One possible reason could be that older individuals in urban areas may have already established careers and financial stability, making them more likely to afford the cost of moving to a metro. On the other hand, younger individuals in rural areas may be more likely to move to a metro for educational or employment opportunities.

Table 0-3: Characteristics of migrants currently living in the metros

	Migrated from:					
	All (spatial type)	GCR	OM	SC	MCF	MFB
Number of obs	18,221	947	1,734	3,258	4,077	8,205
Weighted numbers	368,120	26,792	41,454	70,283	83,360	146,231
Average age (years)	30.50	35.52	33.69	31.86	31.54	28.20
Race (%):						
Black African	75.69	41.13	55.48	68.54	68.37	95.37
Coloured	4.28	7.44	8.59	4.43	7.27	0.70
Indian/Asian	3.17	6.83	8.96	3.26	3.82	0.45
White	16.86	44.46	26.97	23.77	20.54	3.48
Education (%):						
Low skilled	74.88	56.55	62.66	68.16	75.00	84.85
High skilled	22.90	39.39	35.23	29.74	22.34	13.43
Do not know	1.00	2.28	1.18	0.81	1.02	0.80
Others	1.20	1.78	0.93	1.29	1.64	0.87
Unspecified	0.02	0.00	0.00	0.00	0.00	0.05
Gender (%):						
Male	50.56	54.15	50.54	50.23	51.01	49.82
Female	49.44	45.85	49.46	49.77	48.99	50.18
Marital Status						
Married/cohabiting	37.30	56.67	46.05	44.98	37.29	27.63
Not Married/not cohabiting	62.70	43.33	53.95	55.02	62.71	72.37
Female Marital Status						
Married/cohabiting	42.19	57.90	46.82	48.56	42.32	35.17
Not Married/not cohabiting	57.81	42.10	53.18	51.44	57.68	64.83

Source: CS 2016; own estimates

Notes: Sample is made up of people between the ages of 20 and 64 in 2016 who moved to a metro. The data are weighted.

Looking at the gender distribution of migrants who moved to metros, we can observe a higher share of male migrants, with the exception of those coming from MFB where the proportion of male and female migrants is roughly equal. In terms of race, the majority of migrants received by metros were black African however this varied greatly depending on the place of origin. Among migrants coming from MFB to live in a metro, the overwhelming majority were black African (95.4%). Among migrants who were previously from the GCR but had moved to another metro, these were most often White (44.5%).

White migrants were relatively more represented than Coloureds and Indians across all spatial types, with the highest proportion coming from GCR. This could be explained by the fact that GCR is a more affluent area with a higher proportion of White people than other spatial types. This may also reflect the region's historical demographics as a predominantly White area.

Looking at skill level, the majority of migrants into cities were low skilled, although the proportion of high skilled migrants was far larger when migrants had arrived from GCR (39.4% of migrants from the GCR were high skilled) particularly when compared with migrants from MFB (only 13.4% of migrants from MFB were high skilled). This highlights the significance of cities as sending regions for skilled labour compared to the rest of the country. The low proportion of highly skilled migrants from MFB can be attributed to the relatively limited job opportunities in the predominantly rural area. Low-skilled work in agriculture, forestry and fishing is a major economic activity in MFB, which may not attract highly skilled workers who are looking for opportunities in more lucrative and high-paying industries. Additionally, there may be limited access to quality education and training opportunities in MFB, which could impact the development of high-skilled workers in the area.

When considering marital status, the majority of migrants who moved to metros were not married/not cohabiting, with the exception of GCR. One possible explanation could be related to the age of the migrants. As previously noted, the majority of migrants were young, with a higher average age for those from GCR. It is possible that many of these migrants were young adults who had not yet settled down into long-term relationships or started families and were more mobile and open to opportunities in different areas. In terms of female marital status, the majority of migrants who moved to metros were females who were not married/not cohabiting with the exception of GCR.

The proportion of migrants who were married were highest for migrants from GCR and lowest for migrants from SC. One possible explanation for the higher proportion of married migrants from GCR could be the relatively higher cost of living in the region, which may make it more difficult for young, single individuals to establish themselves and form households. The lower proportion of married migrants from SC could be due to the fact that metros in general offer

more job opportunities than SC. This may lead younger individuals to migrate to urban areas in search of better prospects and they may be less likely to be married or cohabiting at the time of migration. Lastly, the proportion of female migrants who were married/cohabiting was highest for GCR, while mot female migrants from OM and SC were not married/not cohabiting.

Table 3-4, which provides information on the characteristics of migrants who moved out of metros to other spatial types, is an important complement to the information provided in Table 3-3 on migrants who moved into metros. It is important to also examine the characteristics of those who moved out of a metro and see if there are any differences compared to those who moved into a metro from another spatial type.

It is interesting to note that the average years of migrants out of metros into all spatial types was higher than that of those into metros from all spatial types. The average years of migrants from the GCR to a metro in Table 3-3 was 36 years, which was the highest among all spatial types. However, in Table 3-4, migrants from a metro to the GCR had the lowest average age of 33 years, indicating that younger individuals are moving out of metros to the GCR. Migrants moving from a metro to the GCR may be doing so for reasons such a change of pace, which could attract younger individuals. On the other hand, migrants moving out of metros to MCF and MFB areas may be doing so for retirement or a desire to live in quieter areas, which could explain why they are older on average.

Table 0-4: Characteristics of migrants who previously lived in the metros

	Migrated to:					
	All (spatial type)	GCR	OM	SC	MCF	MFB
Number of obs	13,564	954	1,727	2,868	4,252	3,763
Weighted numbers	257,461	23,250	44,996	58,219	77,298	53,698
Average age (years)	35.66	32.86	35.16	34.24	36.73	36.47
Race (%):						
Black African	66.15	54.21	47.59	68.95	58.90	94.28
Coloured	7.09	7.80	8.31	4.74	12.09	1.11
Indian/Asian	3.38	13.77	5.21	2.32	1.72	0.89
White	23.38	24.22	38.90	23.99	27.29	3.72
Education (%):						
Lowly skilled	71.63	57.33	61.78	68.50	75.44	83.99
Highly skilled	26.04	39.94	35.27	28.91	22.42	14.37
Do not know	1.13	1.81	1.51	1.31	0.89	0.66
Other	1.14	0.93	1.44	1.14	0.12	0.89

Unspecified	0.06	0.00	0.00	0.14	0.03	0.07
Gender (%): Male Female	 53.56 46.44	 47.71 52.29	 54.15 45.85	 55.67 44.33	 53.39 46.61	 53.54 46.46
Marital Status Married/Cohabiting Not Married/not cohabiting	 44.55 55.45	 49.16 50.84	 50.73 49.27	 47.65 52.35	 47.45 52.55	 29.84 70.16
Female Marital Status Married Not Married	 47.09 52.91	 49.06 50.94	 52.07 47.93	 51.50 48.50	 50.60 49.40	 32.40 67.60

Source: CS 2016; own estimates

Notes: Sample is made up of people between the ages of 20 and 64 in 2016 who moved out of a metro. The data are weighted.

In terms of race, Table 3-3 and Table 3-4 show some similarities and differences. In both tables, the majority of migrants who moved into and out of metros were Black African, which is in line with the racial demographics of South Africa. On the other hand, the proportion of White migrants who moved out of one of the five other metros to reside in another metro increased to 38.9% from 27%. Migrants from cities to other spatial types show greater racial diversity compared to those moving from other spatial types to cities. Thus, cities play a significant role in promoting racial integration as sending regions.

The proportion of skilled or low skilled migrants who move into a metro and those who move out of a metro is not significantly different. Compared to the movement from the GCR to a metro, where males comprised the majority of movers, in the movement out of a metro to the GCR, more females than males made the move. The data suggests that unmarried or non-cohabiting individuals continue to be the majority of those who move out of a metro or into a metro in both tables 3-3 and 3-4. In contrast, for the movement between a metro and the GCR, fewer married females move out of the metro to the GCR as compared to the reverse move where married females dominate. It is interesting to note that more married females move out of a metro to other metros, secondary cities and mostly commercial farming areas than unmarried females, when compared to the reverse moves.

Net high and low skilled labour migration in each metro

This section explores the transitional analysis of intercity migration by comparing the movements of high-skilled and low-skilled labour. While the descriptive analysis done earlier

provides valuable insights into the patterns of intercity migration, it does not differentiate between the paths taken by skilled and low skilled labour. This is an important limitation to note, given that these two groups may have different migration patterns and reasons for moving between spatial types.

A transitional analysis that examines intercity migration of all forms of labour, followed by a focus on skilled intercity migration, is particularly important for this thesis. Understanding the differences in the migration patterns of high skilled and low skilled workers could provide insights into the underlying factors that drive migration and could inform policy decisions related to economic planning and skills development.

Looking at the absolute numbers in Table 3-5, it can be seen that Cape Town experienced a net inflow of migrants from all spatial types during the period from 2011 to 2016. The largest inflow of migrants to Cape Town was MFB regions, with a net inflow of about 9,800 migrants. This was followed by a net inflow of over 9,300 migrants from the Gauteng City Region. The net inflow from MCF regions was much lower at around 700 migrants.

Looking at Cape Town's migration relationship with other cities, it is apparent that a higher number of migrants came from the GCR to Cape Town, with a lower proportion originating from the other four metros and secondary cities. On the other hand, when it comes to Cape Town's out-migrants to cities, the majority settled in the GCR, followed by secondary cities and other metros, in descending order.

The focus now turns to skilled labour and Table 3-6 reveals that Cape Town was also a net gainer of skilled labour across all spatial types with a net migration of over 10,000 skilled people. The largest net migration of skilled migrants was with the GCR, followed by other metros and secondary cities. Table 6 showed that the majority of all migrants into Cape Town came from mostly former Bantustan areas. However, when we look at Table 3-7, which focuses on skilled labour, we see a different pattern. More than two-thirds of skilled labour came from cities, whereas in the previous table there was a more equal distribution in terms of origin from cities, MCF and MFB areas.

Table 0-5: Net migration for Cape Town

	Migrated to CPT from:	Migrated from CPT to:	Net Migration
Gauteng city-region	22.82% [20.14%-25.76%] 15,530	16.19% [13.33%-19.52%] 6,265	9,265
Other metros	13.33% [11.55%-15.32%] 9,066	9.16% [7.77%-10.76%] 3,543	5,523
Secondary cities	14.16% [12.44%-16.07%] 9,632	14.45% [11.55%-17.94%] 5,592	4,040
Mostly commercial farming	23.15% [20.76%-25.72%] 15,752	38.87% [36.06%-41.76%] 15,041	711
Mostly former Bantustan	26.54% [24.43%-28.77%] 18,060	21.33% [19.36%-23.44%] 8,255	9,805
Total percentage: Weighted numbers	100% 2,527 68,040	100% 1,997 38,696	 29,344

Source CS 2016, own estimates

Notes: Sample is made up of all migrants aged 20 - 64 who moved to and from Cape Town between 2011 and 2016. All data are weighted.

Similarly, skilled labour from Cape Town mostly settled in cities, although mostly commercial farming areas were also an important destination. This is in contrast to Table 3-5, where most labour from Cape Town settled in mostly commercial farming and former Bantustan areas.

In terms of skilled labour leaving Cape Town for cities, most settled in the GCR, followed by secondary cities and other metros. This is similar to the movement of all forms of labour from Cape Town to cities.

Table 3-7 presents the net migration of all labour in eThekwini. It indicates that, overall, the metro was a net gainer of internal labour migrants. However, this gain was mainly due to the high influx of migrants from mostly former Bantustan areas. Across all other spatial types, the metro sent more labour than it received, resulting in a negative net migration. Notably, the proportion of labour from other metros to eThekwini was particularly low.

Table 0-6: Net skilled migration for Cape Town

	Migrated from:	Migrated to:	Net Migration
Gauteng city-region	35.89% [29.62%-42.68%] 6,815	35.05% [27.58%-43.33%] 3,108	3,707

Other metros	15.89% [12.01%-20.74%] 3,018	8.14% [5.87%-11.17%] 722	2,296
Secondary cities	16.85% [13.20%-21.26%] 3,200	15.01% [10.68%-20.69%] 1,331	1,869
Mostly commercial farming	19.98% [15.52%-25.33%] 3,794	36.09% [30.20%-42.42%] 3,200	594
Mostly former Bantustan	11.39% [8.43%-15.22%] 2,163	5.72% [3.79%-8.54%] 507	1,656
Total percentage: Observations Weighted numbers	100% 537 18,990	100% 374 8,867	 10,123

Source CS 2016, own estimates

Notes: Sample is made up of skilled migrants aged 20 - 64 who moved to and from Cape Town between 2011 and 2016. All data are weighted.

The metro sent out a larger proportion of labour to secondary cities than to other metros. The negative net migration was particularly high with the GCR, showing that the GCR served as an important destination for labour from eThekwini. Interestingly, the proportions of labour from eThekwini to the GCR and mostly former Bantustan areas were almost the same.

Table 3-8 presents the migration patterns of skilled labour from and to eThekwini. In general, the metro experienced a net loss of nearly 5,000 highly skilled migrants. The only net gain was from mostly former Bantustan (MFB) regions, with just over 100 skilled individuals. It is worth noting that the proportion of skilled labour from other cities to eThekwini is 47%, while in Table 3-7, the proportion of all migrants from cities was only about 24.2%. This highlights the significant contribution of skills to the migration dynamics of this metro between 2011 and 2016. eThekwini received most skilled labour from the MFB areas, which is consistent with the migration pattern of all migrants to and from the metro in the previous table.

Regarding migration between eThekwini and other cities, the highest net loss of skilled migrants was with the Gauteng City Region (GCR), followed by secondary cities and the other four metros.

Table 0-7: Net migration for eThekwini

	Migrated to ETH from:	Migrated from ETH to:	Net Migration
Gauteng city-region	13.29% [11.12%-15.81%] 4,673	28.38% [25.52%-31.41%] 9,420	-4,747
Other metros	2.67% [1.95%-3.64%] 938	10.06% [7.69%-13.07%] 3,341	-2,403
Secondary cities	8.22% [7.03%-9.59%] 2,891	15.18% [13.07%-17.56%] 5,038	-2,147
Mostly commercial farming	16.58% [14.88%-18.44%] 5,831	18.38% [16.42%-20.52%] 6,102	-271
Mostly former Bantustan	59.24% [56.67%-61.76%] 20,829	28.00% [25.75%-30.38%] 9,297	11,532
Total percentage: Weighted numbers	100% 35,162	100% 33,196	1,966

Source CS 2016, own estimates

Notes: Sample is made up of all migrants aged 20 - 64 who moved to and from eThekwini between 2011 and 2016. All data are weighted.

Table 3-9 provides information on the migration patterns of all forms of labour from and to the GCR. It shows that the metro experienced a net gain in labour migration during the period from 2011 to 2016. This gain was mainly driven by migrants from mostly former Bantustan areas. However, the net migration was negative when it comes to other metros. In terms of destination, most migrants from the GCR settled in secondary cities, while the least number of out-migrants settled in other metros.

Table 0-8: Net skilled migration for eThekwini

	Migrated to ETH from:	Migrated from ETH to:	Net Migration
Gauteng city-region	28.39% [22.83%-34.69%] 1,420	37.19% [31.60%-43.15%] 3,708	-2,288
Other metros	4.32% [2.29%-7.99%] 216	11.95% [7.60%-18.31%] 1,192	-976
Secondary cities	14.32% [10.57%-19.12%] 716	18.47% [14.87%-22.71%] 1,842	-1,126

Mostly commercial farming	20.14% [15.58%-25.61%] 1,007	17.04% [13.64%-21.08%] 1,699	-692
Mostly former Bantustan	32.84% [27.33%-38.86%] 1,642	15.34% [12.29%-18.98%] 1,529	113
Total percentage: Weighted numbers	100% 5,000	100% 9,970	-4,970

Source CS 2016, own estimates

Notes: Sample is made up of skilled migrants aged 20 - 64 who moved to and from eThekwini between 2011 and 2016. All data are weighted.

Table 3-10 illustrates the migration patterns of skilled labour to and from the GCR, revealing a positive net migration of almost 13,000 skilled individuals. The highest net migration was with the MFB regions, which contributed to the gain. The table also shows a positive net migration of almost 3,400 skilled people with secondary cities, while a net loss of about 1,300 skilled migrants was observed with the other four metros.

Table 0-9: Net migration for Gauteng city-region

	Migrated to GCR from:	Migrated from GCR to:	Net Migration
Gauteng city-region	N/A	N/A	N/A
Other metros	10.63% [9.80%-11.52%] 23,250	19.27% [17.73%-20.91%] 26,792	-3,722
Secondary cities	23.64% [22.60%-24.72%] 51,728	30.28% [28.96%-31.62%] 42,099	9,629
Mostly commercial farming	21.43% [20.50%-22.40%] 46,895	28.19% [26.96%-29.45%] 39,198	7,697
Mostly former Bantustan	44.30% [43.15%-45.45%] 96,912	22.27% [21.29%-23.23%] 30,960	65,952
Total percentage: Weighted numbers	100% 218,787	100% 139,049	79,738

Source CS 2016, own estimates

Notes: Sample is made up of all migrants aged 20 - 64 who moved to and from GCR between 2011 and 2016.
All data are weighted.

Table 0-10: Net skilled migration for Gauteng city-region

	Migrated to GCR from:	Migrated from GCR to:	Net Migration
Gauteng city-region	N/A	N/A	N/A
Other metros	19.23% [16.86%-21.85%] 9,286	29.82% [26.11%-33.81%] 10,554	-1,268
Secondary cities	30.94% [28.03%-34.01%] 14,939	32.62% [29.65%-35.73%] 11,545	3,394
Mostly commercial farming	21.59% [19.30%-24.08%] 10,425	24.84% [22.40%-27.46%] 8,793	1,632
Mostly former Bantustan	28.23% [25.96%-30.62%] 13,630	12.72% [11.22%-14.39%] 4,502	9,128
Total percentage: Weighted numbers	100% 48,281	100% 35,394	12,887

Source CS 2016, own estimates

Notes: Sample is made up of skilled migrants aged 20 - 64 who moved to and from GCR between 2011 and 2016. All data are weighted.

Table 3-11 illustrates the migration patterns of all labour to and from Buffalo City across different spatial types. The metro had an overall negative net migration, with significant variation across spatial types. Specifically, there was a positive net migration with mostly former Bantustan areas, a negative one with other metros and secondary cities and a positive one with the GCR. When focusing only on skilled labour (Table 3-12), the metro had a small negative net migration of approximately 30 skilled people, meaning that overall, the metro received skilled labour as much as it sent. The metro lost almost 1,500 skilled people to OM. Interestingly, a positive net migration of almost 300 skilled people was observed with the GCR. The metro also experienced a net loss of skilled migrants to secondary cities of over 400.

Table 0-11: Net migration for Buffalo City

	Migrated to BC	Migrated from BC to:	Net Migration
Gauteng city-region	11.94% [9.84%-14.42%] 1,753	10.26% [8.07%-12.97%] 1,568	185

Other metros	21.01 [18.46%-23.80%] 3,082	38.86% [33.91%-44.04%] 5,934	-2,852
Secondary cities	6.85 [5.29%-8.82%] 1,004	7.89% [5.01%-12.21%] 1,205	-201
Mostly commercial farming	18.43 [15.98%-21.17%] 2,704	26.05% [22.25%-30.25%] 3,979	-1,275
Mostly former Bantustan	41.77% [38.54%-45.08%] 6,129	16.94% [14.23%-20.03%] 2,587	3,542
Total percentage: Weighted numbers	100% 14,673	100% 15,272	-599

Source CS 2016, own estimates

Notes: Sample is made up of all migrants aged 20 - 64 who moved to and from Buffalo City between 2011 and 2016. All data are weighted.

Table 0-12: Net skilled migration for Buffalo City

	Migrated to BC	Migrated from BC to:	Net Migration
Gauteng city-region	18.21% [13.18%-24.62%] 713	10.91% [6.54%-17.64%] 430	283
Other metros	24.25 [18.93%-30.50%] 949	37.49% [26.67%-49.72%] 1,478	-2,852
Secondary cities	7.97 [4.90%-12.71%] 312	18.21% [9.23%-32.78%] 718	-406
Mostly commercial farming	18.53 [13.76%-24.48%] 725	16.67% [10.02%-26.45%] 657	68
Mostly former Bantustan	31.04% [25.28%-37.46%] 1216	16.72% [11.50%-23.67%] 659	557
Total percentage: Weighted numbers	100% 3,915	100% 3,942	-27

Source CS 2016, own estimates

Notes: Sample is made up of skilled migrants aged 20 - 64 who moved to and from Buffalo City between 2011 and 2016. All data are weighted.

Table 3-13 presents the migration patterns of all labour to and from Nelson Mandela Bay (NMB). Overall, the metro had a positive net migration of almost 900 people. The net migration was positive across all spatial types, with the highest contributors of labour being mostly rural areas (MCF and MFB) as compared to urban areas. When looking at skilled labour

(Table 3-14), the overall net migration was a deficit of over 400 people. The highest negative net migration was with other metros. NMB had more skilled people moving out to the GCR as compared to those moving in from the GCR. However, more skilled migrants moved from secondary cities to the NMB as compared to the ones who left.

Table 0-13: Net migration for Nelson Mandela

	Migrated to NMB	Migrated from NMB to:	Net Migration
Gauteng city-region	16.86% [13.65%-20.64%] 2,889	16.89% [13.92%-20.35%] 2,750	139
Other metros	26.73 [22.28%-31.70%] 4,580	26.87% [23.18%-30.91%] 4,375	205
Secondary cities	8.93 [6.39%-12.37%] 1,531	6.37% [4.27%-8.55%] 1,037	494
Mostly commercial farming	32.98 [28.09%-38.26%] 5,651	38.68% [34.67%-42.86%] 6,299	648
Mostly former Bantustan	14.50% [11.94%-17.49%] 2,484	11.19% [9.29%-13.42%] 1,821	663
Total percentage: Weighted numbers	100% 17,136	100% 16,282	854

Source CS 2016, own estimates

Notes: Sample is made up of all migrants aged 20 - 64 who moved to and from NMB between 2011 and 2016. All data are weighted.

Table 0-14: Net skilled migration for Nelson Mandela

	Migrated to NMB	Migrated from NMB to:	Net Migration
Gauteng city-region	16.59% [10.20%-25.84%] 641	19.74% [13.56%-27.83%] 848	-207
Other metros	26.00 [17.70%-36.47%] 1,005	33.71% [25.37%-43.21%] 1,449	-444
Secondary cities	12.23 [6.83%-20.94%] 473	8.87% [5.03%-15.16%] 381	92
Mostly commercial farming	26.73 [15.81%-41.48%] 1,033	29.82% [21.23%-40.12%] 1,282	-249

Mostly former Bantustan	18.45% [12.24%-26.84%] 713	7.86% [4.82%-12.55%] 338	375
Total percentage: Weighted numbers	100% 3,864	100% 4,298	-434

Source CS 2016, own estimates

Notes: Sample is made up of skilled migrants aged 20 - 64 who moved to and from NMB between 2011 and 2016. All data are weighted.

Table 3-15 presents migration patterns for all labour in Mangaung. The metro experienced a negative net migration of over 600 people. The highest negative net migration was observed with the GCR, with a loss of 1,300 people. However, there was a positive net migration for secondary cities and MFB areas. Turning to skilled migrants in Table 3-16, a negative net migration of almost 300 people was observed. Only the MFB areas had a positive net migration. The highest negative net migration was observed with cities, particularly other metros, followed by secondary cities and then the GCR.

Table 0-15: Net migration for Mangaung

	Migrated to MNG	Migrated from MNG to:	Net Migration
Gauteng city-region	13.60% [10.85%-16.91%] 1,948	21.71% [18.56%-25.22%] 3,249	-1,301
Other metros	3.75% [2.40%-5.80%] 536	6.75% [4.77%-9.46%] 1,010	-474
Secondary cities	24.41% [20.57%-28.72%] 3,496	21.71% [18.39%-25.43%] 3,249	247
Mostly commercial farming	45.57% [41.15%-50.05%] 6,526	44.63% [40.72%-48.62%] 6,680	-154
Mostly former Bantustan	12.68% [10.11%-15.78%] 1,816	5.21% [3.89%-6.94%] 779	1037
Total percentage: Weighted numbers	100% 14,322	100% 14,966	-644

Source CS 2016, own estimates

Notes: Sample is made up of all migrants aged 20 - 64 who moved to and from MNG between 2011 and 2016. All data are weighted.

Table 0-16: Net skilled migration for Mangaung

	Migrated to MNG	Migrated from MNG to:	Net Migration
Gauteng city-region	22.62% [15.85%-31.19%] 965	26.13% [19.71%-33.76%] 1,191	-226
Other metros	3.03% [1.35%-6.67%] 129	10.47% [6.23%-17.07%] 477	-474
Secondary cities	29.55% [21.43%-39.21%] 1,261	22.19% [15.14%-31.32%] 1,012	-348
Mostly commercial farming	38.34% [29.79%-47.67%] 1,636	37.21% [29.86%-45.20%] 1,696	-60
Mostly former Bantustan	6.47% [3.77%-10.87%] 276	3.99% [2.22%-7.09%] 182	94
Total percentage: Weighted numbers	100% 4,267	100% 4,559	-283

Source CS 2016, own estimates

Notes: Sample is made up of skilled migrants aged 20 - 64 who moved to and from MNG between 2011 and 2016. All data are weighted.

Reasons why migrants had move in or out of a metro

To gain a deeper understanding of the motivations behind migration patterns, we can turn to tables 3-17 and 3-18, which provide us with more information on why migrants move to live in a metro area from other spatial types (Table 3-17) and the reasons why migrants leave a metro area (Table 3-18) for other spatial types. These tables will help us delve deeper into the underlying factors driving migration patterns.

Overall, the most common reason that migrants relocate to a metropolitan area is related to employment opportunities (more than 40% report 'employment' in any sending region), with individuals from former Bantustan areas the most likely (51.4%) to be motivated by the desire to find employment. This pattern is unsurprising given the significant challenges associated with the labour market in rural areas, including limited job opportunities and low wages for those who are able to secure employment (Makgetla, 2010). Conversely, those from SC account for the smallest proportion of employment-driven migration (40%). A possible explanation could be that the cost of living in metros is higher and therefore, people may choose to move to secondary cities where the cost of living is relatively lower.

It is worth noting that the least cited reason for migration to a metro across all spatial types was for housing-related reasons. This makes sense given the current property market in metros in South Africa, which has is characterized by growing informality with limited affordable housing options, especially in well-located areas (Turok, 2020). In other words, whilst metros might offer more favourable labour market outcomes, they also present challenges such as a shortage of affordable housing options.

Aside from employment reasons, education is also a significant factor for people moving to metros from all other spatial types. The greater availability and quality of educational facilities in metros (all metros have a university campus and offer a variety of public and private options) would make cities attractive for the youth seeking to study further.
Looking specifically at intercity migration, it is interesting to note that migrants from the GCR were least likely to cite education-related movements compared with other intercity migrants. This might highlight the strength of the education system in Gauteng compared to other regions in South Africa. The GCR has some of the best universities and colleges in the country, as well as a large number of primary and secondary schools. Therefore, it is possible that people who move to a metro from the GCR are less likely to do so for education-related reasons as they may have better access to educational opportunities in their home region.

When examining Table 3-18, we observe some differences in terms of the motivations for movement out of a metro compared to into a metro. Notably, the proportion of migrants citing employment-related reasons reduced by about 9 percentage points, while other related reasons increased by over 10 percentage points. Hence, employment is less important as a motive for migrants leaving a metro than those arriving. There is a lack of employment opportunities in other spatial types, which makes it difficult for migrants to find work outside of the metro areas, leading to fewer employment-related reasons for moving out of the metro and migrants could have left for other reasons.

Additionally, education-related reasons reduced by about 9 percentage points, while housing-related reasons increased by about 7 percentage points. One possibility is that housing prices in the metro areas may have increased, making it less affordable for some people to continue

living in those areas. As a result, they may have chosen to move out of the metro area to find more affordable housing options. Another possibility is that some people may have found that they could get more value for their money by buying or renting a larger or more comfortable home outside of the metro area. Additionally, some people may have preferred to live in quieter or more spacious areas outside of the metro area and housing may have been a contributing factor in their decision to move.

Turning to intercity migration, notably, a greater proportion of migrants who moved from a metro to a GCR cited employment-related reasons (51.4%) compared to those who moved from the GCR to a metro (47%). This could be attributed to the fact that the GCR has a relatively higher concentration of economic opportunities than other regions, which could be a pull factor for migrants seeking employment. For the movement out of a metro, there was also an increase in the proportion of those who cited family-related reasons compared to the movement from the GCR to a metro. This could be because migrants who have been living in metros for some time may want to reunite with their families or find a more suitable environment to raise their families.

The reduction in the proportion of migrants who cited education-related reasons for movement from a metro to a secondary city (8%) compared to those who had moved from SC to a metro (16.3%) could be due to the fact that most educational opportunities are concentrated in metros and therefore, migrants moving to secondary cities may not have access to similar educational opportunities as those in metros. Additionally, this could also be due to the fact that those moving from SC to a metro are likely to be younger and seeking better educational opportunities, while those moving from a metro to SC may have already completed their education and are now seeking other reasons for migration, such as family or lifestyle reasons.

Table 0-17: Reasons why migrants moved to live in a metro

	Migrated from:					
	All (spatial types)	GCR	OM	SC	MCF	MFB
Family	18.68% [17.92%-19.48%]	17.67% [14.68%-21.13%]	22.21% [19.45%-25.25%]	20.48% [18.87%-22.30%]	21.03% [19.27%-22.90%]	15.67% [14.68%-16.71%]
Education	16.80% [16.14%-17.48%]	7.24% [5.45%-9.56%]	11.63% [9.62%-14.00%]	16.30% [14.86%-17.85%]	15.66% [14.15%-17.30%]	20.90% [19.94%-21.91%]
Employment	46.71% [45.75%-47.67%]	47.04% [42.15%-51.99%]	48.70% [45.48%-51.93%]	39.99% [37.72%-42.31%]	43.10% [41.13%-45.08%]	51.38% [50.08%-52.67%]
Housing	6.31% [5.81%-6.86%]	5.68% [3.99%-8.02%]	5.20% [3.59%-7.48%]	10.74% [9.45%-12.17%]	7.74% [6.82%-8.78%]	3.80% [3.10%-4.65%]
Other	10.98% [10.33%-11.66%]	22.12% [18.18%-26.64%]	11.31% [9.42%-13.52%]	11.97% [10.62%-13.45%]	11.72% [10.24%-13.38%]	7.94% [7.23%-8.71%]
Do not know	0.52% [0.41%-0.65%]	0.24% [0.07%-0.76%]	0.94% [0.58%-1.53%]	0.52% [0.30%-0.91%]	0.75% [0.52%-1.10%]	0.32% [0.20%-0.49%]
Total: Percent	100%	100%	100%	100%	100%	100%

Source: CS 2016; own estimates

Notes: Sample is made up of people between the ages of 20 and 64 in 2016. All data are weighted. See annex for classification of reasons

Table 0-18: Reasons why migrants moved out of a metro

	Migrated to:					
	All (spatial types)	GCR	OM	SC	MCF	MFB
Family	25.17% [24.27%-26.09%]	23.00% [19.23%-27.26%]	19.10 [16.67%-21.80%]	22.00% [20.25%-23.86%]	26.33% [24.86%-27.86%]	32.95% [31.35%-34.58%]
Education	7.54% [6.84%-8.31%]	8.84% [6.85%-11.35%]	10.46% [8.56%-12.72%]	8.09% [6.21%-10.49%]	5.28% [4.35%-6.41%]	7.20% [6.29%-8.22%]
Employment	36.83% [35.75%-37.93%]	51.43% [47.03%- 55.81%]	46.30% [42.79%-49.85%]	41.12% [38.78%-43.50%]	35.68% [34.02%- 37.38%	19.59% [18.21%-21.04%]
Housing	8.24% [7.64%-8.89%]	5.43% [3.04%-9.51%]	5.37% [4.14%-6.94%]	13.02% [11.46%-14.75%]	8.33% [7.43%-9.32%]	6.55% [5.74%-7.47%]
Other	21.28% [20.43%-22.17%]	10.05% [7.46%-13.42%]	18.40% [15.76%-21.36%]	14.46% [12.91%-16.16%]	23.34% [21.95%-24.79%]	33.01% [31.43%-34.62%]
Do not know	0.93% [0.74%-1.16%]	1.24% [0.69%-2.24%]	0.36% [0.19%-0.71%]	1.30% [0.91%-1.86%]	1.04% [0.64%-1.68%]	0.71% [0.47%-1.06%]
Total: Percent	100%	100%	100%	100%	100%	100%

Source: CS 2016; own estimates. Notes: Sample is made up of people between the ages of 20 and 64 in 2016. All data are weighted. See annex for classification of reasons

3.6. Summarising net-migration patterns in each metro

In the previous sections, we analysed the patterns of mobility of all labour in South Africa between 2011 and 2016, with a particular focus on skilled labour and its movement between cities. Based on the analysis, the following key findings were observed (summarized in Table 3-19 below): First, skilled labour showed a higher tendency to move between cities compared to the rest of the labour force. Second, all metros experienced both gains and losses of skilled labour migration, with some metros experiencing positive net migration while others experienced negative net migration. Third, Cape Town was a net gainer of skilled labour, with the highest positive net migration being with the GCR, followed by the other four metros and then secondary cities. The total flow of migration with the GCR for Cape Town was higher compared to migration between Cape Town and other metros or secondary cities.

Fourth, eThekwini was a net loser of skilled labour, with the highest negative net migration being with the GCR, followed by secondary cities and then other metros. The total flow of migration between metros for eThekwini was higher compared to the flow with secondary cities. Fifth, the GCR was a net gainer of high skilled labour, however, with a positive net migration with secondary cities and a negative one with other metros. The total flow of migration between metros for the GCR was lower compared to movements between the GCR and secondary cities.

Sixth, Buffalo City experienced negative net migration for skilled labour, with the highest negative net migration being with the other four non-GCR metros. More skilled migrants left for secondary cities than the reverse move. However, Buffalo City received more skilled migrants from the GCR than it sent out and the overall level of migration for skilled labour between Buffalo City and other metros was higher compared to migration between the metro and secondary cities. Seventh, Nelson Mandela Bay also experienced negative net migration for skilled labour, with the highest negative net migration being with the other four metros. While more high skilled migrants left the Bay area for the GCR compared to those who moved in, secondary cities sent in more high skilled migrants into the Bay area compared to the number who moved out to secondary cities. The overall level of migration for skilled labour between Buffalo City and other metros was higher for Nelson Mandela Bay compared to

migration between the metro and secondary cities. Eighth, Mangaung was a net loser of high skilled migrants, with the highest negative net migration being with other metros. Across all city types, the metro sent out more skilled labour than it received and total migration flows for high skilled labour between Mangaung and other metros were higher compared to those between the metro and secondary cities.

Table 0-19: Key findings on intercity migration of highly skilled labour between 2011 and 2016

Metropolitan city	**Net migration (+/-)**	**City level net migration**		**Most common form of migration***
		Positive net migration	**Negative net migration**	
Cape Town	+	• Gauteng City Region • Other metros • Secondary cities	N/A	With other metros
eThekwini	-	N/A	• Gauteng City Region • Secondary cities • Other four metros	With other metros
Gauteng City Region	+	Secondary cities	Other metros	With secondary cities
Buffalo City	-	Gauteng City Region	• Other four metros • Secondary cities	With other metros
Nelson Mandela Bay	-	Secondary cities	• Other four metros • Gauteng City Region	With other metros
Mangaung	-	N/A	• Other four metros • Secondary cities • Gauteng City Region	With other metros

Source: Authors' compilation
Notes: "Other four metros" refers to non-GCR metros and excluding the one at the level of analysis. *'Most common form of migration' refers to the total flow of migration coming in and out.

3.7. Conclusion

In summary, the chapter's main findings offer valuable insights into the dynamics of internal migration patterns in South Africa, focusing on intercity migration. Firstly, the prevalence of migration between cities as a significant share of internal migration in South Africa between 2011 and 2016 suggests its growing importance, which will likely continue to rise over time. It calls for increased consideration of this trend in the country's literature and future research endeavours. Secondly, Migration between cities becomes particularly prominent when focusing on skilled individuals. This aligns coherently with existing theories regarding the propensity of skilled labour to migrate. The increasing importance of migration between cities in this context signifies its critical role in shaping urban development and labour market dynamics. Policymakers should recognize the unique needs and contributions of this specific group of migrants.

Thirdly, migration between cities and from cities into other spatial types has emerged as a more diverse cohort compared to in-migration from rural areas. This diversity may serve as a mechanism for fostering equity, particularly in terms of racial and skill-related dimensions. Recognizing this diversity is pivotal in addressing social inequalities and harnessing the potential benefits of these different migrant cohorts for local economies and communities. Fourthly, the study highlights the crucial role of secondary cities within South Africa's urban system, with their significance becoming even more pronounced, potentially making them the most important flow for the Gauteng City Region (GCR). There appears to be a compelling factor in secondary cities that is attracting skilled labour. This trend suggests that secondary cities may offer unique opportunities or advantages that are appealing to skilled professionals.

Fifthly, the analysis unveils nuanced patterns in net skilled migration between cities. While Cape Town (CPT) and the Gauteng City Region (GCR) emerge as net winners, other cities tend to experience a net outflow of skilled labour. Understanding these nuances is essential for cities to make informed decisions about their labour markets and competitiveness.

Policymakers should consider targeted strategies to attract and retain skilled individuals. Sixthly, the clear dominance of Cape Town (CPT) as a destination for skilled migrants suggests the emergence of semigration as a trend that has been developing over time. This phenomenon involves individuals relocating to locations that offer a balance between urban amenities and a desirable quality of life. Recognizing this trend is crucial for cities aspiring to attract high-skilled workers and foster regional development. With continued urbanization and the increasing importance of skilled labour in driving economic growth, it is crucial to understand migration patterns of skilled labour and implement policies that can attract and retain them (See Chapter 6).

Migration to another city can impact economic variables like per capita income, wages for those who move and employment likelihood for the mover. The next chapters of the thesis will explore the outcomes of skilled labour migration in South Africa, specifically focusing on income, wages and employment. The chapters builds on the findings of the current chapter which examined migration patterns for skilled labour across cities in South Africa.

CHAPTER 4: THE RELATIONSHIP BETWEEN INTERCITY MIGRATION & SOCIAL MOBILITY: A DESCRIPTIVE REVIEW

4.1. Introduction

Chapter 4 of this thesis centres on addressing the second research objective, which entails an exploration of the role of intercity migration on income and employment opportunities. Within this chapter, which focuses on the descriptive evidence linking intercity migration to social outcomes, a set of auxiliary objectives emerges. Firstly, it aims to discern distinctive characteristics that set migrants apart from non-migrants. Secondly, it seeks to describe the disparities between migrants and non-migrants concerning income and poverty dynamics. Lastly, the chapter explores employment outcomes across these groups.

These findings start to uncover the dynamics between migration, income, employment and poverty. The potential for casual relationships between migration and social mobility are explored using econometric techniques in chapter 5. Additionally, they have the potential to enrich theoretical frameworks and models that explain the effects of intercity migration, especially within the context of skilled labour. The findings can offer valuable insights that can empower individuals within the labour market to make well-informed decisions regarding their choice to migrate to other cities. These decisions can be guided by the anticipated changes in income and employment prospects. Regular monitoring and analysis of migration patterns and their impact on social mobility can help policymakers make data-driven decisions, adjusting policies to changing conditions and population movements.

4.2. Data, Sample & Variables

The National Income Dynamics Study (NIDS) stands as the inaugural nationwide household panel research conducted in South Africa (Brophy et al., 2018). This comprehensive study encompasses a representative panel survey of 28,255 individuals, all of whom resided within 7,305 households in South Africa during the base wave in 2008 (Woolard et al., 2010). During the 2008 NIDS survey, diligent efforts were made to gather information pertaining to every

member of the household, encompassing both current residents and non-residents at the time of the interview (Leibbrandt et al., 2009).

This survey has since been recurrently conducted every two years, consistently involving the same members of the original households, known as Continuing Sample Members (CSMs). Individuals who subsequently become part of these households are interviewed; however, they are not longitudinally tracked in subsequent waves and are referred to as Temporary Sample Members (TSMs). Furthermore, offspring born to CSM mothers are incorporated into the CSM sample and are subject to ongoing tracking (Brophy et al., 2018).

The themes encompassed within the NIDS questionnaires comprise a diverse array of topics, including shifts in poverty and well-being, alterations in household composition and structure, trends in fertility and mortality, patterns of migration, engagement in the labour market and economic activities, processes of human capital development, health and education, as well as examinations of vulnerability and social capital (Leibbrandt et al., 2009). As such, this comprehensive instrument assumes a pivotal role in elucidating the dynamics of migration across distinct locations within South Africa, while concurrently establishing connections with individuals' educational attainment and various characteristics such as gender, age and race.

The availability of comprehensive information on household income and employment status within the NIDS dataset further empowers researchers to establish associations between individuals' migratory patterns and these particular outcomes. Information for the initial wave of NIDS was gathered in 2008, followed by the second wave in 2010, the third in 2012, the fourth in 2014 and the fifth in 2017. A full description of the NIDs data and access to questionnaires used during the interviews is publicly available.[8]

The study's specific objective and approach involve the utilization of data from both wave 1 and wave 5 of NIDS. By employing this longitudinal dataset, the research gains the ability to examine the dynamic effects of migration over a substantial 10-year period. To ensure the relevance of the analysis for working age adults, the sample is limited to individuals of working

[8] http://www.nids.uct.ac.za/

age (15 – 64 years) during the 2008 data collection. Furthermore, the selected individuals must have participated in successful interviews in both the 2008 and 2017 waves and have provided complete responses regarding key variables of interest, namely age, gender, location of residence, employment status, educational attainment and household income. The data are then weighted for sample attrition.

The adult questionnaires administered during Wave 1 (2008) and Wave 5 (2017) include modules that capture various geographical locations, such as traditional, urban and farm areas. Additionally, district codes corresponding to the 52 district councils in South Africa, which encompass the eight metropolitan city district councils, are also incorporated.
To align with the research's specific emphasis on intercity migration, particularly urban-to-urban migration, the sample is limited to individuals living in urban areas. This involves the inclusion of individuals who were exclusively situated in urban areas during both the 2008 and 2017 time periods.

The sample is further categorized into three distinct cohorts:

1. *Remained urban (Cohort 0)*: Comprising individuals who resided in an urban area in 2008 and were still within an urban area in the same district in 2017.
2. *Urban to metro (Cohort 1)*: Encompassing individuals who initially lived in an urban area in 2008 and had moved to a district within one of the eight metropolitan areas – Buffalo City, Cape Town, Ekurhuleni, eThekwini, Johannesburg, Mangaung, Nelson Mandela Bay or Tshwane– by 2017.
3. *Urban to urban (Cohort 2)*: Involving individuals who were situated in an urban area in 2008 but had subsequently relocated to a different urban area in another district by 2017, excluding those within the aforementioned metros districts.

The panel weights provided by NIDS in the dataset serve the purpose of addressing sample selection bias, ensuring the preservation of representativeness and enhancing the overall generalizability of the study's findings.

Data limitations

Despite the thorough approach undertaken in this study to explore the role of intercity migration on income and employment opportunities in South Africa, certain data limitations warrant acknowledgment. These limitations temper the scope and interpretation of the findings, highlighting the need for a nuanced understanding of the results. The following points outline the key data limitations encountered during the analysis:

1. *Small sample size*: In the case of the NIDS data, it is essential to consider that the survey relies on a relatively small sample, approximately 28,000 individuals. This limited sample size can introduce some imprecision into the measurements, which becomes particularly challenging when further narrowing down the sample, such as when focusing exclusively on employed individuals (for occupational or wage change analyses); or specific racial categories like Whites and Indians. Nevertheless, the reporting of confidence intervals is done carefully and the text explicitly highlights cases where observed differences might lack statistical significance. The constraints related to sample size made it impractical to further reduce the sample for a dedicated focus on sub-samples of skilled individuals. However, it is worth noting that interactions involving skilled migrants are incorporated into the econometric models discussed in the subsequent chapter.
2. *Impact of attrition and high-income Individuals*: The presence of a considerable number of attritors between the 10-year frame of analysis, particularly among high-income individuals and white and Indian participants, contributes to a reduced sample size within these specific groups (Biagrie & Eyal, 2014; Daniels et al., 2022). Consequently, the analysis of these subgroups could entail increased confidence intervals, influencing the generalizability of findings.
3. *Circular migration complexity*: The phenomenon of circular migration introduces additional complexity to the analysis. When an individual migrates between urban and rural areas and subsequently back to an urban area within the 10-year timeframe, the complexities of circular migration come into play. The intricacies of such movements can impact labour market outcomes in intricate ways, potentially affecting employment opportunities and income trajectories. However, circular migration is probably a small number of cases (Posel, 2013).

4. *Assumptions and self-reporting*: The study relies on self-reported data in some instances such as monthly income and labour market questions, which inherently carries the potential for biases and errors.

These data limitations, while acknowledged and mitigated to the best extent possible, underscore the need for careful interpretation of findings. The study's conclusions should be viewed within the context of these constraints, while recognizing the valuable insights they still provide regarding the complex interplay between intercity migration and labour market outcomes.

Other variables

While the variables under consideration share similarities with those used in objective one (Chapter 3), certain distinctions are introduced to align with the specific focus of this research objective. In addition to the cohort variables and geographic location variables aforementioned, other variables of interest considered in this research are as follows:

- *Employment status:* Categorized into not economically active, unemployed[9] and employed.
- *Racial comparison:* Due to limited representation of Whites and Indians in NIDS, the White and Indian groups are combined to enable meaningful comparisons across racial categories. The final groups analysed are Africans, White/Indian and Coloureds.
- *Gender comparison*: Migration patterns and outcomes are examined in relation to gender, comparing males and females.
- *Age*: Age is treated as a continuous variable within the working age range of 15 to 64 as of Wave 1.
- *Skill levels*: Migration patterns and outcomes are compared based on educational attainment in Wave 1. The analysis distinguishes between highly skilled individuals (those who completed some form of tertiary education) and lowly skilled individuals (those who completed matric and below).

[9] This includes the non-searching, that is, discouraged jobseekers. Posel et al., (2013) using NIDS wave 1 and wave 2 finds substantive evidence that the non-searching unemployed form a legitimate and integral part of the labour force and should be included in unemployment measures.

- *Household size*: the number of individuals who are living together and sharing common living arrangements within a single dwelling or housing unit.
- *Household real per capita monthly income*: This is a continuous variable calculated by dividing the nominal monthly per capita income by the number of household members and then adjusting this figure for inflation using the 2017 Consumer Price Index of South Africa. The resulting value represents the income per person in the household, adjusted to account for changes in the purchasing power of the currency over time.
- *Poverty status:* Poverty status is determined using the StatsSA upper-bound poverty line (UBPL), set at R1,136 per person per month in March 2017 Rands. The UBPL serves as the focal point of our analysis, representing the estimated cost of an adequate consumption basket encompassing both food and non-food components (Schotte et al., 2022).
- *Marital status*: Marital status is categorized as married or cohabiting, compared with all other forms of relationship status.

4.3. Descriptive results

Sample composition and demographic overview

This section employs a variety of descriptive tools, including summary tables, transition matrices and visual aids such as bar graphs, histograms and kernel density plots. These tools collectively reveal patterns in relation to social outcomes which are correlated with the three intercity migration cohorts (i.e., remained urban, metro to urban and urban to urban). Furthermore, it establishes connections between these migration scenarios and the variables of interest. This approach allows for an examination of the associations between different characteristics and the unique migration trajectories, providing insights into their origins or outcomes. All the frequencies, means and percentages are weighted to be representative of the South African population. The confidence intervals are reported at the 95% level.

Table 4-1 displays the sample size according to the distinct cohorts of analysis established. Notably, the group of urban to metro migrants exhibits a larger sample size compared to the

urban-to-urban migrant cohort. The weighted data show that more than 1.8 million working age adults living in an urban area (metro or otherwise) had migrated to another metro over the period 2008 to 2017 while another approximately 1.2 million adults had moved between urban areas but did not settle in a metro. This observation underscores the significant role of metros in South Africa in terms of absorbing labour from other urban regions, suggesting that they may be primary hubs for labour opportunities and economic activities although movements into non-metro urban areas is still important.

Table 0-1: Sample size by cohort

	Remained in same urban area	Urban to metro migrants	Urban to urban migrants (excluding metros)	Total
Eligible sample				
Number of observations (unweighted)	3,888	660	345	4,893
Number of observations (weighted)	13,852,661	1,817,359	1,192,235	16,862,254
Percentage share	82.2 (80.6-83.6)	10.8 (9.7-12.0)	7.1 (6.1-8.2.)	100

Source: NIDS Wave 1 and 5; own estimates. All frequencies and percentages are weighted. Confidence intervals in parentheses are at the 95% level.

Table 4-2 summarizes the individual and household characteristics of individuals who stayed in urban areas and those who migrated from urban to metro areas or urban to urban areas, revealing several key insights. Notably, migrants tend to be younger than those who remained in the same urban area, with urban-to-metro migrants being the youngest. Additionally, migrants are more likely to be single when compared to those who stayed in the same urban areas, with urban-to-metro migrants having a higher percentage of single individuals than urban-to-urban migrants. Urban-to-metro migrants constituted a significantly larger share of the economically inactive group but a lower share of the unemployed in 2008.

Regarding education levels, urban-to-metro migrants had higher levels of education compared to those who remained in urban areas. Migrants often originate from larger households but tend to live in smaller households upon migration. This implies that they may not have moved

with their families, which, in turn, impacts the per capita income of migrants. In 2017, the per capita income for migrants tends to be higher compared to that of non-migrants.

These findings align well with the expectations and patterns commonly observed in intercity migration research, particularly in the context of the role of metropolitan areas. The observation that migrants are typically younger than those who remain in the same urban areas resonates with the concept that young people are more inclined to explore urban settings in pursuit of personal and career growth. This is especially true for metropolitan areas, which are known for their robust job markets. In his influential study, Cortright (2014) analysed migration data across major U.S. metropolitan areas. He found a clear trend: young adults aged 25 to 34, especially those with tertiary education, were increasingly drawn to central city neighbourhoods. These areas offered proximity to jobs, entertainment and diverse social networks. The higher proportion of single individuals among migrants is consistent with the notion that those unattached or with fewer family-related responsibilities are more mobile and willing to relocate in order to "maximize one's own future" as found by Gubhaju & De Jong (2009) using data from the Causes of Migration in South Africa national migration survey.

The finding that urban-to-metro migrants have a larger share of individuals not economically active suggests that some migrants may be drawn to metros for reasons beyond traditional employment, such as education. This is likely to hold in South Africa, where the top local universities are located in the metros. Labour market outcomes show improvement over time across all groups, but with the most pronounced changes observed among migrants. This is discussed in greater detail in the tables and figures to follow.

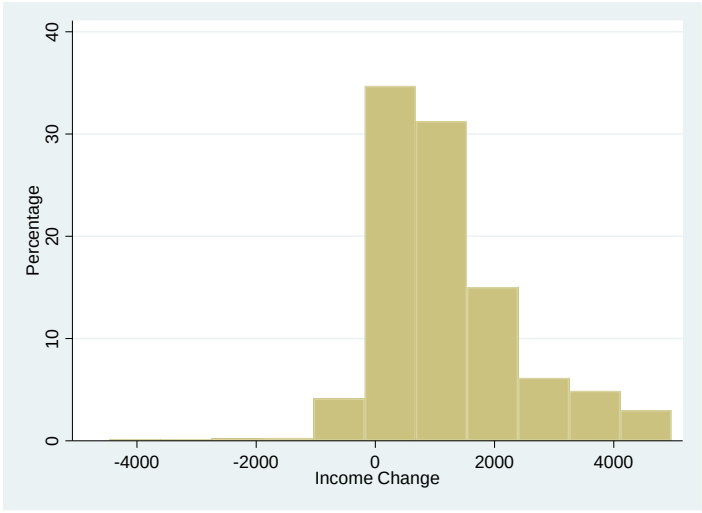
Table 0-2: Individual and household characteristics of sample

		Remained urban (Cohort 0)		Urban to metro migrants (Cohort 1)		Urban to urban (non-metro) migrants (Cohort 2)	
		Wave 1	Wave 5	Wave 1	Wave 5	Wave 1	Wave 5
Age	Average age	34.0 (33.4-34.6)	43.0 (42.4-43.6)	23.4 (22.2-24.5)	32.4 (31.3-33.6)	28.0 (26.0-30.0)	37.0 (35.0-39.0)
Gender	Male (%)	42.2 (39.8-44.6)	-	47.2 (41.7-52.8)	-	48.2 (40.5-56.0)	-
	Female (%)	57.8 (55.4-60.2)	-	52.8 (47.2-58.3)	-	51.8 (44.0-59.5)	-
Race	African (%)	74.2 (71.9-76.4)	-	90.3 (84.2-94.2)	-	80.6 (71.5-87.4)	-
	Coloured (%)	13.6 (12.2-15.2)	-	2.6 (1.2-5.4)	-	2.5 (1.5-4.2)	-
	White/Indian (%)	12.2 (10.3-14.3)	-	7.1 (3.7-13.4)	-	16.9 (10.3-26.4)	-
Marital Stat.	Married/Cohabiting (%)	43.0 (40.6-45.4)	45.3 (42.9-47.8)	13.3 (9.3-18.6)	30.5 (25.4-36.1)	28.6 (21.6-36.9)	41.2 (33.6-49.3)
	Not married/not cohabiting (%)	57.0 (54.6-59.4)	54.7 (52.2-57.1)	86.7 (81.4-90.7)	69.5 (63.9-74.6)	71.4 (63.1-78.4)	58.8 (50.7-66.4)
Labour Market	Not Economically Active(%)	26.9 (24.8-29.0)	29.3 (27.2-31.4)	54.6 (48.7-60.1)	13.6 (10.4-17.7)	42.2 (34.8-49.9)	23.3 (17.0-31.1)
	Unemployed (broad) (%)	22.5 (20.6-24.5)	10.9 (9.4-12.5)	15.9 (12.8-19.6)	10.4 (8.0-13.4)	24.0 (18.0-31.2)	9.9 (6.9-14.1)
	Employed (%)	50.6 (48.2-53.1)	59.9 (57.5-62.2)	29.5 (24.1-35.7)	75.9 (71.4-80.0)	33.8 (26.7-41.7)	66.8 (59.1-73.7)
	Unemployment rate (%)	30.8 (28.2-33.4)	15.4 (13.4-17.6)	35.0 (27.7-43.0)	12.1 (9.3-15.5)	41.5 (31.7-52.0)	12.9 (9.0-18.2)

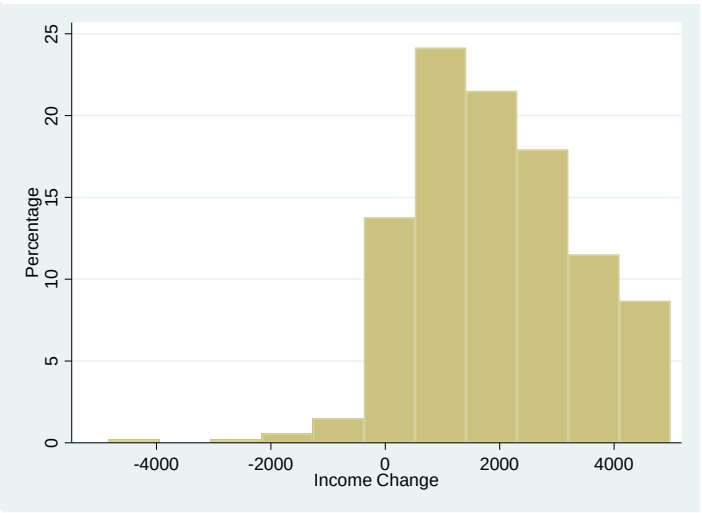
Level of skill (education levels)	Lowly skilled (%)	85.3 (83.3-87.0)	78.4 (76.2-80.4)	80.4 (74.6-85.0)	63.1 (57.1-68.7)	83.5 (75.6-89.3)	67.6 (59.5-74.7)
	Highly skilled (%)	14.7 (13.0-16.7)	21.6 (19.6-23.8)	19.7 (15.0-25.4)	36.9 (31.3-42.9)	16.5 (10.7-24.4)	32.4 (25.3-40.5)
Household	Average size	4.5 (4.3-4.6)	4.2 (4.1-4.4)	5.2 (4.8-5.5)	2.5 (2.3-2.7)	4.1 (3.7-4.5)	2.6 (2.3-3.0)
	Average income per capita (rands)	1,275 (1,122-1,427)	4,143 (3,772-4,515	1,134 (616-1,652)	5,907 (3,919-,7,896)	1,970 (919-3,022)	6,291 (4,816-7,766

Source: NIDS Wave 1 and 5; own estimates. All means and percentages are weighted. Confidence intervals in parentheses are at the 95% level. Household monthly per capita income is in 2017 prices.

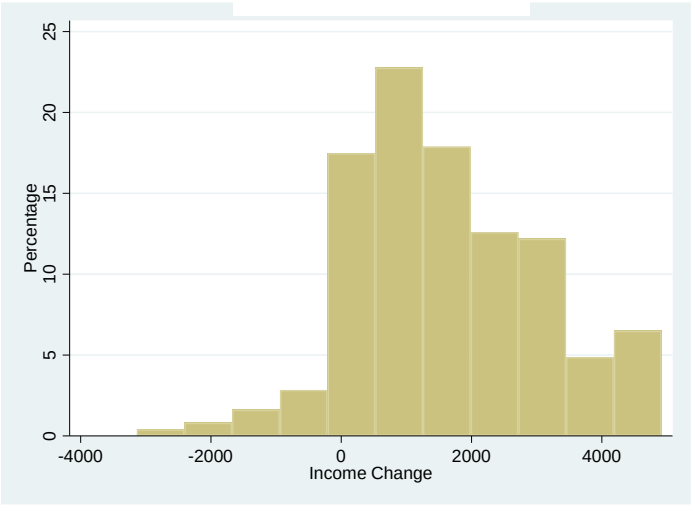
Figure 0-1: Histograms of changes in real monthly per capita income



Remained urban



Urban to metro migrants



Urban to urban migrants

Source: Author's own illustration from NIDS Wave 1 and Wave 5 data

Income changes between 2008 and 2017

Figure 4-1 illustrates three histograms depicting changes in real incomes[10] between 2008 and 2017. This analysis is limited to households with an income per capita per month of less than

[10] Converting incomes to constant prices allows for a more accurate comparison of income levels across different time periods. A deflator using the Consumer Price Index from Statistics South Africa (http://www.statssa.gov.za/publications/P0141/CPIHistory.pdf?) is used to convert the reported incomes to real incomes. Real incomes take into account the effect of inflation. If real incomes are not adjusted for

R5,000, a category encompassing the majority of households in the sample. Figure 4-2 showcases kernel density estimates for these real income changes, encompassing the entire panel and the three distinct groups, all of whom have incomes less than R5,000. This ensures representativeness, making the results and visualizations clearer and undiluted by outlier monthly income reports.

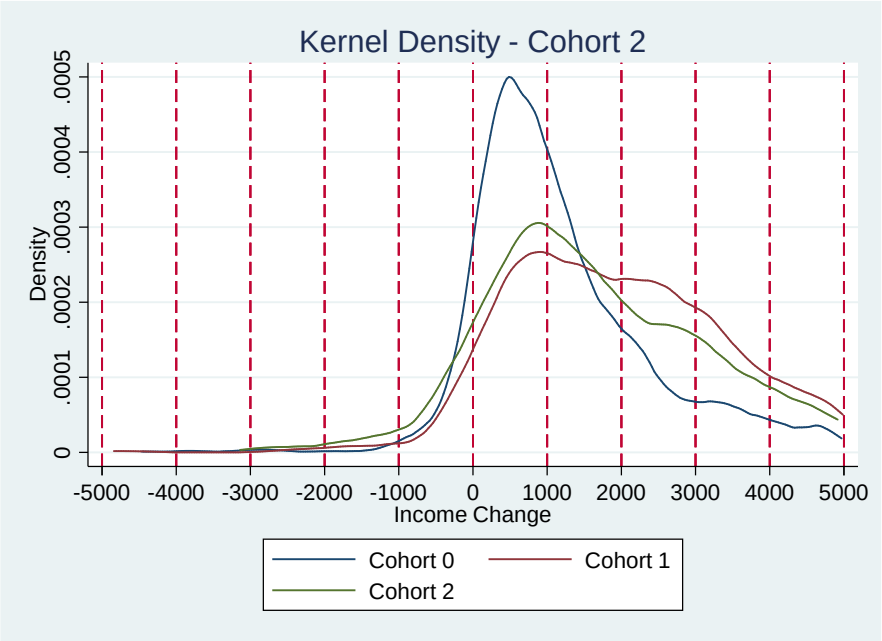
The trio of histograms, each portraying percentage values on the y-axis and income changes on the x-axis, delves into the distribution of income changes within the three groups under analysis: remained urban, urban to metro migrants and urban to urban migrants. Every histogram visualizes the frequency of individuals within specific income change intervals, with the y-axis signifying the percentage of individuals in each interval.

The histogram figures reveal a common trend across all groups, wherein a significant number of households have experienced positive income changes between 2008 and 2017. This is evident from the abundance of bars positioned to the right of the zero point on the horizontal axis, indicating an increase in income. Notably, the distributions of positive income changes are particularly pronounced for migrants, as indicated by the taller bars on the positive side of the income change spectrum.

Specifically, the histogram for the 'urban to metro' migrants exhibits notably taller bars, underscoring a more prominent proportion of households that have realized positive income changes compared to other groups. This finding implies that the process of moving from urban to metropolitan areas yields more favourable income outcomes.

inflation, the study might incorrectly interpret an increase in nominal income as an improvement in economic well-being when, in fact, the increase might be entirely due to rising prices.

Figure 0-2: Kernel density of real income per capita change



Source: Author's own illustration from NIDS Wave 1 and 5 data

For the kernel density representation, the x-axis encapsulates the spectrum of income changes, ranging from negative to positive. The y-axis indicates the density of observations at each point on the x-axis, effectively depicting the frequency of income changes at varying levels. In this plot, distinct lines are attributed to the remained urban group (blue), urban to metro migrants (dark red) and urban to urban migrants (green).

The kernel density plot depicted in Figure 4-2 corroborates the observations from the histograms. It reveals higher densities at higher income levels (i.e. distribution is further to the right) for the dark red curve, representing urban to metro migrants, on the positive side of the x-axis, extending the farthest to the right. This is followed by the green curve, indicating urban to urban migrants and finally, the blue curve representing the remained urban group. These outcomes collectively point towards the potential advantages offered by larger cities, particularly metropolitan areas, in terms of enhanced income prospects. The histograms and kernel density plots, while illustrating income changes for the three groups, do not provide insights into how each group's members fared in terms of transitioning into or out of poverty.

Movements into and out of poverty

An absolute transition matrix proves invaluable in dissecting movements across specific real income thresholds, particularly those relevant to the concept of poverty. This analysis holds particular intrigue for understanding transitions – or their absence – across designated poverty lines within the context of these three distinct groups. The subsequent exploration will delve into these intricacies.

Table 0-3: Movement into and out of poverty between 2008 and 2017

	Wave 5		
Wave 1			
	<1,136	>/=1,136	Total (%)
Remained urban			
<1,136	38.2 (*remained poor*) (35.7-40.8)	61.8 (*escaped poverty*) (59.2-64.3)	100
>/=1,136	7.6 (*became poor*) (5.1-11.0)	92.4 (*always out of poverty*) (89.0-94.9)	100
Urban to metro migrants			
<1,136	19.1 (*remained poor*) (15.3-23.7)	80.9 (*escaped poverty)* (76.3-84.7)	100
>/=1,136	6.4 (*became poor*) (2.7-14.1)	93.6 (*always out of poverty*) (85.9-97.3)	100
Urban to urban migrants			
<1,136	19.3 (*remained poor)* (14.2-25.6)	80.7 (*escaped poverty*) (74.4-85.8)	100
>/=1,136	6.6 (*became poor*) (2.2-18.0)	93.4 (*always out of poverty*) (82.0-97.8)	100

Source NIDS Wave 1 and 5; own estimates.
All percentages are weighted. Monthly poverty line from Schotte et al (2022)
Confidence intervals in parentheses are at the 95% level.

When examining the presented absolute transition matrices, it is essential to grasp the underlying dynamics within each row. Each row represents a specific income group, categorized as either below or above the defined poverty line of 1,136, during the initial wave 1 (2008). The columns display poverty status in wave 5 (2017). Hence the row percentages (which sum to 100) show the share of individuals which started in a particular income group in wave 1 (i.e., either in or out of poverty) and how they were classified in wave 5. In other words, the matrix shows transitions in and out of poverty between waves.

To interpret the movement into and out of poverty, direct attention to the columns within each row. The columns illustrate the distribution of individuals in the subsequent wave (2017), categorized in the same manner as the initial wave. The values within the columns represent the proportion of individuals who remained in poverty, moved out of poverty, or were in poverty in both waves (the diagonal element of each column).

The presented transition matrix provides valuable insights into the poverty dynamics across different groups between 2008 and 2017, with a focus on transitions into and out of poverty based on a poverty line of R1,136 per person per month. Among individuals who 'remained urban' and were in poverty in wave 1, approximately 62% successfully moved out of poverty. For 'urban to metro' and 'urban to urban' migrants who were in poverty in wave 1, approximately 81% had successfully escaped poverty. Notably, significant proportions in all groups remained out of poverty, while negligible proportions entered poverty.

The confidence intervals for each group's transitions reveal some variations. While overlapping intervals and wide ranges can hinder definitive conclusions, the significant differences between groups are still evident. Larger shares of individuals in the migrant groups who started in poverty, escaped it in 2017. These findings emphasize the importance of migration between urban areas as a potential pathway for not only increasing incomes, but escaping poverty.

Changes in poverty levels

To assess the changes in poverty levels and understand mobility dynamics, another transition matrix is presented in Table 4-4, highlighting proportions within each cell of the matrix without conditioning on the initial wave 1 category. This approach offers a clearer depiction of changes in poverty, allowing for more flexible interpretation without the necessity of row or column totals summing up to 100%. Table 4-4 illustrates this perspective, providing insights into the changes in poverty levels across the three groups.

The matrix is structured with two distinct rows, representing income levels below and above the poverty line of 1,136, while the same distinction is maintained across two columns. With "2008" (wave 1) displayed on the y-axis and "2017" (wave 5) on the x-axis, each cell in the

matrix reveals the proportion of individuals who resided within a specific income category at the beginning of the observation period (2008) and whether they transitioned to a different category by the end of the period (2017).

To determine the proportion of individuals who remained in poverty in both waves, the focus is on the diagonal cells where the row and column categories correspond for each income group. For instance, in the cell where "<1,136" intersects with "<1,136," the proportion indicates those who were initially in poverty in wave 1 and remained so in wave 5. Conversely, to identify those who moved out of poverty, we examine cells where the row category represents "<1,136" and the column category is "≥1,136," indicating a transition from poverty to a non-poverty status. Similarly, to ascertain individuals who moved into poverty, we analyse cells where the row category is "≥1,136" and the column category is "<1,136," denoting a transition from a non-poverty to a poverty status.

The sum of the row totals for each wave represents the total number of individuals classified as poor or non-poor in wave 1, while the sum of the column totals for each wave indicates the total number of individuals classified as poor or non-poor in wave 5. This approach allows for a nuanced analysis of poverty transitions and trends within the sample.
Analysing the transition matrix reveals significant shifts in poverty proportions for each cohort:

Remained Urban: Approximately 74% of individuals in the 'remained urban' group were living in poverty in 2008, while around 26% were above the poverty line in the same year. By 2017, there was a notable reduction in the percentage of individuals in poverty within this group, declining from approximately 74% to about 30%. Out of the 74% who were initially in poverty, an estimated 46% successfully transitioned out of poverty, while roughly 2% of the initial 26% who were not in poverty found themselves in unfortunate circumstances, falling into poverty. Furthermore, around 28% of the 74% who started in poverty remained in poverty throughout both years.

Urban to Metro: Roughly 82% of individuals in the 'urban to metro' group were residing in poverty, while approximately 18% were living above the poverty line in 2008. By 2017, there

was a notable decrease in the percentage of individuals in poverty within this group, decreasing from about 82% to approximately 17%. Out of the initial 82% who were in poverty, around 66% managed to escape poverty, whereas only about 1% of the initial 18% who were not in poverty found themselves below the poverty line. Furthermore, approximately 16% of the 82% who were initially in poverty remained in poverty during both years.

Urban to Urban: Approximately 71% of individuals in the 'urban to urban' group were living in poverty, while about 29% were above the poverty line in 2008. By 2017, there was a significant reduction in the percentage of individuals in poverty within this group, decreasing from around 71% to approximately 16%. Out of the initial 71% who were in poverty, approximately 57% managed to move out of poverty, while only about 2% of the initial 29% who were not in poverty fell into poverty. Among the 71% who started in poverty, roughly 14% remained in poverty both in 2008 and 2017.

It is important to note that while the confidence intervals for these proportions may slightly overlap, the observed trends reflect significant differences among the cohorts. Significantly, all three groups experienced a reduction in poverty between 2008 and 2017. Notably, the 'urban to metro' group exhibited the most remarkable success in terms of individuals escaping poverty, followed by the 'urban to urban' migrant group. These findings underscore the potential of migration in poverty alleviation. It is worth highlighting that the 'urban to metro' migrant group had the highest proportion of individuals initially in poverty (82%), suggesting that the decision to migrate may have been motivated by the desire to improve income prospects.

Table 0-4: The percentage share of sample in wave 1 and wave 5 in and out of poverty

		Wave 5	
Wave 1			
Remained urban			
	<1,136	>/=1,136	Total (%)
<1,136	28.4 (26.4-30.5)	45.9 (43.5-48.3)	74.3 (71.9-76.5)
>/=1,136	1.9 (1.3-2.9)	23.8 (21.6-26.1)	25.7 (23.5-28.1)
Total	30.3	69.7	100.0

	(28.2-32.5)	(67.5-71.8)	
Urban to metro migrants			
<1,136	15.6 (12.4-19.5)	65.9 (60.0-71.4)	81.6 (75.3-86.5)
>/=1,136	1.2 (0.5-2.6)	17.3 (12.4-23.6)	18.4 (13.5-24.7)
Total	16.8 (13.4-20.8)	83.2 (79.2-86.6)	100.0
Urban to urban migrants			
<1,136	13.7 (10.0-18.5)	57.4 (49.3-65.0)	71.1 (62.3-78.5)
>/=1,136	1.9 (0.7-5.4)	27.0 (19.7-35.9)	28.9 (21.5-37.7)
Total (%)	15.6 (11.5-20.8)	84.4 (79.2-88.5)	100.0

Source NIDS Wave 1 and 5; own estimates.
All percentages are weighted.
Confidence intervals in parentheses are at the 95% level.

Household per capita changes are influenced by both real income and household size. Table 4-5 examines changes in household size for the different cohorts between wave 1 and wave 5 to investigate the effect of household composition. Notably, there are significant variations in household sizes among the cohorts. On average, migrants lived in households with approximately 2 fewer people compared to non-migrants.

When splitting the sample based on positive and negative real per capita income changes, even greater differences emerge between movers and stayers among respondents whose income increased between waves. For non-migrants, household size in wave 5 increased by almost 1 for those who experienced positive income changes. Among the mover cohorts, those who experienced positive income changes had significantly smaller household sizes compared to those who experienced negative income changes.

These findings suggest that household size plays a role in positive and negative income changes, particularly for migrants. The smaller household sizes observed among movers with positive income changes indicate that household composition may contribute to these income dynamics.

Table 0-5: Wave 5 household sizes for migrants and non-migrants

	Remained urban	Urban to metro migrants	Urban to urban migrants
Wave 5 household size			
Overall	4.2 (4.1-4.4)	2.5 (2.3-2.7)	2.6 (2.3-3.0)
If income change>0	4.2 (4.1-4.3)	2.4 (2.2-2.6)	2.5 (2.2-2.8)
If income change <0	4.7 (4.4-5.1)	3.8 (3.0-4.5)	4.7 (4.1-5.4)
Change in hh size between waves			
Overall	-0.2 (-0.3- -0.1)	-2.7 (-3.1- -2.3)	-1.5 (-1.9- -1.0)
If income change>0	-0.3 (-0.5- -0.2)	-2.9 (-3.3- -2.5)	-1.7 (-2.1- -1.2)
If income change<0	0.9 (0.4-1.4)	0.4 (-0.4-1.3)	1.8 (0.6-3.0)

Source NIDS Wave 1 and 5; own estimates. All means are weighted.
Confidence intervals in parentheses are at the 95% level.

Labour market status change

The following stacked column chart (Figure 4-3) provides a cross-sectional snapshot of the labour market status for the three distinct groups—remained Urban, urban to metro and urban to urban—during wave 1 (2008) and wave 5 (2017). This visualization shows the distributions in the specified period in terms of employment, unemployment and those not economically active (NEA).

For the remained urban group, the chart indicates that approximately 51% were employed in 2008, which increased to about 60% by 2017. That is an 11-percentage point increase. The proportion of unemployed individuals decreased from approximately 23% in 2008 to 11% in 2017. Those classified as NEA accounted for approximately 27% in 2008 and showed a slight increase to about 29% in 2017.

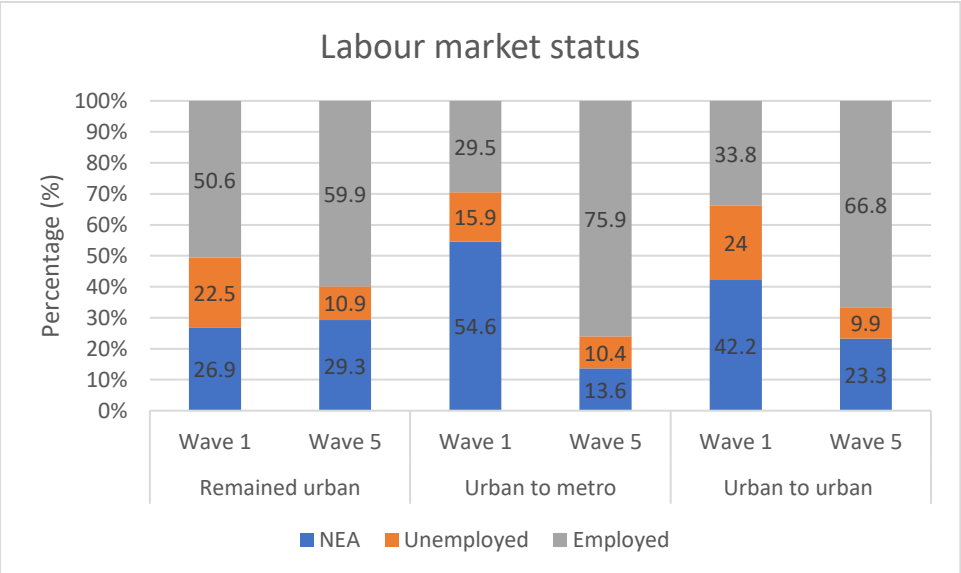
Turning to the urban to metro group, a noteworthy transformation is evident. Around 30% were employed in 2008, while this figure significantly rose to approximately 76% in 2017. That is a remarkable 46 percentage point increase. The percentage of unemployed individuals

witnessed a considerable drop from about 16% in 2008 to 10% in 2017. Strikingly, NEA individuals in this group experienced a remarkable decline from approximately 55% in 2008 to about 14% in 2017 suggesting that many people had entered the labour market and found employment between waves.

Lastly, for the urban-to-urban group, the chart highlights that approximately 34% were employed in 2008, which then increased to around 67% in 2017. That is a large 33 percentage point increase. The proportion of unemployed individuals saw a noticeable reduction from about 24% in 2008 to 10% in 2017. Similarly, NEA individuals in this group dropped from about 42% in 2008 to approximately 23% in 2017. These results imply a greater mixture of labour market status transitions between waves than in other cohorts – although the transition matrices below will make this clearer.

The chart reveals compelling dynamics, with significant shifts observed in all three groups over the period of analysis. Particularly noteworthy is the substantial decrease in NEA for the urban to metro group, which could potentially signify a shift from education to labour market participation.

Figure 0-3: Labour market status: wave 1 and wave 5



Source NIDS Wave 1 and 5; own estimates. All percentage shares are weighted.

While the cross-sectional picture of labour market status in wave 1 and wave 5 provides valuable insights into the shifts within employment, unemployment and NEA categories, it inherently has limitations as it captures a snapshot at two points in time. This approach might overlook the transitional dynamics that individuals undergo between these periods. To delve deeper into these dynamics, the analysis turns to three upcoming transition matrices. These matrices focus on the transitions within the categories of NEA, broad unemployment and employment between 2008 and 2017. This transition matrix approach offers advantages over the cross-sectional perspective as it enables a clearer understanding of how individuals move across these categories over time, thus providing a more comprehensive view of labour market mobility.

However, the upcoming transition matrices do come with their own challenges. The wide confidence intervals associated with the estimates and the occasional overlapping confidence intervals pose limitations in drawing precise conclusions from the data. This is especially true for the small sample sizes, particularly for those who were employed in 2008 or those who made a transition into employment across groups. Despite these challenges, the transition matrices reveal valuable patterns.

In the 'remained urban' group, among those who were in the NEA (Not Economically Active) state in wave 1, approximately 41% remained in that state in wave 5. In contrast, for the 'urban to metro' group, roughly 14% of individuals who were in the NEA group in wave 1 still found themselves in the NEA state in wave 5. Similarly, for the 'urban to urban' migrants, around 31% of those who were in the NEA group in wave 1 remained in that state in wave 5.

Transitioning from the NEA state in wave 1 to unemployment varied across groups, with 43% of those in the 'remained urban' group, approximately 73% for the 'urban to metro' group and about 56% for the 'urban to urban' group experiencing this shift. The movement from unemployment to the employed state between the two waves ranged from about 55% for the 'remained urban' group to roughly 66% and 64% for the 'urban to metro' and 'urban to urban' groups, respectively. This suggests that the probability of transitioning from unemployment to employment favoured the migrants.

Interestingly, the employed state demonstrated less fluidity, with approximately 71% of individuals in the 'remained urban' group who were employed in 2008 remaining in that state in 2017. The percentage of individuals remaining in employment increased to about 86% for the 'urban to metro' group and 81% for the 'urban to urban' group, implying a potential higher job security for those who had migrated. This resulted in fewer movements from the employed state into non-economic activity or unemployment between 2008 and 2017.

Table 0-6: Labour market status transition between wave 1 and wave 5: Remained urban

	Wave 5			
Wave 1	N.E.A	Unemp. (Broad)	Employed	Total (%)
N.E.A	40.5 (36.3-44.8)	16.6 (13.3-20.5)	43.0 (38.6-47.4)	100
Unemp. (Broad)	29.6 (25.6-34.0)	15.1 (11.9-19.0)	55.3 (50.4-60.1)	100
Employed	23.2 (20.4-26.1)	6.0 (4.6-7.8)	70.9 (67.7-73.9)	100

Source: NIDS Wave 1 and 5; own estimates. All proportions are weighted.
Confidence intervals in parentheses are at the 95% level.

Table 0-7: Labour market status transition between wave 1 and wave 5: Urban to metro migrants

	Wave 5			
Wave 1	N.E.A	Unemp. (Broad)	Employed	Total (%)
N.E.A	13.9 (10.1-18.7)	12.7 (9.4-17.0)	73.4 (67.6-78.5)	100
Unemp. (Broad)	20.1 (12.2-31.3)	13.7 (7.9-22.5)	66.3 (54.9-76.0)	100
Employed	9.7 (4.3-20.4)	4.4 (1.9-10.0)	85.9 (75.4-92.3)	100

Source: NIDS Wave 1 and 5; own estimates. All proportions are weighted.
Confidence intervals in parentheses are at the 95% level.

Table 0-8: Labour market status transition between wave 1 and wave 5: Urban to urban migrants

	Wave 5			
Wave 1	N.E.A	Unemp. (Broad)	Employed	Total (%)
N.E.A	31.0 (20.7-43.5)	11.3 (6.9-17.8)	57.8 (46.0-68.7)	100

Unemp. (Broad)	21.3 (10.5-38.4)	15.0 (7.6-27.5)	63.7 (47.6-77.3)	100
Employed	15.2 (7.4-28.8)	4.6 (1.9-10.8)	80.2 (67.0-89.0)	100

Source: NIDS Wave 1 and 5; own estimates. All percentages are weighted.
Confidence intervals in parentheses are at the 95% level.

4.4. Conclusion

This chapter provides a comprehensive exploration of urban migration dynamics and their far-reaching implications for social mobility in terms of income and employment for three groups: remained urban, urban to metro migrants and urban to urban migrants. Drawing from the NIDS data of 2008 and 2017, this analysis began by delineating the individual and household characteristics of both non-migrants and migrants. A striking revelation emerged: over 1.8 million working-age adults residing in urban areas, whether in metros or other urban regions, had embarked on migration to another metro during the period from 2008 to 2017. Additionally, approximately 1.2 million adults had relocated within urban areas but refrained from settling in a metro. This observation underscores the pivotal role of metros in South Africa as primary centres for labour opportunities and economic activities, although it also highlights the continued significance of movement into non-metro urban areas. Migrants exhibited characteristics that aligned with expectations: they tended to be younger, single and more educated, suggesting a higher level of mobility due to fewer attachments.

Notably, real per capita income changes displayed positive trends for all three groups, with migrants experiencing even more substantial improvements. These findings underscore that migrants to metros tend to enjoy more favourable income outcomes, which can be attributed to the increased income-generating opportunities in these areas. Furthermore, the transition matrices provided a valuable perspective: a larger proportion of individuals who were in poverty in 2008 among the migrants managed to escape poverty by 2017, surpassing the rate of those who achieved the same from the group of individuals who remained in urban areas. More significantly, the group that witnessed the most substantial reduction in poverty rates was the urban to metro migrants.

In terms of employment outcomes, migrants stood out positively. A significant proportion transitioned from non-economic activity or unemployment in 2008 to stable employment by 2017 and a substantial share remained employed throughout the entire period from 2008 to 2017 suggesting some job stability premium from migration.

The significant improvement in the economic circumstances of migrants in comparison to non-migrants aligns closely with and provides support for the human capital model of migration. According to this model, the decision to migrate is influenced by the expected benefits of migration (mainly economic) as opposed to what is anticipated by staying in the current location (Kan, 1999; Khwaja, 2002). However, other non-economic reasons for migration cannot be neglected.

Nonetheless, these observed patterns are merely descriptive in nature. A more thorough investigation of the underlying causal mechanisms will be presented in the subsequent chapter.

The current analysis has offered valuable insights into the general effects of urban migration on various demographic and economic indicators. However, it is crucial to acknowledge that the impact of migration may significantly differ for high-skilled individuals, a demographic group that could not be independently assessed due to the limited sample size of the NIDS data. For instance, they may exhibit a higher likelihood of transitioning from unemployment or non-economic activity to employment compared to their lower-skilled counterparts. Additionally, they might experience more favourable income changes after migration due to enhanced income-generating opportunities associated with their higher skill levels. To address this aspect, the forthcoming econometric analysis will delve into the interaction between migration and high skill, shedding light on how these effects may manifest in terms of income, employment and wages within this specific demographic.

CHAPTER 5: ECONOMETRIC ESTIMATION RESULTS

5.1. Introduction

The descriptive examination of intercity labour migration in South Africa, based on NIDS data from 2008 and 2017, reveals a general improvement in income and employment prospects for all urban residents over the study period. However, intercity migration seems to enhance these outcomes, especially for those who relocated to metropolitan areas. While these insights are valuable, it is crucial to acknowledge the limitations of non-experimental analyses. They can hint at causal relationships but fall short of definitively establishing them (Antonakis et al., 2010) and researchers are limited to inferences about causality (Shipley, 2016).

Moving on to exploring the causal effects of migration within an observational framework presents inherent challenges. It is important to note that individuals who choose to migrate are not randomly selected from the entire labour force. Instead, their decision to migrate is influenced by a complex interplay of personal characteristics and external circumstances (Hagen-Zanker, 2008). Moreover, this inclination to migrate is intricately linked to these very characteristics and circumstances, creating a web of interdependencies.

For example, when investigating the impact of city-to-city migration on income levels, individuals often migrate for specific reasons, such as the expectation of better-paying urban jobs (Yap, 1977). However, these migration decisions are rarely arbitrary. Factors like education, skills and age (experience) can influence both the decision to migrate and income levels (Chen & Rosenthal, 2008). This raises legitimate concerns about the potential for bias in descriptive and standard regression models (because of 'endogeneity'), undermining the attribution of income or wage progression solely to migration because of the complex relationship.

This inherent self-selection process of migration (Wahba, 2015) is well known in the international literature to introduce 'selection bias' into the analysis, potentially leading to an overestimation of the positive effects of migration on income and employment. The survey tool itself may fail to record individuals who attempted migration but soon returned (because they failed to secure employment).

Given these complexities, it is imperative to be circumspect about isolating the pure effect of migration on employment, wages and income outcomes despite making every effort to do so. The estimation approach utilized in this chapter to enhance causal inference comprises three distinct model specifications, with the intention of accounting for individual effects, addressing potential sample selection bias related to migration and mitigating against endogeneity concerns. Taken together, these add more confidence to assertions about the direct impact of intercity migration on socio-economic outcomes in South Africa.

5.2. Methodology

The author constructed three distinct migration cohorts for this study: non-migrants (remained urban), urban to metro migrants and urban to urban migrants to explore the impact of migration on social mobility by examining three outcomes: per capita income, wages and employment. Detailed explanations and characteristics of the three cohorts of interest can be found in Chapter 4. Evaluating three migration indicator types allows for a more nuanced assessment of the differential impact of migration to distinct urban contexts on the specified outcomes. Natural logarithms are used for income and wages, because of a better fit of the long tails which is common practice for income data (Langford et al, 1998; Benoit, 2011). Employment status is a binary variable, taking a value of 0 if not employed (whether unemployed or NEA) and 1 if employed. Income, wages and employment are each explored by applying the following three regression models: ordinary least squares (OLS), fixed effects (FE) and difference-in-difference (DiD).

The baseline regression model employs a standard multivariate ordinary least squares OLS approach. The NIDS data is explored as a cross-section based on outcome variables from period 2, but the migration cohorts have been identified by drawing on the panel.
The OLS regression model can be expressed as:

Model 1

$$ln(Inc_{i2}) = \beta_o + \beta_1 MigMet_i + \beta_2 MigUrb_i + \beta_3 X_i + \beta_4 MigMet_i \cdot Skill_i + \beta_5 MigUrb_i \cdot Skill_i + \epsilon_i \ldots. \quad (5.1) \text{ [for income]}$$

$$ln(W_{i2}) = \beta_o + \beta_1 MigMet_i + \beta_2 MigUrb_i + \beta_3 X_i + \beta_4 MigMet_i \cdot SKill_i + \beta_5 MigUrb_i \cdot Skill_i + \epsilon_i$$ …(5.2) [for wages]

$$Empl_{i2} = \beta_o + \beta_1 MigMet_i + \beta_2 MigUrb_1 + \beta_3 X_i + \beta_4 ln(Inc_i) + \beta_5 MigMet_i \cdot Skill_i + \beta_6 MigUrb_i \cdot Skill_i + \varepsilon_i$$ … (5.3) [for employment]

Here, $Empl_{i2}$ is a binary variable representing employment status for individual *I* in period 2 (1 if employed, 0 if not employed). ln(Inc_i) and ln(W_i) represent the natural logarithms of income and wages, respectively. $MigMet_i$ and $MigUrb_i$ are binary treatment indicators for migration to a metropolitan area and another urban area, respectively, with non-migrants who remained in the same urban area as the base category.

X_i represents a vector of 2008 control variables, capturing factors such as age, gender, educational attainment and other individual-level and household-level characteristics that may influence income, wages and employment status. By employing a panel data approach, the study leverages the longitudinal nature of the dataset, enabling a thorough investigation into the lasting impact of these pre-migration attributes. This allows for a nuanced understanding of how these factors continue to shape economic outcomes in the subsequent period, which is particularly relevant for intercity labour migration, where the effects of migration may extend far beyond the initial move. $Skill_i$ is a binary variable indicating the skill level of individual *i*, 1 if high skill, 0 if low skill. β_0, β_1, β_2, β_3, β_4, β_5, β_6 are the coefficients to be estimated and ε_{i2} is the error term. The interaction terms $MigMet_i \cdot Skill_i$ and $MigUrb \cdot Skill_i$ enable the examination of how the impact of migration varies with an individual's skill levels.

In addition, the author also includes a variation of the OLS regression where the dependent variable is expressed as a change over time. In other words, this examines how migration status predicts the change in income, wages, or employment rather than simply the absolute level in period 2.

The OLS regression is then respecified as:

Model 2

$$In(\Delta Inc_i) = \beta_o + B_i MigMet_i + \beta_2 MigUrb_i + \beta_3 X_i + \beta_4 MigMet_i Skill_i + \beta_5 MigUrb_i \cdot Skill_i + \varepsilon_i$$ …(5.4) [for change in income]

$$In(\Delta W_i) = \beta_o + \beta_1 MigMet_i + \beta_2 MigUrb_i + \beta_3 X_i + \beta_4 MigMet_i \cdot Skill_i + \beta_5 MigUrb_i \cdot SKill_i + \varepsilon_i$$...(5.5) [for change in wages]

$$\Delta Empl_i = \beta_o + \beta_1 MigMet_i + \beta_2 MigUrb_i + \beta_3 X_i + \beta_4 MigMet_i \cdot Skill_i + \beta_5 MigUrb_i \cdot Skill_i + \beta_6 ln(Inc_i) + \varepsilon_i$$....(5.6) [for change in employment]

$\Delta\ln(Inc_i)$, $\Delta\ln(W_i)$ and $\Delta Empl_i$ represent the change in log of income, log of wages and employment status, respectively, for individual *i* between 2008 and 2017.

The modelling of employment adds another layer of complication because it is a binary, rather than continuous (as in the case of income and wages), dependent variable. The choice of employing an OLS regression method for panel data with a binary dependent variable, particularly in the context of experimental treatments, has been a subject of debate (Horrace & Oaxaca, 2006; Lewbel et al., 2012; Gomila, 2021).

In this estimation, even for the binary employment variable, the linear regression method, often referred to as the linear probability model, is employed. This selection is driven by its simplicity, flexibility and ease of interpretation (Angrist & Pischke, 2009; Wooldridge, 2010; Deke, 2014; Huang, 2023). Furthermore, the author conducted a probit regression on employment and the marginal effect results were consistent with those obtained from the linear regression.

The OLS model, while providing an initial overview of whether migration influenced income, wages and employment, has certain limitations. One notable constraint is its focus on a single cross-section or period, as a static model, which ignores dynamic changes in outcomes or characteristics over time (Mulcahy & Kollamparambil, 2016). It primarily informs us whether migrants are better off than non-migrants in the cross-section and thereby excludes important information about alterations in income, wages and employment before and after the act of migration.

Of particular concern is that the OLS model does not control for differences in the characteristics of individuals who choose to migrate and those who do not (Gormley & Matsa, 2014). This includes observable features (such as differences in level of education) and

unobservable features (such as differences in inherent abilities)– both of which could introduce bias into the standard OLS results.

The use of panel data offers greater choice in controlling for important variations in characteristics and selection over time. In particular, a FE model, can account for individual-level variations and time-related changes (Singer & Willett, 2003). Since FE models exclusively estimate within effects, they are immune to the influence of heterogeneity bias (Bell & Jones, 2015). This makes FE models robust to certain forms of heterogeneity bias, such as bias due to unobserved individual characteristics that do not change over time. In other words, the FE model is designed to control for factors that are constant across individuals over time, which helps reduce potential bias in the estimation of coefficients.

For the FE, all time-invariant variables (both observable and unobservable) are eliminated from the estimation process (Hausman & Taylor, 1981), allowing for a more accurate measure of the impact of migration on these key outcome variables.
Taking advantage of the NIDS as a panel dataset, a FE regression is run (using the within group estimator) to estimate the change in the three main outcomes of interest. The FE model takes the form:

Model 3

$$\Delta In(Inc_{it}) = \beta_o + \beta_1 \Delta X_{it} + \beta_2 \Delta Time_{it} + \beta_3 \Delta Time_{it} \cdot \Delta MigMet_{it} + \beta_4 \Delta Time_{it} \cdot \Delta MigUrb_{it} + \beta_5 \Delta Time_{it} \cdot \Delta MigMet_{it} \cdot \Delta Skill_{it} + \beta_6 \Delta Time_{it} \cdot MigUrb_{it} \cdot \Delta Skill_{it} + \varepsilon_{it} \ldots (5.7)$$ [for income]

$$\Delta In\,(W_{it}) = \beta_o + \beta_1 \Delta X_{it} + \beta_2 \Delta Time_{it} + \beta_3 \Delta Time_{it} \cdot \Delta MigMet_{it} + \beta_4 \Delta Time_{it} \cdot \Delta MigUrb_{it} + \beta_5 \Delta Time_{it} \cdot \Delta MigMet_{it} \cdot \Delta Skill_{it} + \beta_6 \Delta Time_{it} \cdot \Delta MigUrb_{it} \cdot \Delta Skill_{it} + \varepsilon_{it} \ldots (5.8)$$ [for wages]

$$\Delta Empl_{it} = \beta_o + \beta_1 \Delta X_{it} + \beta_2 \Delta Time_{it} + \beta_3 \Delta Time_{it} \cdot \Delta MigMet_{it} + \beta_4 \Delta Time_{it} \cdot \Delta MigUrb_{it} + \beta 5 \Delta Time_{it} \cdot \Delta MigMet_{it} \cdot \Delta Skill_{it} + \beta_6 \Delta Time_{it} \cdot \Delta MigUrb_{it} \cdot \Delta Skill_{it} + \beta_7 \Delta ln(Inc_{it}) + \varepsilon_{it} \ldots (9)$$ [for employment]

$Time_{it}$ is a dummy variable that takes values 0 for the pre-treatment period (before migration has taken place) and 1 for the post-treatment (after migration has taken place). It is interacted with migration dummies (either to a metro, or to another urban area with remained urban as the base) to examine the differential treatment effect on various migration groups. Additionally, it is interacted with both migration and skill variables to assess how the treatment effect varies among different migration and skill groups.

The challenge with the FE model is that time invariant variables like race and sex are essentially "swept away" by the within estimator of the coefficients on the time varying covariates (Oaxaca & Geisler, 2003). In cases where these omitted variables are significant determinants of the dependent variable and are not accounted for in the model, it can result in restrictive or inefficient estimates (Bell & Jones, 2015).

A final approach is to use a DiD model to compare the outcomes between a control and a treatment group. It is a common practice in empirical economics, for instance, to evaluate the impacts of specific policy interventions and policy modifications that do not uniformly influence all individuals simultaneously and in a uniform manner (Lechner, 2011). Through a DiD approach, the research assesses the impact of the reform by examining changes in groups affected by the reform before and after its implementation and contrasting them with groups that remained unaffected by the reform across the same time frame. This approach assumes that both the treated and untreated groups experience similar time trends, or in other words, that their external environment is changing in a similar fashion so that any observed difference in outcomes across the groups can be attributed to the treatment. By taking the difference between these groups, any extraneous factors that could influence the outcome are effectively controlled for, allowing a robust estimation of the reform's effects (Lechner et al., 2016).

In the context of this research, intercity migration serves as the focal "treatment", either as a move to a metro, or as a move to another urban area in comparison to the "control" of remained urban. The DiD approach allows for an investigation into how migration, as the treated condition, influences employment, income and wages when compared to the non-migrant, control condition. It is arguably the most rigorous specification of any of the models.

However, it is arguably the collective evidence presented across all four models which provides confidence about the overall findings. Nevertheless, it must be noted that the econometrics presented is still suggestive of the impact. The impact of intercity migration on social outcomes should be studied and repeated across multiple databases, time periods and contexts to become conclusive.

The DiD model takes the form:

Model 4

$$ln(Inc_{it}) = \beta_o + \beta_1 X_{it} + \beta_2 Time_t + \beta_3 MigMet_{it} \cdot Time_t + \beta_4 MigUrb_{it} \cdot Time_t + \beta_5 Time_t + \beta_6 MigMet_{it} Time_{it} \cdot Skill_{it} + \beta_7 MigUrb_{it} Time_t \cdot Skill_{it} + \varepsilon_{it} \ldots (5.10)$$ [for income]

$$ln(W_{it}) = \beta_o + \beta_1 X_{it} + \beta_2 Time_t + \beta_3 MigMet_{it} \cdot Time_t + \beta_4 MigUrb_{it} \cdot Time_t + \beta_5 Time_t + \beta_6 MigMet_{it} \cdot Time_t \cdot Skill_{it} + \beta_7 MigUrb_{it} \cdot Time_t \cdot Skill_{it} + \varepsilon_{it} \ldots (5.11)$$ [for wages]

$$Empl_{it} = \beta_o + \beta_1 X_{it} + \beta_2 Time_t + \beta_3 Time_t \cdot MigMet_{it} + \beta_4 Time_t \cdot MigUrb_{it} + \beta_5 Time_t \cdot MigMet_{it} \cdot Skill_{it} + \beta_6 Time_t \cdot MigUrb_{it} \cdot Skill_{it} + \beta_7 ln(Inc_{it}) + \varepsilon_{it} \ldots (5.12)$$ [for employment]

While propensity score matching (PSM) and instrumental variables (IV) analysis are commonly employed in similar studies to address potential biases and endogeneity concerns (for example Mulcahy & Kollamparambil (2016), Lora (2020), Nyoni & Kollamparambil (2022); the author of this study believes that employing ordinary least squares (OLS), fixed effects (FE) and difference-in-differences (DiD) models at this stage will sufficiently provide valuable insights into the impact of migration on wages, employment and income. These three models offer robust methodologies for examining the relationships of interest while controlling for observable and unobservable confounding factors.

Furthermore, the author acknowledges that despite the appeal of PSM and IV analysis, finding a suitable instrument that is both relevant and exogenous in the National Income Dynamics Study (NIDS) data proved to be complex. Using a single existing variable from a dataset as an

instrumental variable (IV) for the main endogenous variable of interest, without a well-founded argument supporting the credibility of the instrument, is discouraged in the literature on migration impact analysis. (McKenzie & Yang, 2022). Thus, focusing on the chosen models allows for a thorough exploration of the research questions within the limitations of the available data and resources.

Finally, the OLS, FE, and DiD models employed in this analysis provide a robust foundation for estimating the impact of skilled labour migration in South Africa. Further research could explore additional models in this area.

5.3. Exploring causal effects

This section presents the estimation results regarding the influence of intercity migration on income, wages and employment. Each of the models, as outlined in the methodology section, incorporates a set of control variables, encompassing factors such as age, education, race, household size and marital status.

The tables below present the results from the OLS (log outcome and binary employment outcome), OLS (change in log outcome and binary employment outcome), FE and DiD regressions.

Table 0-1: Model results for log of income

	Model I OLS	Model II OLS (change in log of income)	Model III FE	Model IV DID
Treatment/Time	---------	----------	-0.4436	1.1599***
Migrant cohort				
Remained urban (base)				
Urban to metro	0.5631***	0.7162***	omitted	-0.2657***
Urban to urban	0.5566***	0.6944***	omitted	-0.0510
Skill level				
Low skill (base)				
High skill	0.9988***	1.0565***	0.2036***	0.7374***
Migrant skill interaction				
Remained urban, low skill (base)				
Urban to metro*high skill	-0.3566***	-0.5114***	---------	---------
Urban to urban *high skill	-0.0078	-0.1151	----------	---------
Treatment migrant interaction				

Time*urban to metro			0.4922***	0.5144***
Time*urban to urban			0.3293***	0.3325***
Treatment migrant skill interaction				
Time*urban to metro*skill	----------	----------	0.0790	-0.1248
Time*urban to urban*skill	----------	----------	0.1635	0.1635
Other descriptives				
Age	-0.2517***	-0.0191**	0.1858***	-0.0167***
Age squared	0.0003***	0.0002***	0.0000	0.0003***
Female	-0.2820***	-0.3513***	Omitted	-0.1425***
Not married	-0.0598*	-0.00635	-0.0003	-0.1000***
Coloured	0.1932***	0.0845**	Omitted	0.2490***
Asian/White	1.1600***	0.9937***	Omitted	1.3086***
Unemployed	-0.2831***	-0.2062***	-0.4531***	-0.5703***
NEA	-0.2231***	-0.1591***	-0.4372***	-0.5147***
Household size	-0.0467***	-0.0341***	-0.1010***	-0.1037***
Sample size	4,893	4,535	9,786	9,786
R^2	0.2675	0.1957	0.7414	0.7313

Notes: Red text represents the impact of migration in each model ***Significant at 1 percent level. ** Significant at 5 per cent level. * Significant at 10 per cent level. All standard errors have been adjusted to eliminate heteroskedasticity.

Income determinants

The analysis of income determinants using three distinct regression models - Ordinary Least Squares (OLS), Fixed Effects (FE) and Difference-in-Differences (DiD) - provides insights into the influence of intercity migration and personal and household factors on individual income. Migration plays a pivotal role in shaping individual incomes, with results consistently highlighting its substantial influence across all models. Particularly, within the OLS model, migration's coefficients reveal significant effects, showcasing the economic benefits associated with urban migration.

In the OLS model, the estimated coefficients for migrants were notably robust, ranging between 0.5631 for those who moved to a metro and 0.5566 for movement to another urban area, with high statistical significance. These coefficients imply that migrants from an urban area to a metro and to another urban area, had impressively more incomes in 2017 of approximately 75% and 74% respectively as compared to non-migrants.[11]

[11] Exponentiating the coefficient: %Δy = 100 * (e^βx - 1) (Ford, 2018).

In the FE and DiD models, tailored to address unobserved individual-specific effects and time-related changes, the interaction between the treatment variable (representing the time effect) and migration type continues to yield highly significant and positive impacts on income for the migrant groups. This indicates that, even when considering individual and time-specific variations, the enduring positive influence of migration on income remains a robust and statistically significant phenomenon. However, there is a minor reduction in the income impact of migration when compared to the OLS model. More specifically, the effect of urban-to-metro migration translates into a percentage increase ranging from approximately 64% (FE model) to 67% (DiD model), while urban-to-urban migration results in an income increase of about 39% for both the FE and DiD models.

Across all models, the impact size for urban-to-metro migration ranges from 64% to 75% and for urban-to-urban migration, it varies from 39% to 74%. These findings affirm that the FE and DiD models broadly reinforce the substantial impact of migration on income. Urban-to-metro migration, in particular, retains its pronounced effect even after accounting for these additional factors, with only a slight reduction in magnitude.

The impact of skill levels on income is equally significant across all three models. It is noteworthy that high skill levels are associated with higher incomes, as reflected by the positive and highly significant coefficients. In the OLS model, high skilled labour exhibited a substantial income advantage, with a coefficient of 0.9988. This translates to a notable nearly 172% more income than their lower skilled counterparts. The FE and DiD models similarly indicate substantial income benefits for high skilled labour.

The analysis of the DiD model points to a notable improvement over time for all groups, as represented by the treatment/time coefficient with a value of 1.1599. This was also noticeable in the descriptive statistics explored in chapter 4. This coefficient signifies that, on average, all individuals in the study, encompassing both migrants and non-migrants, experienced a positive impact on their log income over time.

The negative coefficient of -0.3566 for the interaction between urban-to-metro migration and skill level in the OLS model raises an intriguing point. It appears that migrants who were

classified as high-skilled in 2008, when they moved from urban to metro areas, might have experienced a somewhat less pronounced increase in income compared to their lower-skilled counterparts who did not migrate. Conversely, the data hints that lower-skilled non-migrants may have derived greater income benefits.

Notably, the interaction of the treatment effect, migration and the skill variable was observed to be statistically insignificant in both the FE and DID models. These results collectively suggest that, over time, concerning income returns, there was no significant disparity between high-skilled migrants and those who are not. Thus, the statistical findings indicate that the relative returns to migration were positive but of similar magnitude for the skilled migrants and unskilled even though starting off different baselines.

The absence of a pronounced economic advantage for high-skilled migrants defies conventional expectations rooted in the presumption that their advanced skills and qualifications would make them more competitive and valuable in certain job markets, naturally translating into higher income, wages and employment opportunities (Yankow, 2003). This discrepancy suggests that other intricate factors, such as labour market dynamics, regional disparities, or social and institutional influences, may play a more pivotal role in shaping the economic outcomes of migrants.

Secondary explanatory variables such as age, marital status, race, employment status and household size also influence income. For instance, being Asian/White or Coloured and being older are associated with higher income, while being female, not married, unemployment or not economically active status and a larger household size exhibit negative relationships with income. These outcomes align well with expectations, further solidifying the credibility of these findings.

In the OLS model for the change in income from 2008 to 2017, it is apparent that most of the explanatory variables maintain a consistent significant effect on the dependent variable, with the notable exception of the "not married" variable, which loses its significance. This implies that marital status might not be a significant driver of income change when not accounting for individual or time-specific effects.

Table 0-2: Model results for log of wages

	Model I OLS	Model II OLS	Model III FE	Model IV DID
Treatment/Time	----------	----------	0.8798	1.2165***
Migrant cohort				
Remained urban (base)				
Urban to metro	0.2585	0.4380**	omitted	0.1759
Urban to urban	0.3214**	0.3009	omitted	0.2823**
Skill level				
Low skill (base)				
High skill	1.003***	1.1834***	0.1613*	0.8667***
Migrant skill interaction				
Remained urban, low skill (base)			----------	---------
Urban to metro*high skill	-0.0640	-0.3808	---------	---------
Urban to urban *high skill	-0.0609	-0.0535	---------	---------
Treatment migrant interaction				
Time*urban to metro		---------	0.0285	0.0046
Time*urban to urban			0.2213	0.1957
Treatment migrant skill interaction				
Time*urban to metro*skill	---------	---------	0.0859	0.0639
Time*urban to urban*skill	----------	--------	-0.4388	-0.2747
Other descriptives				
Age	-0.0132	-0.0031	0.1193**	0.04495***
Age squared	0.0002	0.0001	-0.0008***	-0.0004**
Female	-0.4231***	-0.4849***	Omitted	-0.4537***
Not married	-0.1701***	-0.2013***	-0.0102	-1.1186***
Coloured	0.0285	0.0637	Omitted	0.0054
Asian/White	0.6251***	0.4158***	Omitted	0.7835***
Household size	-0.0132	-0.090	-0.0217*	-0.0231***
Sample size	733	703	1,466	1,466
R^2	0.3261	0.3194	0.7604	0.7403

Notes: Red text represents the impact of migration in each model. ***Significant at 1 percent level. ** Significant at 5 per cent level, * Significant at 10 per cent level. All standard errors have been adjusted to eliminate heteroskedasticity.

Wage determinants

In the OLS model, the impact of migration on wages was explored without accounting for individual or time-specific effects. While migrants moving from urban areas to metros had no significant premium on wages compared to non-migrants, migrants to another urban area had higher wages by approximately 38% and this effect was significant. The FE model, bolstered by the introduction of individual-specific effects to account for unobserved heterogeneity, enhances our confidence in comprehending the impact of migration on wages.

Migration from urban to metro areas and from urban-to-urban areas, represented by the coefficients of 0.0285 and 0.2213, respectively, shows a positive but statistically insignificant effect on log wages. In parallel, the coefficients of the DiD model, which assesses the impact of migration on log wages, are positive but statistically insignificant, with figures of 0.0046 for urban-to-metro migration and 0.1957 for urban-to-urban migration. This suggests that while the effect is positive, its statistical significance is limited, implying that the wage impact of migration may not differ significantly between migrants and non-migrants, after accounting for individual-specific effects and time-related changes.

Previous international studies, such as those conducted by Liu et al. (2018) and Lora (2020), have reported substantial and statistically significant wage increases resulting from intercity migration within China and Colombia, respectively. However, the current findings from our study indicate a positive but statistically insignificant impact of migration on wages. This lack of statistical significance may be attributed to the small sample size of unemployed respondents in 2008 who were subsequently employed in 2017. Indeed, the proportion of this small sample is evident in the labour market status transition matrices presented in the preceding chapter.

In the OLS model, the results reveal that being high skilled significantly increases the premium on wages by 171% compared to being low skilled. In the FE model, the impact of high skill, represented by a coefficient of 0.1613, remains significant and positive, indicating that high-skilled migrants continue to enjoy increased wages. The DiD model similarly underscores the high-skill advantage on wages, with a positive and highly significant coefficient of 0.8667. These findings consistently emphasize the positive influence of high skill on wages across all three models.

In the DiD model, a noteworthy treatment effect is evident, represented by a coefficient of 1.2165. This implies that individuals, irrespective of their migration status, experienced a significant increase in their log wages during the study period. However, the interaction between time, migration and skill appears to lack statistical significance in both the FE and DiD models. This suggests that even when considering individual-specific effects and changes over time, the wage effects of time do not significantly differ between high-skilled migrants and those who are not.

Age and age squared are significant predictors of log wages in these models. In the FE and DiD models, age has a positive and significant effect, while age squared has a negative and significant effect, indicating a curvilinear relationship between age and wages. Furthermore, gender, marital status, race and household size consistently emerge as significant determinants of log wages across all three models. The results suggest that being female, not married, of African descent and living in a larger household negatively impact wages. These findings are consistent with the expected outcomes, thereby enhancing the validity of the research results.

The results of the OLS model for the "change in wages" show that, for the most part, they align with the findings from the model on wage determinants. Notably, in the wage determinants model, urban to urban migrants were found to have a significant positive impact on wages. However, in the wage change model, it is the urban to metro migrants who exhibit a significant and positive effect on wage growth. Furthermore, household size, a significant factor in determining wages, becomes insignificant when assessing the change in wages between 2008 and 2017.

It is important to highlight that in the FE and DiD models, the primary intercity migration variables (emphasized in red) exhibited positive coefficients, although they were largely statistically insignificant. This may be attributed to the substantial standard errors resulting from the sample size limitation of focusing on the employed labour force in both 2008 and 2017.

Table 0-3: Model results for employment status

	Model I OLS	Model II OLS	Model III FE	Model IV DID
Treatment/Time	---------	---------	0.3257**	-0.1398***
Migrant cohort				
Remained urban (base)				
Urban to metro	0.1314***	0.1397***	omitted	-0.0086
Urban to urban	0.1027***	0.1316***	omitted	-0.0491**
Skill level				
Low skill (base)				
High skill	0.1646***	0.1291***	0.0387	0.0624***
Migrant skill interaction				
Remained urban, low skill (base)			------	--------
Urban to metro*high skill	-0.0705	-0.0088	-------	---------
Urban to urban *high skill	-0.0908	-0.1478	--------	----------
Treatment migrant interaction				
Time*urban to metro			0.0393	0.0650**
Time*urban to urban			0.0662*	0.0800**
Treatment migrant skill interaction				
Time*urban to metro*skill	---------		0.0179	-0.0285
Time*urban to urban*skill	----------		-0.0180	-0.0360
Other descriptives				
Age	0.0428***	0.0253***	0.0207	0.0673***
Age squared	-0.0007***	-0.0005***	-0.0009***	-0.0008***
Female	-0.1740***	-0.1763***	Omitted	-0.1400***
Not married	0.0257	0.0431*	0.0053	0.0159
Coloured	0.0255	0.0365	Omitted	0.0162
Asian/White	-0.0113	-0.0492	Omitted	-0.1079***
Household size	-0.0015	-0.0036	-0.0005	0.0012
Log income	0.0517***	0.0249**	0.1446***	0.1473***
Sample size	4,893	2,848	9,786	9,786
R^2	0.1733	0.1665	0.2833	0.2814

Notes: Red text represents the impact of migration in each model. ***Significant at 1 percent level. ** Significant at 5 per cent level, * Significant at 10 per cent level. All standard errors have been adjusted to eliminate heteroskedasticity.

Employment determinants

The analysis implemented an approach that models the probability of employment (with the dependent variable equating to 1, signifying employment or 0 for either unemployed or NEA).

The OLS model underscores the significance of migration as a factor influencing employment probability. Migrants who relocated from urban to metropolitan areas and those who moved from urban regions to other urban regions display a heightened likelihood of employment in comparison to individuals who stayed in urban areas. The former group appears to have achieved a slightly stronger employment outcome. The positive and highly significant coefficient of 0.1314 for urban-to-metro migrants indicates that belonging to this group increased the probability of employment by 13.14% in contrast to the non-migrant group. Similarly, the coefficient of 0.1027 for the urban-to-urban cohort implies that being in this group elevated the probability of employment by 10.27% compared to non-migrants.

In the FE and DiD models, all coefficients for the migrant groups exhibit positive and significant effects, except for the urban-to-metro migrant coefficient in the FE model. Specifically, the coefficient for urban-to-metro migration in the FE model is 0.0393, which is statistically insignificant, while the DiD model yields a coefficient of 0.0650 for the same group. The coefficients for the FE and DiD models for the urban-to-urban cohort are 0.0662 and 0.0800, respectively.

In general, these results suggest that migrants between urban areas during the study period had a higher probability of being employed compared to non-migrants across all models, although the impact diminishes in the FE and DiD models.

High-skilled labour exhibits a markedly elevated probability of employment, as indicated by a positive coefficient of 0.1646. This coefficient underscores the significant influence of skill on employment, signifying a 16.46% greater likelihood of employment for a high-skilled individual in comparison to a low-skilled one. In the FE model, the impact remains positive, though it is attenuated, resulting in a statistically insignificant 3.87% higher probability of employment for high-skilled labour compared to low-skilled labour. In contrast, in the DiD model, the effect is significant, with a 6.24% higher likelihood of employment for high-skilled labour compared to their low-skilled counterparts.

In the FE model, the Treatment/Time coefficient (0.3257) indicates a positive trend. This suggests that, on average, individuals experienced an increased likelihood of employment,

regardless of their migration status, over the study period. In contrast, the DiD model reveals a different pattern with a Treatment/Time coefficient of -0.1398. The impact of time is less conclusive between models. This negative coefficient could indicate varying effects within the three subgroups where the treatment might have negatively influenced employment probability over the study period.

The treatment, migration and skill interaction coefficients are insignificant, indicating no substantial change in the employment rate of high-skilled migrants over time, even after controlling for individual-specific effects. Age consistently plays a significant role with a positive effect in the OLS and DiD models but a negative and significant age-squared term revealing a curvilinear relationship. These results may suggest that older individuals tend to find employment more easily, but this effect may plateau or even decrease as they age. Gender, race and income exhibit significant impacts on employment. Females have a lower likelihood of employment in the OLS and DiD compared to males.

The race variable indicates that being Asian/White predicts a lower likelihood of employment. This result is unexpected given previous literature, which suggests that Asian/White individuals in South Africa often experience better employment outcomes compared to their African counterparts. The current result could be due to sample attrition which might bias the result. Further investigation is needed to comprehensively understand this result.

Household income is positively related with employment probability across all models. This aligns with expectations, as individuals from higher-income households often have better access to education, training and resources that can enhance their employability and job opportunities. Household size remains consistently insignificant across all the models, indicating that the number of people in a household might not significantly impact employment over time and even when individual effects are taken into account.

In the change in employment OLS model, the results generally mirror those of the OLS model for the determinants of employment, with one notable difference. While the variables affecting employment remain consistent, the marital status variable emerges as a significant factor in influencing the transition from unemployment or economic inactivity to employment

between 2008 and 2017. This signifies that individuals who are not married experienced a more pronounced improvement in their likelihood of finding employment during this period.

5.4. Conclusion

This chapter has provided a comprehensive analysis of the determinants of income, wages and employment, employing Ordinary Least Squares (OLS), Fixed Effects (FE) and Difference-in-Differences (DiD) models. Several key findings have emerged. While past research has shown that moving from rural areas into cities has the potential to uplift many South Africans out of poverty (Visagie & Turok, 2017), the current analysis has highlighted the significance of intercity migration for enhancing economic mobility as the descriptive findings chapter had intimated. Individuals who moved between urban areas experienced notable increases in income, wages and employment probabilities.

The impact of migration varies from approximately 39% to 76% on income, from nearly 0.5% to 38% on wages and from around 4% to 13% on employment – depending on the choice model. These are impressive gains considering the wider environment of joblessness, poverty and a slack labour market. This emphasizes the role of intercity migration as a key mechanism of economic advancement for many individuals in South Africa.

Interestingly, the results do not show any consistent economic premium associated with moving to a metropolitan area compared to another urban region, or vice versa. This highlights that urban migration, regardless of the specific destination, confers substantial economic benefits. Contrary to expectations, the data did not reveal an additional income, wage, or employment premium for high-skilled migrants. This unexpected outcome challenges the common assumption that high-skilled migrants would inherently enjoy a significantly larger economic advantage.

It is important to note that various secondary explanatory variables, not the primary focus of this study, have demonstrated significance and expected impacts on income, wages and employment. Extensive prior research supports these findings. For instance, existing studies on South Africa have consistently indicated certain key trends. Research such as that by

Mosomi (2019) underscores the persistent gender gap in employment. Women tend to be less likely to secure employment compared to their male counterparts. Statistics South Africa's (2019) data emphasizes the substantial wage gaps. It reveals that, on average, female workers earn less than male workers, while White and Asian population groups tend to command substantially higher wages in comparison to black Africans. Previous studies like that conducted by Sekhampu (2017) have indicated that larger households are at a higher risk of experiencing lower income levels. The influence of skill levels on employment probabilities has also been explored. Research by Khuluvhe et al. (2022) has shown that highly skilled workers generally exhibit a higher probability of finding employment compared to their lowly-skilled counterparts.

To date and to the best of the author's knowledge, an approach that comprehensively investigates three outcome variables in relation to intercity migration is a novel empirical contribution. This chapter advances our understanding of migration by examining the interplay between migration, income, wages and employment, shedding new light on this complex relationship.

Based on the insights drawn from this chapter's analysis of income, wages and employment determinants, several noteworthy policy and practice implications emerge for South Africa. The focus should be on facilitating urban migration in general as it consistently confers substantial economic advantages regardless of the type of urban destination and regardless of skill levels. Of course, high-skilled migrants are expected to contribute more significantly to the destination city's economy than their low-skilled counterparts. This enhanced contribution can materialize in several ways, such as bolstering innovation capacities, igniting entrepreneurial endeavours, facilitating knowledge spillovers and fostering positive effects on wages, employment and worker productivity within the receiving city (Nathan, 2011; Nathan, 2014).

Nonetheless, to enhance economic mobility and decrease the reliance on migration, it is essential for South Africa to prioritize policies that promote local economic development and job creation, especially in smaller urban areas. This may involve investments in local industries. Ultimately, intercity migration should be supported in a controlled manner to

maximize its benefits and minimize its costs. This approach would not only improve the well-being of the population but also alleviate the strain on public resources caused by the high influx of migrants into destination cities.

CHAPTER 6: CITY STRATEGIES TO ATTRACT AND RETAIN SKILLED LABOUR

6.1. Introduction

The primary focus of this chapter is to examine policy documents to ascertain the presence of strategies for attracting and retaining skilled individuals in South Africa's major cities. In the preceding chapter, one of the secondary findings pertaining to the influence of personal characteristics on the outcomes of interest, highlighted the substantial impact of high skill on per capita income, wage premiums and employment probability when compared to lower-skilled labour. However, the advantages stemming from high skill extend beyond the individual, yielding positive externalities for the broader community. For instance, it was previously mentioned in chapter 1 that nations and cities boasting an educated populace have exhibited more rapid growth than those with a less educated citizenry.

In chapter 3, it was noted that the migration and skill literature lacks consensus regarding the definition of high skills. For descriptive and econometric estimations in this thesis, the definition of skilled labour in South Africa, which centred on individuals with at least a post-matric qualification, was employed. However, for this qualitative analysis chapter, where the primary aim is to investigate strategies for attracting and retaining skilled labour, the definition has been limited to university graduates. This change is motivated by the need to align with the common definition utilized by economists and in migration policy analysis, which is more relevant to the focus of this chapter (Weiner & von Koppenfels, 2020).

Recognizing the importance of high skills in the context of intercity migration and economic development in South Africa's cities is paramount. These competencies serve as a catalyst for progress and prosperity in several key ways. To begin with, they address critical shortages of managerial, technical and professional staff, as evidenced in labour studies in South Africa (Khuluvhe et al., 2022). High-skilled individuals often play a pivotal role in establishing and managing robust enterprises, leading to an upsurge in job opportunities and overall economic growth (ILO, 2020).

Furthermore, high skills are intricately linked to the promotion of creativity and innovation (Marlet & van Woerkens, 2004). Highly skilled individuals are well-equipped to devise inventive solutions, explore new opportunities and advance the boundaries of knowledge. This not only enriches the intellectual landscape but also fosters diversification in industries and economies, reducing dependence on a single sector and bolstering resilience (Miniaoui & Schilirò, 2017; Grillitsch & Asheim, 2018).

Lastly, high skills serve as a linchpin for enhancing productivity (Giles & Campbell, 2003). Their application leads to improved processes, efficient resource utilization and the creation of high-value products and services. Consequently, economic development gains momentum and becomes more sustainable.

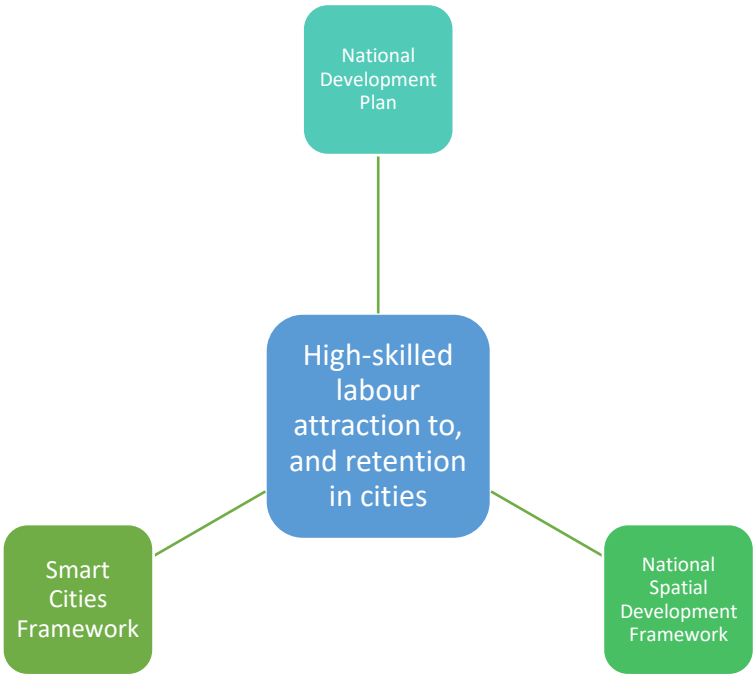
In the knowledge economy, where information and knowledge are at the centre of economic growth (OECD, 2001), the attraction and retention of skilled labour in South African cities have become increasingly important. This aligns with, although it is often implicit, the objectives and principles of the country's National Development Plan, the Smart Cities Framework and the National Spatial Development Framework (refer to Figure 6-1). Outcome 5 of the National Development Plan envisions a skilled and capable workforce to support an inclusive growth path (NPC, 2012).

The focus of the Smart Cities Framework is on leveraging technology, innovation and sustainable development to create liveable, efficient and inclusive urban environments (COGTA, 2021). Attracting and retaining skilled labour is central to this objective as it supports

the creation of knowledge-based economies, promotes entrepreneurship and fosters social and economic growth.

The National Spatial Development Framework outlines a vision for urban areas and regions as engines of national transformation, innovation and inclusive economic growth (DALRRD & DPME, 2022). Enhancing the capacity of cities to attract and retain skilled individuals is crucial to this Framework because of the pivotal role that human capital plays in driving innovation, economic competitiveness and sustainable development.

Figure 0-1: South African policy and high skills attraction and retention



Source: Author's own illustration

Although some cities worldwide have developed policies and strategies to address the retention and attraction of skilled labour, as shown in Chapter 2, it is uncertain whether this is the same for South African cities. Therefore, it is crucial to investigate how South African cities are dealing with the skills challenge and to identify potential areas for improvement.

This chapter investigates the strategies implemented in South Africa's cities to attract and retain skilled labour. The research questions guiding this objective are: Where they exist, what are the current policies and incentives in place to attract and retain skilled labour in South African cities? How do the city-level strategies for attracting and retaining skilled labour differ

across the cities? What are some good practices for attracting and retaining skilled labour in South African cities and how can these practices be implemented across different cities?

The review focuses on the eight metropolitan municipalities of Buffalo City, City of Cape Town, Ekurhuleni, City of Johannesburg, eThekwini, City of Tshwane, Nelson Mandela Bay and Mangaung. The metros are the most populous and most economically important areas in South Africa. These cities play a critical role in driving the country's economic growth and development. Given the crucial role of skills in promoting economic growth, it is imperative to gain insight into how these cities are either currently attracting and retaining skilled labour or planning to do so. This is essential to bolster their ongoing growth and development.

The eight metros collectively hold a significant portion of the skilled labour force in South Africa (Statistics SA, 2017). The following IDP analysis seeks to examine policies and strategies aimed at attracting and retaining such talent. Focusing on these metros allows for a more comprehensive evaluation of initiatives directly impacting the country's skilled workforce.
The review of existing strategies in urban centres to attract and retain high-skilled labour could lead to the identification of policy gaps and the development of recommendations for policy interventions that promote the attraction and retention of high-skilled labour in South African cities.

6.2. Data

Integrated Development Plans

The primary data source for this objective is the Integrated Development Plans (IDPs) of the eight metropolitan municipalities. These are publicly available documents. IDPs are strategic planning documents that outline the development priorities and goals of municipalities over a five-year period. They are intended to guide local government decision-making and resource allocation in order to promote sustainable development and improve the quality of life for residents. The IDP is supposed to act as a developmental blueprint for the municipality, allowing it to progressively realize its vision over a specific time frame. It serves as a reference point for municipal officials, while also providing the local population with insight into the

challenges faced by the municipality and the strategies intended to address them (Dlamini & Reddy, 2018).

As such, IDPs provide a useful source of information to meet the research objective of reviewing existing strategies in cities to attract and retain skilled labour. While it is not certain that each municipality has specific policies and strategies in place to attract and retain skilled labour, a review of the IDPs can provide insights into the extent to which these issues are considered in municipal planning. The IDP should provide a clue as to whether the municipality is even aware of the importance of talent attraction/retention, let alone whether it has a plan to address the issue.

Following the end of apartheid in 1994, South Africa introduced an integrated planning approach, which enabled municipalities that were previously marginalized to participate in service delivery planning, create new institutions and prioritize strategic development interventions with both short- and long-term effects (Gueli et al., 2017). This approach has facilitated the development of long-term development strategies (over a 25-year period) and immediate ones (over a 5-year period) for a particular municipality through discussions and agreements among representatives from the municipal, provincial and national levels, as well as other stakeholders in the area. Additionally, the integrated planning process has allowed for debate and agreement on these development strategies (Gueli et al., 2007).

The Municipal Systems Act 32 of 2000 requires municipalities to develop and adopt an IDP, which serves as the primary strategic planning tool for the municipality. The IDP must be aligned with the municipality's budget and must be reviewed and updated annually. Municipalities are legally required to implement the IDP and to report on their progress towards achieving the objectives set out in the plan. Failure to comply with the requirements of the Municipal Systems Act (MSA) can result in legal action being taken against the municipality (Government of South Africa, 2000).

In terms of the core components of IDPs, Chapter 5 and Section 26 of the MSA indicate that:
An integrated development plan must reflect-
(a) The municipal council’s vision for the long term development of the municipality with

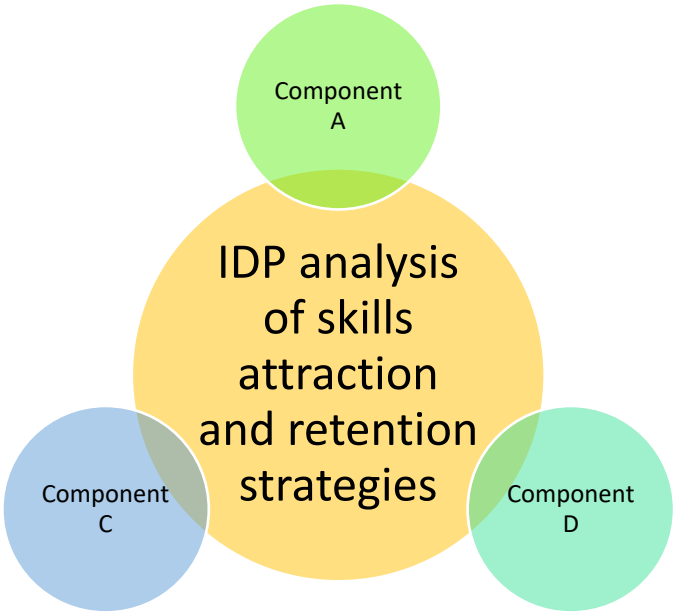
special emphasis on the municipality's most critical development and internal transformation needs;
(b) An assessment of the existing level of development in the municipality, which must include an identification of communities which do not have access to basic municipal services;
(c) The council's development priorities and objectives for its elected term, including its local economic development aims and its internal transformation needs;
(d) The council's development strategies which must be aligned with any national and provincial sectoral plans and planning requirements binding on the municipality in terms of legislation;
(e) A spatial development framework which must include the provision of basic guidelines for a land-use management system for the municipality;
(f) The council's operational strategies;
(g) Applicable disaster management plans;
(h) A financial plan, which must include a budget projection for at least the next three years; and
(i) The key performance indicators and performance targets determined in terms of section 41.

The current research objective can be aligned with several of the core components of Integrated Development Plans (IDPs) as stipulated in the MSA of 2000 (Figure 6-2). Firstly, IDPs require that the municipal council reflects on their long-term development goals with special emphasis on the municipality's most critical development and internal transformation needs (Component A). The strategies that cities use to attract and retain skilled labour can be seen as important development needs or opportunities that should be prioritized in the IDPs.

Secondly, the council's development priorities and objectives for its elected term must be included in the IDPs, including their local economic development aims and internal transformation needs (Component C). Attracting and retaining skilled labour is essential for economic development and this objective aligns with the council's local economic development aims.

Finally, IDPs require that the council's development strategies be aligned with national and provincial sectoral plans and planning requirements binding on the municipality in terms of legislation (Component D). Since having skilled citizens aligns with government priorities, reviewing the strategies that cities have implemented to attract and retain skilled labour aligns with this requirement.

Figure 0-2:: Skills attraction and retention and the IDP framework



Source: Author's own illustration

6.3. Methodology

The policy analysis methodology employed in this IDP analysis involves a multidisciplinary inquiry, aiming to create, critically assess and communicate policy-relevant information, as described by Dunn (2015). To achieve this, a qualitative approach encompassing document analysis, content analysis and thematic analysis is utilized.

Document analysis is systematically applied to review and evaluate various printed and electronic documents, including computer-based and internet-transmitted materials (Bowen, 2009). By examining and interpreting the data within these documents, meaningful insights are derived, leading to a comprehensive understanding and empirical knowledge development (Corbin & Strauss, 2008).

Content analysis, as a research method, enables the systematic and reliable analysis of qualitative data collected during the research process. This analysis allows for the identification and categorization of data relevant to the researcher's areas of interest, facilitating generalizations based on these categories (Haggarty, 1996). Thematic Analysis, another form of qualitative analysis, is employed to identify and present themes or patterns inherent in the data. Through this approach, the data is explored in detail, allowing for interpretations that uncover diverse subjects and illustrate their connections (Boyatzis, 1998).

By integrating these qualitative analysis techniques, this IDP analysis gains comprehensive insights into the policy documents and content related to the eight South African metros. Thematic analysis further aids in identifying recurring themes, patterns and trends that pertain to the attraction and retention of skilled labour in these metropolitan areas.

The following steps are taken:

Step 1: Select the most recently available IDPs for analysis.

Step 2: Review each IDP to assess the potential themes, questions and criteria related to attracting and retaining high-skilled labour. This will involve analysing the policies against a set of pre-determined criteria, as shown in Table 6-1 below.

Table 0-1: Criteria for reviewing city strategies to attract and retain skilled labour

Criteria	Explanation
Prioritization	Does the policy mention that shortage of skilled labour is an issue facing the local economy?
Incentives	Does the policy include any incentives or programs designed to attract and retain skilled labour?
Immigration	Does the policy address immigration policies related to skilled labour?
Education	Does the policy address education and training programs or links/partnerships with the further and higher education sectors designed to develop local skilled labour?
Infrastructure and quality of life amenities	Does the policy address infrastructure development that could attract skilled labour? Does the policy take into consideration the needs and preferences of skilled labour, such as access to quality housing, transportation, recreational facilities and cultural amenities?

Criteria	Explanation
Industry-specific	Does the policy address industry-specific strategies for attracting and retaining skilled labour in certain sectors or fields?
Public-private partnerships	Does the policy address public-private partnerships for attracting and retaining skilled labour?
Evaluation	Does the policy include any mechanisms for evaluating the effectiveness of the strategies or programs included in the policy?

Source: Author's creation based on skills attraction literature

Step 3: Score policies against criteria: Score each policy against the criteria developed in step 2. This will allow for a comparison of the strength of policies across cities and identify which cities are doing well on the policy-space in attracting and retaining skilled labour.
Step 4: Identify good practices: Identify the good practices for attracting and retaining skilled labour in South African cities.
Step 5: Make recommendations: Based on the analysis of the IDPs and good practices identified, make tentative recommendations for how cities can improve their policies for attracting and retaining skilled labour.

Methodological limitations

While the review of IDPs is a useful way to identify the policies and strategies that municipalities may have in place to attract and retain skilled labour, it is important to note that this approach has some limitations. The analysis is based solely on the policies and strategies outlined in the IDPs and may not capture any informal or undocumented practices that municipalities may have in place. The reason for this is that IDPs are official documents that outline the municipalities' development plans and strategies. They are the result of a rigorous and structured planning process that involves stakeholder consultations, public participation and a formal adoption process by the municipal council. Therefore, they represent the most comprehensive and authoritative source of information on the municipalities' development priorities and plans.

On the other hand, press releases and news articles are not subject to the same level of scrutiny and may not necessarily reflect the official policies and strategies of the

municipalities. While they may provide useful insights and perspectives, they may also be biased or incomplete. Therefore, it would not be methodologically sound to rely on press releases and news articles to assess the municipalities' efforts to attract and retain skilled and talented labour. Some municipalities may have initiatives that are not formally included in their IDPs, which could limit the scope of the analysis.

Finally, the review is limited to the eight metros and therefore may not capture policies and strategies that are being implemented in smaller municipalities or rural areas. Despite these limitations, the review of IDPs remains an important starting point for identifying good practices in South Africa's major cities and making recommendations for improving policies to attract and retain skilled labour in South African cities.

6.4. IDP analysis

This section presents an analysis of the IDPs of South Africa's metros, with a focus on attracting and retaining skilled labour. The analysis adopts a thematic approach, examining key themes, statements, pronouncements and programmatic elements within the IDPs. By taking this thematic approach, supported by illustrative examples from each metro, a comprehensive understanding of the strategies employed by the metros to address the shortage of skilled labour and promote economic growth can hopefully be obtained. The analysis encompasses themes such as prioritization, incentives, collaboration, infrastructure development and quality of life initiatives. Through this analysis, valuable insights into the metros' commitment to nurturing a skilled workforce and fostering an environment conducive to attracting and retaining talent can be revealed.

Prioritization

A crucial aspect to consider is the extent to which policies explicitly address the shortage of skilled labour as a pressing issue facing the local economy; and the need to attract and retain it. In reviewing the prioritization of attracting and retaining skilled labour within the policy framework of South Africa's metros, the analysis examines the following statements, pronouncements and phrases:

- Any explicit acknowledgment of the shortage of advanced skills within the local economy.
- Statements that highlight the economic impact or consequences of the skilled labour gap.
- References to studies, reports, or data indicating the magnitude of the skilled labour shortage.
- Direct statements indicating the importance of attracting skilled individuals to the metro.
- Statements highlighting the metro's commitment to addressing factors that may contribute to skilled labour outmigration.

The examination of South Africa's metropolitan plans highlights a common observation: most metros generally do not explicitly acknowledge the critical challenge of a shortage of skilled labour within their local economies, except for eThekwini. The subsequent analysis of these plans demonstrates that, while many metros do acknowledge a skills shortage, they often lack specificity when addressing the shortage of advanced skills.

Johannesburg's IDP highlights the significant challenges faced by Johannesburg, such as an unemployment rate of 32.7% in 2019 (City of Johannesburg, 2021: 204). It attributes this challenge to sluggish economic growth, suboptimal education and training outcomes and a skills mismatch in the labour market with an abundant supply of semi-skilled and unskilled workers and a shortage of skills (City of Johannesburg, 2021: 204). However, the plan does not explicitly specify types of skills that are in short supply.

In Ekurhuleni's IDP, the finance, insurance and real estate sector is identified as a significant driver of competitiveness and economic growth within the municipality (City of Ekurhuleni, 2022: 39). The increasing importance of the service-related tertiary sector in driving economic growth is highlighted, along with its role as a major employer in the municipality. This trend aligns with the shift observed in many growing developing economies, where the tertiary sector plays a prominent role in driving economic development. To support the growth of the

finance, insurance and real estate sector, the IDP emphasizes the need to promote the uptake of tertiary services and develop the necessary skills in areas that can support the sector's expansion (City of Ekurhuleni, 2022: 39). However, the IDP still lacks clarity as to which specific skills need to be developed.

In the City of Tshwane's IDP, the realization of the city's aspirations is contingent upon the availability of a capable and skilled workforce dedicated to serving the citizens (City of Tshwane, 2017: 29). The Mangaung IDP recognizes the issue of skills shortage within the metro (Mangaung Metropolitan Municipality, 2022: 5). The policy emphasizes the search for the availability of the right quantities and quality of skills to support development objectives (Mangaung Metropolitan Municipality, 2022: 131). While this sentiment is expressed, it is rather general and lacks specific details regarding the types of skills required, which is a concern regarding the IDP's prioritization of advanced skills.

Cape Town's IDP acknowledges the need for a high-skilled labour force to address the structural unemployment challenge (City of Cape Town, 2022: 24) which generally results from a skills supply and demand mismatch. Despite the growth and emergence of sectors such as business services, finance and insurance, real estate activities and retail, the policy recognizes that these sectors may not be labour-intensive (City of Cape Town, 2022: 24). While the lack of labour-intensity is acknowledged, the IDP does not explicitly address the need for skills in the mentioned sectors or the need for growth in high skills sectors. The IDP acknowledges the widening gap between the demand for labour in higher-skilled tertiary sectors and the supply of labour in lower-skilled categories (City of Cape Town, 2022: 24). However, the plan lacks explicit recognition of the need for advanced skills to bridge this gap.

The Nelson Mandela Bay IDP acknowledges the shortage of critical health skills within the metro (Nelson Mandela Bay Municipality, 2022: 194). However, the plan stops at acknowledging the issue without explicitly emphasizing the urgency or the need to prioritize addressing this skills shortage. The policy emphasizes the importance of skills development and support to ensure the availability and alignment of industry-specific skills (Nelson Mandela Bay Municipality, 2022: 246). The statement on skills development is also somewhat

generic in its scope. It is worth noting that skills development encompasses a wide range of skills, not exclusively high skills.

The eThekwini IDP recognizes the issue of scarce and critical skills shortage within eThekwini (eThekwini Municipality, 2023: 372). The policy also notes shortage of 'scarce' skills in the municipality and the instances of out-migration of skilled personnel (eThekwini Municipality, 2023: 29). In eThekwini's IDP, the limited support for local artists and creative industries is also recognized as a priority area for attention as there exists large, unrealized employment potential in the metro's cultural and creative industries (eThekwini Municipality, 2023: 512). The IDP acknowledges that the lack of adequate support towards the two mentioned industries (for example networking and market access) often leads to the migration of talent to regions such as Gauteng and the Western Cape, where greater opportunities are available. eThekwini aims to retain local talent, nurture a vibrant creative sector and unlock the employment potential within the municipality.

The IDP of eThekwini Municipality demonstrates an acknowledgment of the phenomenon of out-migration of other skilled workers, in general, from the municipal area (eThekwini Municipality, 2023: 376). Therefore, eThekwini's IDP stands out as exemplary among the plans analysed in this section. This is because it explicitly acknowledges the scarcity of critical skills and the challenge of skilled personnel outmigration faced by the municipality. Moreover, it actively focuses on retaining local talent and nurturing it, setting a noteworthy example for effective planning and response.

Buffalo City's IDP emphasizes the importance of a diverse economy in creating employment opportunities across all skill levels (Buffalo City Metropolitan Municipality, 2021: 118). While the plan discusses the importance of diversity, it does not explicitly address the need for high-skilled labour. The policy also highlights the shortage of artisans as a specific skills challenge (Buffalo City Metropolitan Municipality, 2021: 152). It is important to note that artisans, while skilled, are not typically considered high-skilled in the same sense as professionals in fields like medicine, engineering, or advanced technology. Artisans are typically not university graduates. Artisans are skilled workers who have completed specialized training programs or

apprenticeships in specific trades, such as plumbing, carpentry, electrical work, welding and other hands-on professions.

The above discussion reveals that, in their text, the majority of IDPs do not explicitly prioritize advanced skills or articulate the need to attract and retain them, with the exception of eThekwini. It underscores the importance of considering advanced skills as a vital component in regional development strategies and the potential for enhancing the efficacy of municipal development planning through explicit recognition and prioritization of high-skilled labour.

Incentives

The analysis of South Africa's metros' IDPs extends beyond the recognition of the shortage of skilled labour. It is equally important to explore whether these plans include incentives or programs specifically designed to attract and retain skilled labour. This means going beyond recognizing the loss or need for talent but putting actionable plans to attract and retain it. This section delves into the IDPs to examine the presence of such incentives and programs, shedding light on the metros' efforts to create a conducive environment that appeals to skilled individuals.

In analysing the presence of incentives and programs within the IDPs of South Africa's metros to attract and retain skilled labour, several key aspects will be examined:

- Incentives and benefits for skilled individuals: any provisions or programs that offer incentives or benefits specifically targeted towards attracting and retaining skilled labour. These may include financial incentives, tax breaks, housing assistance, or support for professional development and networking opportunities.
- Entrepreneurship and innovation support: measures to foster entrepreneurship and innovation, particularly targeted towards skilled individuals. This may involve initiatives such as startup incubators, innovation hubs, access to funding, or mentorship programs.

- Talent attraction programs: any specific programs or initiatives aimed at attracting skilled individuals from outside the metro. This may include targeted marketing campaigns and relocation assistance programs.
- Research and Development (R&D) investments: any provisions related to research and development investments. This may include establishing research centres or funding grants for R&D projects.
- Work-life balance Initiatives: This may include flexible work arrangements, childcare support, or programs promoting a healthy work-life integration to enhance the appeal of the metro for skilled individuals seeking a balanced lifestyle.
- Recognition and awards programs: any recognition or awards programs aimed at celebrating and incentivizing skilled individuals. This may include accolades for outstanding contributions to innovation, entrepreneurship, or community development, providing recognition and visibility to attract and retain top talent.

In Johannesburg's IDP, there is a focus on promoting and supporting informal and micro businesses (City of Johannesburg, 2021: 121). The plan prioritizes doing business with micro and small entrepreneurs, particularly those who successfully employ at least 20 employees within a five-year period. While supporting these businesses is undoubtedly valuable, there may be a need for a more explicit strategy for attracting and retaining high-skilled entrepreneurs, given their potential to run more non-survivalist businesses, drive innovation and growth in the city. Moreover, the informal sector is generally perceived as a haven for low-skilled, low-productivity enterprises and the plan could benefit from addressing this perception by promoting high-skilled entrepreneurial activities in this sector as well.

Furthermore, in terms of encouraging Johannesburg to be a hub for innovation, research and development, the IDP mentions the objective of positioning the city as Africa's financial and technological nerve centre and a pre-eminent hub for innovation (City of Johannesburg, 2021: 121). However, the plan lacks specific mention on the relationship between positioning the city as a hub for technology and innovation and how to reach this goal by supporting high skilled individuals.

In Ekurhuleni's IDP, there are measures aimed at supporting the growth of small, medium and micro enterprises (SMMEs), but they do not specifically target high-skilled businesses. The plan mentions finalizing amendments to the Businesses Act, 1991, to reduce regulatory impediments for SMMEs and cooperatives, making it easier for entrepreneurs to start businesses (City of Ekurhuleni, 2022: 120). This initiative aims to create a favourable environment for business development and entrepreneurship within the municipality. Nonetheless, this plan is targeted at all SMMEs and businesses in general.

Additionally, through the Small Enterprise Finance Agency, Ekurhuleni plans to provide R1.4 billion in financing to over 90,000 entrepreneurs, demonstrating support for small-scale enterprises (City of Ekurhuleni, 2022: 120). These measures can indirectly contribute to economic growth and job creation, including that of skilled workers, but skilled people are not specifically targeted.

In terms of communication and brand management, the Ekurhuleni IDP highlights destination marketing to promote Ekurhuleni as a destination for investment and tourism (City of Ekurhuleni, 2022: 345). This initiative focuses on building partnerships with stakeholders in the city to enhance its profile. Destination marketing efforts that highlight Ekurhuleni's economic potential and business-friendly environment can attract both local and international investors. As businesses invest in the city, they create job opportunities and demand for skilled individuals. The prospect of contributing to dynamic and growing industries can entice skilled labour to relocate to Ekurhuleni for better career prospects. Nonetheless, the IDP does not spell out this link between investment promotion and the attraction of high skills.

In analysing the City of Tshwane's IDP, it is evident that the policy emphasizes several initiatives that only indirectly relate to incentivizing skilled workers. Rather, the focus is on broader objectives such as improving the ease of doing business and promoting economic investment with high economic potential.

The IDP acknowledges the need to improve the ease of doing business in the city, recognizing its importance in creating a favourable environment for economic growth (City of Tshwane, 2017: 36). Additionally, the policy highlights the provision of cost-effective and sustainable

economic incentives for economic investment, with a particular focus on skills absorption (City of Tshwane, 2017: 36). This objective suggests an intention to support industries that require skilled labour, although the plan does not outline specific measures or programs exclusively aimed at incentivizing skilled workers.

Furthermore, the IDP recognizes the potential of the knowledge economy, research and innovation in driving economic impact (City of Tshwane, 2017: 50). While this highlights the municipality's understanding of the value of skilled labour and the need to leverage centres of knowledge, the policy does not provide specific details on incentivizing or attracting skilled workers.

The Nelson Mandela Bay Municipality IDP, as with the above plans, does not explicitly outline specific incentives or programs targeted directly at attracting and retaining skilled labour. Instead, the focus is on broader objectives such as the development of world-class tourist attractions and the establishment of facilities to develop technical skills.

The Bayworld Programme, a recognized mega project for the Eastern Cape, aims to transform a 55-hectare area into a world-class tourist attraction and flagship heritage/education precinct (Nelson Mandela Bay Municipality, 2022: 236). This initiative could then potentially attract high-skilled workers involved in the tourism and heritage sectors. However, this link between the project and skilled labour is not explicitly stated in the IDP.

Similarly, the Smart Industrial Academy aims to develop a facility to enhance technical skills in manufacturing, support the automotive industry's innovation and foster incubation for industry 4.0 (Nelson Mandela Bay Municipality 2022: 236). This initiative highlights the municipality's commitment to skills development and technological advancements. But it is not primarily about attracting or retaining skilled people.

In examining the eThekwini Municipality's IDP, the focus is placed on establishing a comprehensive Enterprise Support Eco System to facilitate entrepreneurship, innovation support, business assistance and accessible finance for informal traders, entrepreneurs and SMMEs (eThekwini Municipality, 2023: 997). This support system can benefit both low skilled

and skilled labour, yet the plan does not emphasize how this mechanism is directed to the skilled.

The Young Entrepreneurs Project in Buffalo City is a targeted initiative aimed at empowering young individuals aged between 16 and 40 who possess businesses with the potential to generate a minimum of 10 sustainable jobs (Buffalo City Metropolitan Municipality, 2021: 354). The program seeks to provide support, resources and opportunities to these aspiring entrepreneurs, enabling them to thrive and contribute significantly to the local economy. This project is also an example where a plan is not really targeted to skilled labour.

Cape Town's IDP acknowledges its commitment to supporting National Government programs on skills development and providing assistance to entrepreneurs. However, the plan does not explicitly outline the specific strategies and mechanisms it will employ to fulfil these objectives (City of Cape Town, 2023: 18). Cape Town's IDP emphasizes an initiative aimed at fostering economic inclusivity and promoting growth (City of Cape Town, 2023: 56). The City, in collaboration with its partners, is dedicated to breaking down barriers and establishing an enabling environment for informal businesses and entrepreneurs to flourish. However, this program also specifically targets the informal sector, where many individuals with low-skilled backgrounds are likely to be engaged.

Mangaung's IDP lacks explicit incentives that directly or indirectly target the attraction or retention of high-skilled labour. While the IDP may focus on various development projects and initiatives, it does not outline specific measures or policies tailored to fostering an environment conducive to support skilled labour.

In summary, the eight IDPs do include mentions of development projects, startup business support and funding plans that can potentially incentivize both skilled and unskilled individuals. However, when it comes to addressing incentives aimed specifically at attracting and retaining skilled individuals, this section has illustrated the inadequacy of the IDPs in this aspect.

Domestic relocation Initiatives

In the analysis of internal migration policies related to skilled labour within South Africa's metropolitan areas, this section aims to examine whether these metros have implemented initiatives to facilitate the relocation of skilled individuals to the city and their successful integration within the urban environment. The analysis will explore the following themes, pronouncements and elements within the IDPs:

- Support for integration and settlement: any programs or initiatives aimed at supporting the integration and settlement of skilled migrants from other areas of the country. This may include assistance with finding suitable housing and community services.
- Employment and career support: initiatives that provide employment and career support for skilled individuals who migrate to the metro. This may include job placement services, networking opportunities, or collaborations with industries to match skilled migrants with relevant employment opportunities.

The City of Johannesburg, known as an economic hub, attracts people seeking opportunities to improve their lives, leading to inward migration and population growth in the province of Gauteng. The IDP acknowledges that this influx of people can have positive effects on living standards, health and financial prosperity for citizens. However, the IDP also recognizes that it poses challenges to the city's infrastructure, resources, security and emergency response systems (City of Johannesburg, 2021: 72, 142).

As such, the IDP highlights the need to address the impact of rapid urbanization and inward migration on sustainable service delivery. It aims to develop and implement a strategy for the reintegration of migrants into communities (City of Johannesburg, 2021: 292). However, it seems that the plan to implement a community reintegration strategy for migrants will cater for all migrants in general and not specifically for those which are skilled.

In Ekurhuleni's IDP, the net migration into the city is recognized as a significant factor contributing to population growth. Alongside Tshwane and Johannesburg, Ekurhuleni stands as one of the largest recipients of in-migration in the country (City of Ekurhuleni, 2022: 20). This migration pattern is driven by various factors, including declining fertility rates across

South Africa and the influx of individuals, particularly those aged 25 to 64, in search of economic opportunities (City of Ekurhuleni, 2022: 22).

The IDP identifies the intersection of rapid population growth due to in-migration, historical backlogs and inadequate housing delivery, resulting in low-intensity land invasions and the proliferation of informal settlements (City of Ekurhuleni, 2022: 55). While the IDP recognizes the impact of in-migration on the city's population dynamics and the challenges it poses, it does not explicitly address or outline specific policies or initiatives related to supporting skilled migrants' relocation and integration.

In the City of Tshwane IDP, backyard rental accommodation is acknowledged as a housing option that offers advantages, particularly in the context of urbanization and migration (City of Tshwane, 2017: 295). While the IDP acknowledges the significance of urbanization and migration, it does not provide specific provisions related to incentives or programs aimed at helping skilled individuals to move to the city.

In the Mangaung Metropolitan Municipality IDP, the population growth is acknowledged to have been influenced by immigration into the city from other cities (Mangaung Metropolitan Municipality, 2022: 9). The IDP recognizes the challenges and opportunities brought about by this influx, including increased demand for basic services and human settlement, as well as potential revenue income for the municipality. However, the policy does not explicitly address or outline specific measures or policies related to supporting skilled migrants, drawing upon the opportunities they can bring to the municipality.

In the eThekwini Municipality IDP, the impact of high rates of in-migration from rural areas, small towns in KZN, other parts of South Africa and other parts of Southern Africa is acknowledged (eThekwini Municipality, 2023: 13). The city experiences urbanization and population growth that is challenging to project, resulting in a significant number of new residents requiring housing and services. While the IDP recognizes the phenomenon of migration, it does not explicitly address or outline specific measures or policies related to supporting skilled migrants.

The IDP provides some insights into the reasons for migration, noting that a higher proportion of people moved to eThekwini due to work prospects (eThekwini Municipality, 2023: 13). However, the policy does not elaborate on specific initiatives or incentives targeting skilled migrants seeking work opportunities in the city.

Furthermore, the extent of migration to eThekwini is documented to be relatively low compared to cities like Johannesburg and Cape Town (eThekwini Municipality, 2023: 14). While this observation may be indicative of certain patterns, the IDP does not go into detail about specific measures to facilitate the movement of skilled labours to the municipality or enhancing their settlement and integration experiences within the city.

In the Nelson Mandela Bay Metropolitan Municipality IDP, the impact of migration on community dynamics is acknowledged (Nelson Mandela Bay Metropolitan Municipality, 2022: 271). The city recognizes that migration has contributed to a more diverse society and it acknowledges the importance of addressing community division to prevent tensions, prejudice and criminal behaviour. However, the IDP does not explicitly address the specific needs or concerns of high-skilled migrants.

The IDP mentions a migration and placement policy that was adopted in 2017 and is still under review (Nelson Mandela Bay Metropolitan Municipality, 2023: 66). It is essential to note that once the reviewed migration and placement policy of the Nelson Mandela Bay Metropolitan Municipality is published, it presents an opportunity to conduct a thorough analysis to determine if it adequately caters to the needs of skilled migrants.

In analysing Buffalo City Metropolitan Municipality's approach to migration, it is evident that the municipality recognizes the significance of improved access to quality basic services as a core indicator of development and inclusivity. The mandate given by the electorate to enhance residents' lives and ensure access to such services has been a driving force behind the municipality's efforts. As a result, the quality of life for residents has steadily improved, becoming one of the primary factors attracting people to migrate into the city (Buffalo City Metropolitan Municipality, 2021: 6).

Moreover, observations of demographic patterns in Buffalo City indicate a notable inward migration trend. Being an economic hub for most surrounding towns, Buffalo City serves as a magnet for people seeking economic opportunities and improved living conditions (Buffalo City Metropolitan Municipality, 2023: 52). While the IDP's recognition of the demographic patterns and the role of Buffalo City as an economic hub is crucial, what is absent are specific strategies to facilitate migration of high skilled labour which could contribute to the further development of this provincial economic hub.

In contrast to the other IDPs analysed, Cape Town's IDP does not include any specific mention or provisions related to the migration of people, including support for the relocation or community reintegration of migrants. While the other municipalities acknowledged the significance of migration, recognized demographic patterns and highlighted challenges and opportunities in relation to this phenomenon, Cape Town's IDP seems to lack explicit attention to these aspects.

Education

To nurture and retain a pool of talented individuals, the analysis of the IDPs delves into the education and training initiatives outlined within these plans. This section explores whether the IDPs address education and training programs or establish links and partnerships with the further and higher education sectors, aiming to develop a locally skilled and knowledgeable workforce.

The analysis will focus on key themes and pronouncements in the IDPs related to education and training, such as:

1. Skill development programs: whether the IDPs outline specific skill development programs aimed at fostering a skilled labour force. This may include on-the-job training opportunities tailored to the needs of various industries.
2. Links with Further and Higher Education Institutions: whether the IDPs establish connections and partnerships with local further and higher education institutions. These collaborations can facilitate the alignment of educational curricula with industry

demands, ensuring that graduates possess the relevant skills needed for the local job market.

3. Scholarships and Bursaries: whether the IDPs offer scholarships, bursaries, or financial incentives to support local students pursuing higher education or specialized training in critical sectors.
4. Industry-Academia Collaboration: The analysis will look for any initiatives promoting collaboration between industries and academic institutions. Such partnerships can enhance the relevance of educational programs, making them responsive to the evolving needs of the job market.

In general, across all the metros in South Africa, their respective IDPs demonstrate a strong focus on addressing education and training programs, as well as establishing links and partnerships with further and higher education sectors.

The Johannesburg IDP under Outcome 3 acknowledges the importance of bridging the skills gap through partnerships with institutions of higher learning and the private sector, encouraging relevant skills contributing to the economy and innovative practices (City of Johannesburg, 2021:120).

The Ekurhuleni IDP demonstrates a commitment to skill development programs and education initiatives. The plan sets ambitious targets for placing over 20,000 TVET college graduates in employment and increasing the number of students entering artisan training from 17,000 to 30,000 in the 2023 academic year (City of Ekurhuleni, 2022: 121). Moreover, the IDP showcases support for education and youth development through the provision of bursaries to 4,000 young people, amounting to R360 million (City of Ekurhuleni, 2022:127).

The Tshwane IDP demonstrates a focus on education initiatives and partnerships to foster a high-skilled workforce. The plan highlights the promotion of the knowledge economy in collaboration with higher learning institutions (City of Tshwane, 2017: 37). Additionally, the IDP emphasizes the importance of collaborating with the private sector and higher learning institutions to improve education outcomes aligned with social and economic objectives (City of Tshwane, 2017: 41)

The Nelson Mandela Bay IDP demonstrates a commitment to education and youth development initiatives aimed at addressing youth unemployment. The plan emphasizes the exchange of knowledge and cooperation with various stakeholders to provide opportunities for students to engage in work-integrated learning and internships, aligning with the Metro's growth and development goals (Nelson Mandela Bay Metropolitan Municipality, 2022: 113). Additionally, the IDP emphasizes human resource development and capacitation to ensure the successful implementation of the plan. This includes collaborations in capacity building, education, training, research and resource access, all contributing to the development of a high-skilled workforce that supports the social, economic and environmental objectives of the metro (Nelson Mandela Bay Metropolitan Municipality, 2022: 113).

In the eThekwini Municipality IDP, Programme 5.1 focuses on providing occupationally directed learning and development opportunities in the workplace. The plan highlights the importance of continuously upgrading skills in the workforce, with a specific emphasis on enhancing the intermediate skills pool, particularly in artisan, technician and related occupations (eThekwini Municipality, 2023: 580). To achieve this, the Municipality has established various work experience initiatives, such as learnerships, apprenticeships, in-service training and internships, to expose young people to the world of work and increase their chances of securing jobs in their chosen careers.

To support the successful implementation of this programme, partnerships play a crucial role. The IDP emphasizes the need for collaborations with various stakeholders, including tertiary institutions, chambers of commerce and industry, service providers, government departments, professional bodies, other municipal units and Sector Education Training Authorities (SETAs). These partnerships foster a conducive environment for skill development and training, aligning the efforts of the Municipality with external entities to create a high-skilled and competitive workforce (eThekwini Municipality, 2023: 580).

For Buffalo City, the IDP outlines the Buffalo City Metropolitan Municipality Executive Mayoral Bursary Fund as a significant initiative to promote access to tertiary education for the youth (Buffalo City Metropolitan Municipality, 2021: 261). The Fund stands out as a multi-year project that is fully self-funded, with an allocation of R3 million dedicated to its

implementation. The project aims to enable young individuals who may have faced financial constraints to attend institutions of higher learning. Notably, the Bursary Fund focuses on supporting deserving youth pursuing studies in scarce skills, as identified by BCMM Human Resources Department (Buffalo City Metropolitan Municipality, 2021: 261). By investing in these crucial fields, the Municipality aims to address skill shortages and contribute to the development of a high-skilled workforce.

Additionally, the Bursary Fund goes beyond providing educational support by offering beneficiaries the opportunity for an internship at Buffalo City Metropolitan Municipality upon completing their studies. This internship component seeks to enhance the practical experience and transition of graduates into the workforce, creating a pathway for young professionals to contribute to the Municipality's development and growth (Buffalo City Metropolitan Municipality, 2021: 261).

For Cape Town, the IDP includes a work-readiness initiative aimed at creating quality temporary jobs and training opportunities (City of Cape Town, 2023: 57). The city collaborates with public and private-sector stakeholders to facilitate this initiative. Under this program, communities will be linked to training and funding opportunities offered by other spheres of government and non-governmental organizations (NGOs). Public facilities will also be made available to the City's partners to support their efforts in providing training and skills development.

Furthermore, the city aims to optimize the use of existing temporary work opportunities, such as the Expanded Public Works Programme, apprenticeships and skills development opportunities available within the organization. These opportunities serve as a launch pad for enhancing job readiness and achieving full employment (City of Cape Town, 2023: 57).
In Mangaung, the IDP mentions several skill training initiatives aimed at youth development and community work for example, the Department of Public Works Skill Training, National Youth Service and Community Work Programme (Mangaung Metropolitan Municipality, 2022: 147).

Infrastructure development and amenities

Infrastructure development and quality of life amenities play a crucial role in shaping the socio-economic landscape of a city and have a significant impact on attracting and retaining a skilled labour force. This section of the IDP analysis explores the existence of infrastructure-related aspects and amenities in the municipal plans of South Africa's metros. The examination seeks to identify key themes and pronouncements that highlight the cities' commitment to creating a conducive environment for skilled individuals. Specifically, the analysis will focus on the following aspects:

- Education and training facilities: assess the city's investments in schools, colleges, universities and vocational training centres to nurture a high-skilled workforce.
- Digital connectivity and broadband access: examine the city's plans for expanding digital connectivity, providing widespread broadband access and supporting a tech-savvy community of skilled workers.
- Cultural and recreational amenities: examine investments in cultural institutions, parks, sports complexes and other recreational facilities that contribute to the cities' overall appeal to high skilled individuals or the ‘creative class’.
- Multi-modal transportation: investigate the development of an integrated and efficient transportation system that includes public transit, cycling lanes, pedestrian-friendly spaces and smart mobility solutions.
- Business and industrial Parks: analyse the creation of modern business and industrial parks to foster innovation and support high-value industries.

In Johannesburg's IDP, the focus on infrastructural development and amenities is evident in Outcome 2, which aims to provide a resilient, liveable and sustainable urban environment with smart infrastructure supporting a low-carbon economy. The City's approach involves leading in the establishment of sustainable and eco-efficient infrastructure solutions, encompassing housing, eco-mobility, energy, water, waste, sanitation and information and communications technology. This vision is geared towards creating a landscape that is not only environmentally resilient and sustainable but also conducive to low-carbon economy initiatives, contributing to a greener and more sustainable future for the city (City of Johannesburg, 2021: 67).

Moreover, the City of Johannesburg's Smart City Strategy emphasizes bridging the digital divide and promoting digital inclusion for its citizens. Through initiatives such as providing Free Wi-Fi in public places, expanding fibre networks and extending faster internet connectivity to homes, the city aims to enable more citizens to easily engage with each other, businesses, educational institutions and government services. This strategic approach to digital infrastructure not only enhances the quality of life for residents but also fosters an environment conducive to innovation, economic growth and accessibility to critical services (City of Johannesburg, 2021: 226). However, none of the aforementioned projects are explicitly framed for the benefit of skilled people.

In the City of Tshwane's IDP, a key focus in infrastructural development and amenities is the facilitation of broadband network roll-out to enhance internet connectivity. The City's approach prioritizes improving internet connection, initially targeting the identified economic nodes and subsequently extending throughout the entire city. By prioritizing the expansion of broadband infrastructure, the city aims to create a digitally connected environment that fosters economic growth, innovation and accessibility to online resources for residents and businesses alike (City of Tshwane, 2017: 36). However, in the planning document, these developments are not explicitly linked to the attraction and retention of skilled labour.

In Cape Town's IDP, infrastructure development and amenities are aimed at creating a modern and sustainable urban environment that fosters economic growth and improves quality of life. The City is committed to a Broadband Improvement Project, which involves extending the fibre-optic network to connect more government facilities, provide internet access through community access points and offer spare capacity to licensed telecommunications service providers. This initiative seeks to enhance digital connectivity and internet accessibility throughout the city, creating opportunities for remote work, digital entrepreneurship and access to online resources (City of Cape Town, 2023: 110).

Additionally, Cape Town's Sustainable Transport Initiative focuses on infrastructure interventions that prioritize public transport and non-motorized transport (NMT) options, reducing the reliance on private vehicles for commuting. The city emphasizes stakeholder engagement and promotes flexible work programs for large employers, potentially easing

traffic congestion and improving the overall work-life balance for residents (City of Cape Town, 2023: 94). By embracing remote work policies and infrastructure, Cape Town can appeal to a broader pool of talented individuals, including those who prioritize work-life balance, a favourable living environment and access to natural amenities. The city's focus on sustainable transport and digital connectivity further supports the appeal of remote work, as it ensures seamless communication and efficient collaboration, even for geographically dispersed teams. Nevertheless, within the planning document, there is no clear and direct connection established between these advancements and the process of attracting and retaining skilled labour.

In Mangaung, the implementation of the Integrated Public Transport Network (IPTN) is a notable infrastructure development. The IPTN's focus on providing affordable and efficient public transportation options addresses the demand for reliable and accessible commuting solutions (Mangaung Metropolitan Municipality, 2022: 80). Additionally, the Klein Magasa Heritage Precinct Rehabilitation project showcases the city's commitment to heritage and cultural tourism development (Mangaung Metropolitan Municipality, 2022: 227). While these initiatives can be attractive to skilled labour and contribute to a vibrant and culturally rich living experience, in the planning document, there is no explicit association made between these progressions and the endeavour to attract and keep skilled workers.

In Nelson Mandela Bay, the city has focused on fully developing cultural institutions such as the Performing Arts Complex and the School for the Arts in New Brighton - Red Location, along with the enhancement of facilities in the City Centre (Nelson Mandela Bay Metropolitan Municipality, 2022: 213). While such initiatives can appeal to high-skilled individuals who appreciate and seek out diverse cultural experiences and opportunities for artistic expression, the planning document does not overtly connect these developments to the goal of drawing in and retaining skilled labour.

In eThekwini, the extensive rollout of free Wi-Fi to municipal libraries and public spaces, with 1241 Wi-Fi hotspots in 433 sites, demonstrates the city's commitment to enhancing digital connectivity and accessibility (eThekwini Municipality, 2023: 368). This initiative is not

specifically tailored to high-skilled workers but is aimed at enhancing digital access for the broader community.

In Buffalo City, the Mdantsane Urban Catalytic Program aims to create a vibrant and self-sustaining Economic Hub that celebrates the creative arts, sports, cultural history and identity of the area (Buffalo City Metropolitan Municipality, 2021: 297). This program's emphasis on improved circulation, connectivity and the development of mixed-use and social housing projects showcases the city's commitment to enhancing its urban infrastructure and amenities. The provision of public realm upgrades, social facilities and the introduction of modern amenities such as mini-parks, basketball courts, seating, lighting and wi-fi accessibility reflects the city's efforts to create a dynamic and attractive environment. These initiatives are not specifically tailored to high-skilled individuals but are intended to benefit the general community.

The analysis conducted in this section on IDPs reveals that all metropolitan areas have outlined plans for infrastructure and amenities development. However, when it comes to establishing a direct correlation between these plans and the attraction and retention of high-skilled individuals, a noteworthy deficiency becomes evident—none of the metros have established a clear, explicit link between these infrastructure and amenities developments and high-skilled talent attraction and retention.

Industry specific strategies

The review of industry-specific strategies in the IDP analysis plays a pivotal role in addressing a pressing question: Does the policy effectively address the attraction and retention of high-skilled labour in specific sectors or fields? This section of the analysis focuses on exploring key themes and pronouncements within the policy that directly relate to workforce development in targeted industries. For instance, the policy's approach towards empowerment initiatives tailored to specific sectors, the provision of grants aimed at fostering growth in high-skilled industries and the availability of tax incentives to encourage investment in these sectors will be thoroughly examined.

The City of Johannesburg recognizes the critical importance of various sectors in driving economic growth and attracting labour. In the transport equipment and transport activities sector, positive engagement with the private sector and government support are seen to be crucial to unlock potential benefits from large-scale investments. Strategic investments in networking activities, international participation and capacitation of small service providers are seen as essential to enhance growth (City of Johannesburg, 2021: 39).

Similarly, the construction sector, historically a significant job absorber, will be supported with the establishment of investment centres, development hubs and skills development centres. Special economic areas and consolidated supply chains will complement larger infrastructure projects to maximize the sector's potential (City of Johannesburg, 2021: 39).

In the finance, insurance and real estate domain, Johannesburg aims to promote the uptake of tertiary services and develop relevant skills to bolster the sector's position as a major driver of economic growth and employment. Targeted interventions will enhance specific competitive finance activities, streamline regulations and foster international networking (City of Johannesburg, 2021: 40).

The sub-sector of fuel, petroleum, chemical and rubber products will benefit from interventions that support non-metallic mineral production and align with international heavy industry and infrastructure development (City of Johannesburg, 2021: 40).

Recognizing the challenges in the mining sector, Johannesburg plans to reskill and relocate individuals to more competitive industries, such as non-metallic mineral production, to better match skills with sector requirements and optimize participation in the regional economy (City of Johannesburg, 2021: 40).

Tshwane's development agenda emphasizes the establishment of specialized economic clusters and the support of emerging sectors, with a particular focus on the information and communications technology (ICT) industry. While growing the ICT sector remains important, the city recognizes that significant gains are likely to be achieved by enabling ICT users through the rollout of the broadband network. This strategic approach seeks to foster growth in

various industries and facilitate the emergence of new economic sectors, backed by targeted interventions (City of Tshwane, 2017: 104).

The city is committed to promoting and supporting green economy initiatives to develop local skills and entrepreneurs in support of this sector. Additionally, Tshwane aims to foster a knowledge economy by partnering with higher learning institutions and to strengthen industrial and manufacturing zones through infrastructure provision and support (City of Tshwane, 2017: 104.

In line with its vision, Tshwane has a Strategic Investment Attraction, Facilitation and Aftercare Plan in place, designed to increase investment volumes and boost economic growth and employment creation. The plan identifies several priority investment sectors, including automotives and components, tourism and related services, agriculture and agro-processing, aerospace and defence technologies and alternative and renewable technologies, among others (City of Tshwane, 2017: 104. This comprehensive strategy outlines areas for targeted infrastructure investment to ensure continued growth in existing economic nodes and identify new opportunities for economic expansion.

Cape Town's strategic focus on becoming a major events capital and film hub is geared towards generating job opportunities. The city is committed to coordinating resources to successfully host both international and community events, as well as facilitate film productions, in order to foster job creation in these industries (City of Cape Town, 2023: 55). Efficiency is a cornerstone of Cape Town's approach, with a streamlined permitting process in place to enable seamless operations for the events and film industry. Recognizing the significance of smaller-scale events in community engagement and economic activity, the city aims to enhance its events application process, making it easier and more affordable for organizers to obtain the municipality's permission and support for events like pop-up markets (City of Cape Town, 2023: 55).

Nelson Mandela Bay is focused on supporting and promoting its traditional industries, including manufacturing (especially automotive sector), tourism, pharmaceuticals, retail and construction, while also striving to transition towards more knowledge-intensive, high-value

and globally competitive economic activities (Nelson Mandela Bay Metropolitan Municipality, 2022: 247).

In eThekwini, the municipality recognizes the value of the arts, culture and heritage sector as a means of empowerment and job creation. To capitalize on its potential, the city has devised projects aimed at empowering individuals within this domain. By offering volunteer, work experience and internship opportunities, the municipality provides avenues for learning and skill development within the broader parks, culture and heritage sphere (eThekwini Municipality, 2023: 611). These initiatives not only contribute to the preservation and promotion of the city's rich cultural heritage but also offer empowerment opportunities to individuals seeking to gain valuable experience in these fields.

Among the metros in South Africa, Ekurhuleni, Mangaung and Buffalo City emerge as the metros with notable gaps in industry-specific strategies to enhance job creation. However, even in the cases where the previously mentioned industry-specific projects have been identified, the strategies are not distinctly oriented toward the creation of jobs in high-skilled sectors.

Public-private partnerships

This section of the IDP analysis delves into the critical dimension of public-private partnerships (PPPs) and their role in attracting and retaining high-skilled labour within South Africa's metros. PPPs have emerged as instrumental mechanisms for fostering economic growth, innovation and infrastructure development through collaboration between the public and private sectors. The examination seeks to answer the question: "Does the policy address public-private partnerships for attracting and retaining high-skilled labour?" The exploration will include a range of themes and pronouncements within the IDPs that shed light on the cities' approach to fostering effective partnerships, ensuring a conducive environment for skilled individuals. Key themes to be explored include:

- Collaborative skills development Initiatives: analysing joint efforts between public institutions, private companies and educational bodies to design and implement high-skills development programs tailored to the needs of the local job market.
- Innovation and research partnerships: examining the IDPs' emphasis on fostering collaborative platforms for research, development and innovation between academic institutions, research centres and private enterprises to attract skilled talent.
- Talent retention strategies: investigating the cities' engagement with private companies to design and implement talent retention strategies for the skilled, offering attractive work environments, competitive compensation packages and professional growth opportunities.

Among the eight metros, Cape Town, Johannesburg and Tshwane and stand out for explicitly mentioning their intention to utilize PPPs for job creation and skills development, although these are not specifically targeted to the high skilled. In Johannesburg, fostering job-intensive growth and addressing skills gaps is achieved through robust partnerships with the private sector. By collaborating with institutions of higher learning and the private sector, the city encourages the development of relevant skills that contribute to the economy and foster innovative practices (City of Johannesburg, 2021:120). To enhance the employability of the youth, the city creates internship and learnership opportunities through partnerships with both public and private sectors. Working closely with industry bodies and training providers ensures that courses meet the specialized training needs of tourism business operators, a crucial aspect for growth in the sector.

Furthermore, the Youth Artisan Training Programme is an essential initiative that involves partnerships with the private sector, institutions of higher learning and FET colleges in specific sectors. The aim is to provide artisanal training, contributing to the goal of training 400 youth artisans by 2021 (City of Johannesburg, 2021: 121). The city also emphasizes the importance of a well-designed exit strategy for learners upon completing their training. The private sector's contribution in providing on-the-job training platforms is recognized, enhancing the practical experience of trainees and aligning their skills with industry demands.

In the City of Tshwane, access to decent employment is facilitated through effective public-private partnerships (City of Tshwane, 2017: 34). These partnerships play a crucial role in promoting out-of-school learning by encouraging voluntarism and collaboration with the private sector (City of Tshwane, 2017: 41). By working closely with institutions of higher learning, the city aims to enhance education outcomes, aligning them with both social and economic objectives (City of Tshwane, 2017: 41.

In Cape Town, the impact of climate change is expected to reshape the local economy and employment landscape, creating opportunities for growth in new sectors. While the IDP acknowledges the importance of enabling the private sector to create jobs in emerging industries, specific measures or strategies are not mentioned in the document (City of Cape Town, 2023: 97). However, it recognizes the significance of collaboration between the government and the private sector to address critical challenges hindering job creation, such as load-shedding.

To foster economic growth and encourage job creation, the City of Cape Town outlines various initiatives that emphasize investment and partnership development (City of Cape Town, 2023: 54). These projects include the Growth Coalition Project, Event and Film Industry Facilitation Project, Strategic Assets Initiative, Intergovernmental Collaboration Initiative and Resource Efficiency Initiative, all aimed at promoting collaboration between the public and private sectors.
Furthermore, the IDP highlights the Work-readiness Initiative, which focuses on creating quality temporary jobs and training opportunities in partnership with public and private stakeholders (City of Cape Town, 2023: 57)

Evaluation

A very important aspect of policies designed to attract and retain high-skilled labour lies in their ability to clearly articulate measurable indicators and outcomes, as well as the incorporation of robust evaluation mechanisms. In this section, of interrogation is the extent to which South Africa's metros have incorporated evaluation mechanisms in their policies and

strategies for attracting and retaining high-skilled individuals. The examination seeks to identify key themes and pronouncements related to the assessment of the effectiveness of the outlined strategies and programs. Specifically, focus will be on the following aspects in the IDPs:

1. Measurable targets and Key Performance Indicators (KPIs): whether the IDPs establish specific and quantifiable targets along with relevant KPIs to track progress towards attracting and retaining skilled labour.
2. Periodic reviews and assessments: whether the IDPs incorporate provisions for periodic reviews and assessments of the implemented strategies to identify areas of success, challenges and opportunities for improvement.
3. Benchmarks and best practices: the usage of benchmarks and best practices from other successful cities or regions in attracting and retaining high-skilled labour to inform the evaluation process.

While analysing the IDPs of South Africa's metropolitan areas, it became apparent that half of them have implemented evaluation mechanisms to monitor the effectiveness of their strategies. However, none of these mechanisms are explicitly designed to assess the attraction and retention of skilled labour. This outcome aligns with the overall analysis, which highlights the lack of clear and specific strategies for attracting and retaining skilled labour within these IDPs. A policy and evaluation mechanism cannot be established for an intervention that does not exist. Nevertheless, it is worth noting how some of these metros plan to evaluate their specific programs.

Johannesburg's IDP includes several key indicators to assess the effectiveness of its strategies in creating jobs, upskilling labour and supporting businesses (City of Johannesburg, 2021: 292):

- Number of youths benefiting from socio-economic development programs: The IDP sets specific baseline and target figures from 2021 to 2026 to track the impact of these initiatives on empowering the youth and promoting job opportunities.

- Number of participants enrolled in technical and artisan-related skills training: This metric serves as a measure of the city's commitment to skill development and capacity-building among its residents.
- Number of SMMEs supported city-wide: The IDP sets a target of supporting 18,500 Small, Medium and Micro Enterprises (SMMEs) in Johannesburg by 2026.

In the evaluation section, Ekurhuleni's IDP includes a specific indicator to assess its efforts in broadening internet access: Number of new WiFi hotspots/nodes provided with WiFi: The IDP sets a measurable target of increasing the number of WiFi hotspots/nodes from a baseline of 200 to 9,000 by the end of 2027 (City of Ekurhuleni, 2022: 288).
Tshwane's IDP has a measure of rand value of investments attracted to the city. The IDP sets a measurable target of attracting investments amounting to 2.4 billion rand in 2017 and 3 billion rand in 2021 but is unclear as to the targeted investment (City of Tshwane, 2017: 163).

In the evaluation section of Cape Town's IDP, the "Work-readiness initiative" is placed under an "Accountable Directorate," which implies that there is a specific department or entity responsible for overseeing and implementing this initiative (City of Cape Town, 2023: 57). While specific details about the directorate's functions, responsibilities and reporting structure are not provided in the available information, having an accountable directorate suggests that there is a designated body responsible for driving the success of the "Work-readiness initiative" and ensuring its implementation aligns with the city's broader objectives. However, specific measurable goals, indicators, or outcomes for this initiative are not explicitly mentioned in the available information.

In Mangaung's IDP, one of the evaluation mechanisms involves tracking the "Number of individuals connected to apprenticeships and learnerships through municipal interventions" (Mangaung Metropolitan Municipality, 2022: 311). The specific baseline and target values for this indicator are not provided in the available information.

In Nelson Mandela Bay's IDP, the municipality employs Public Employment Programmes (EPWP, CWP and related initiatives) to create work opportunities. From 2020 to 2023, the city plans to increase these opportunities significantly, from 2,603 to 7,058, benefiting low-skilled

individuals and contributing to local job creation efforts (Nelson Mandela Bay Metropolitan Municipality, 2022: 11).

Additionally, the city focuses on skills development through apprenticeships and learnerships facilitated by municipal interventions. As of September 2022, the IDP targets 15 electrician apprenticeship learners and 39 learners in building and civil construction learnerships (Nelson Mandela Bay Metropolitan Municipality, 2022: 175).
In the eThekwini IDP, a target of 250 SMEs supported is set for 2024 for the project aimed at empowering small black owned enterprises in leisure tourism (eThekwini Municipality, 2023: 516).

In the Buffalo City IDP, there is a focus on tracking the number of direct and indirect job opportunities created through Economic Development Projects, initiatives and partnerships. The baseline for the year 2020 is set at 800 job opportunities, with a target of reaching 1400 job opportunities by the year 2026 (BCMM, 2021: 369).

6.5. Discussion

The analysis of the eight South African metropolitan IDPs across various thematic areas, including prioritization, incentivization, domestic talent attraction, education, infrastructure development and amenities, industry-specific strategies, migration support, Public-Private Partnerships (PPPs) and evaluation mechanisms, has brought to light several key findings.
While there is some acknowledgment of the importance of skills in the IDPs, there is limited emphasis on high/advanced skills. Notably, eThekwini's IDP stands out as the only one that explicitly prioritizes advanced skills, migration trends and the imperative of retention.

Regarding incentivization, efforts are made to support job creation and start-up businesses, but these incentives are not customarily tailored to high-value industries that would likely employ highly skilled individuals. In the context of migration support, the analysis indicates that metros generally acknowledge the challenges and opportunities associated with migration, with some, such as Johannesburg and Nelson Mandela Bay, expressing intentions to support migrant reintegration. However, there is a notable absence of a clear intention to support the relocation and reintegration of high-skilled migrants across all metros.

Concerning education and skill development programs, all IDPs generally show a positive intent by offering internships, bursaries and partnerships with higher learning institutions to enhance workforce skills. Notably, Buffalo City's bursary fund for scarce or critical skills addresses the skills shortage within the municipality.

In terms of infrastructure and amenity provision, most IDPs express a degree of prioritization through initiatives like public Wi-Fi hotspots, efficient public transport systems and cultural precincts. Nevertheless, none of these initiatives are explicitly articulated in terms of how they can attract and retain skilled individuals.

In the realm of industry-specific strategies, some metros outline plans offering financial incentives, volunteer opportunities and internships. However, there is a lack of explicit mention regarding how these strategies can be utilized to attract and retain skilled individuals.

Concerning Public-Private Partnerships (PPPs) for job creation and workforce retention, Cape Town, Johannesburg and Tshwane document such partnerships, but without a specific focus on how they can be leveraged to attract and retain highly skilled individuals.

Lastly, while some evaluation mechanisms have been implemented to measure the success of development programs, such as the number of established Wi-Fi hotspots or the number of youths and businesses supported, these mechanisms are not directly linked to high-skilled individuals. This outcome is in line with the general observation that all IDPs perform inadequately in terms of skills attraction and retention planning.

Fostering high-skilled talent: enhancing metro IDPs for success

While recognizing the significance of both low-skilled and high-skilled labour in a city's economy, it is essential for the eight metro IDPs in South Africa to place greater emphasis on strategies that attract and retain high-skilled migrants. High-skilled individuals play a pivotal role in driving innovation, productivity and economic growth, making them critical assets for a city's success. By tailoring specific policies and pronouncements to address the unique needs

of high-skilled workers, cities can create an environment that fosters their integration and encourages long-term commitment.

To achieve this, the IDPs should draw inspiration from global cities that have successfully implemented various strategies to attract and retain talent, both from international and domestic sources. These strategies, explored in detail in the literature review chapter of the thesis, encompass innovative approaches to talent attraction and retention, such as offering attractive relocation incentives for skilled migrants (for example, rental/house purchase loans), co-working spaces and networking opportunities with other high skilled people in the city.

One key consideration is the development of a separate migration policy dedicated to attracting and retaining high-skilled workers. This dedicated policy can outline specific measures and programs aimed at meeting the unique needs of high-skilled migrants.
By streamlining these efforts, cities can enhance their attractiveness to high-skilled talent and establish a competitive edge in the global market for skilled labour.

Policies aimed at attracting and retaining high-skilled labour present an enticing avenue for consideration by South African municipal policymakers. However, it is imperative to recognize that the issue of high-skilled labour in South Africa can be contentious, primarily due to the country's history of deep-seated inequality and historical injustices. The legacy of Apartheid, a system characterized by racial segregation and discrimination, has cast a long shadow over South Africa. This system perpetuated racial inequality and led to disparities in the quality of education, particularly for Black South Africans (Chisholm, 2012).

The consequences of apartheid have resulted in unequal educational outcomes, with those possessing financial and sociocultural advantages gaining access to quality education and achieving significant academic success. These individuals are often urbanized and reside in economically dominant provinces like Gauteng and the Western Cape, while the poorer, predominantly Black South Africans are more likely to live in rural areas and economically disadvantaged provinces (McKay, 2018).

The post-apartheid government inherited an unequal and unjust higher education system that had historically favoured white students while limiting opportunities for the Black majority. This inequity is evident in preferential access to higher education for white students, further exacerbating educational disparities (Sehoole & Adeyemo, 2016). University dropout rates are also notably high among African students, compounding the challenges faced by historically disadvantaged groups.

Given this historical context, policies specifically targeting high-skilled labour, which often originates from privileged classes and racial backgrounds, can be a source of contention. Some individuals may perceive these policies as reverse discrimination, further exacerbating the complexities surrounding the issue of high-skilled labour in South Africa. Balancing the imperative of addressing historical injustices with the need for equity in attracting and retaining high-skilled professionals can potentially cause a challenge for policymakers in the country.

Skeldon (2018) highlights key aspects regarding high-skilled migration policies. Firstly, the focus should be on indirect policies that promote industries and services, leading to the employment of skilled migrants, rather than solely relying on direct policies to attract them. Secondly, it is essential to integrate policies aimed at attracting skilled migrants with broader strategies that also recognize the significance of migration for less skilled individuals. Lastly, efforts to retain skilled workers should consider the dynamic nature of their mobility, acknowledging the frequent turnover facilitated by various channels that influence their decisions to move.

The OECD (2023) suggests the need for customized attraction and retention strategies, emphasizing that not all regions require identical talent approaches. These strategies should be tailored to specific places and individuals, considering that different types of talent have distinct preferences. The report underscores the critical role of retention strategies, not only in retaining existing talent but also as a means to attract newcomers. Initial experiences significantly influence prolonged stays and the likelihood of individuals recommending the location to others, highlighting the importance of soft-landing programs.

It is essential to recognize that the proficiency of municipal administrations in managing migration differs across countries and is generally not as strong as that of national governments. Municipalities typically have a secondary role in migration regulation and operate within well-defined legal boundaries, often without the authority to propose or initiate legislation (Kvashnin, 2022). This is particularly evident in the context of South Africa, where the devolution of powers to local authorities through the Constitution has created a unique landscape for municipalities. However, the autonomy of these municipalities to set their own policies, distinct from national or provincial legislation, is often clouded by ambiguity (Sekgala, 2017).

Another crucial aspect to consider is that the endeavour to attract talent is not obligatory but rather discretionary in municipal policies, making it susceptible to being disregarded by the administration. Consequently, transient factors, such as the inclination of municipal leaders to devise suitable strategies, the ability to procure the necessary financial resources for implementation and established connections with urban entrepreneurs seeking skilled personnel, gain heightened significance (Kvashnin, 2022). The latter holds particular importance, as municipalities, being state institutions, cannot independently formulate migration strategies and must collaborate closely with companies and business associations (Kühn, 2018).

Finally, supporting high-skilled labour need not necessitate a significant allocation of public resources. Offering information and advisory services is often an affordable option.

6.6. Conclusion

Talent gravitates toward places where it is valued and where there are plentiful jobs available and cities that offer favourable environments for talent tend to attract and retain more skilled individuals. Moreover, cities with abundant pools of talent typically experience greater growth compared to those with limited resources. The policy framework of a city can serve as an initial indicator of its commitment to fostering a conducive environment for talent. This is a sensitive matter in a highly unequal country like South Africa, where favouring highly skilled and talented people needs to be reconciled with the imperative to promote redress and

redistribution. In this chapter, a thematic analysis of eight IDPs from South Africa's metros was conducted to assess their inclusivity of aspects that can attract and retain high-skilled individuals. The analysis revealed a prevailing absence of explicit strategies within the IDPs that are specifically geared towards attracting, nurturing and retaining skilled labour.

Drawing inspiration from policies implemented in cities from other countries could enhance the effectiveness of these IDPs. Nevertheless, this process entails careful consideration of various factors, including the city's unique political context, policy-making atmosphere, devolution protocols, financial resources and engagement with employers in the area. Implementing policies tailored to each city's specific circumstances is a complex undertaking but crucial for realizing the full potential of attracting and retaining high-skilled talent.

CHAPTER 7: CONCLUSION

Economic growth theories in recent decades have consistently underscored the significance of human capital as a primary determinant of national growth, supplanting traditional drivers like physical and financial capital (Mincer, 1981; Lucas, 1988; Romer, 1990). More recently, scholars argue that knowledge has become the primary catalyst for wealth creation and economic growth, surpassing natural resources and physical labour as the engines of prosperity (Florida, 2000; Johnsen, 2016).

The accumulation of human capital is also posited as a critical factor in urban economic growth, with studies indicating that cities boasting a higher proportion of educated residents tend to experience faster growth rates (Chinitz, 1961). This trend is attributed to the concentration of highly skilled individuals in specific geographic areas, resulting in positive productivity and innovation externalities.

Research indicates that the concentration of highly skilled individuals has created a stark contrast in economic prospects between knowledge-rich 'superstar' cities and deindustrialized 'shrinking' cities, leading to an uneven winner-takes-all geography (Florida, 2002; Moretti, 2013; Mellander & Florida, 2021). This phenomenon is most prevalent in the United States and European economies, where talent, youth, wealth and innovation flow predominantly toward large metropolitan areas. Consequently, left-behind regions experience apparent stagnation in fortunes, marked by declines in income and life chances.

The mobility of highly skilled individuals within borders becomes crucial for enhancing city productivity, as these individuals bring valuable knowledge, skills and innovation contributing significantly to economic growth (Angel & Blei, 2016). Furthermore, the industrial and sectoral structure of a city's economy, along with place-based effects such as local policies, significantly influences city growth (Visagie & Turok, 2022) and the migration of highly skilled labour.

The literature review in Chapter 2 revealed that while intercity migration of highly skilled labour has received some attention in the last two decades, current studies on internal labour migration in South Africa predominantly focus on rural-to-urban migration and other internal

movements, such as interprovincial migration. With South Africa's high urbanization levels, movement between urban areas is likely the most common form of migration, highlighting a research gap.

The thesis's primary objective was to systematically assess skilled migration between South African cities by analysing migration patterns, evaluating the impact on social mobility and reviewing city strategies to attract and retain skilled labour. The New Economic Geography theory, New Neoclassical Urban Economics theory and the human capital model, supported by the dual labour market theory, framed the analyses.

An analysis of intercity migration patterns using the Community Survey 2016 yielded significant observations. Migration between cities constitutes a substantial share of internal migration in South Africa, suggesting its growing importance, likely to increase over time. This trend underscores the need for increased consideration in the country's literature and future research. Skilled individuals predominantly drive migration between cities, aligning with existing theories. This emphasizes the critical role of migration in shaping urban development and labour market dynamics, necessitating recognition of the unique needs and contributions of this specific migrant group.

Migration between and from cities into other spatial types appears more diverse compared to in-migration from rural areas, offering potential mechanisms for fostering equity in racial and skill-related dimensions. Recognizing this diversity is pivotal in addressing social inequalities and leveraging the benefits of different migrant cohorts for local economies. The analysis underscores the crucial role of secondary cities within South Africa's urban system, making them potentially the most important flow for the Gauteng City Region (GCR). Secondary cities seem to possess compelling factors that attract skilled labour, indicating unique opportunities or advantages appealing to skilled professionals.

Nuanced patterns in net skilled migration between cities were revealed, with Cape Town and the Gauteng City Region emerging as net winners. Other cities experienced a net outflow of skilled labour. Understanding these nuances is crucial for informed decision-making regarding labour markets and competitiveness. Policymakers should develop targeted strategies to

attract and retain skilled individuals. The dominance of Cape Town as a destination for skilled migrants suggests the emergence of semigration as a trend over time, vital for cities aspiring to attract high-skilled workers and foster regional development.

The observed influx of skilled intercity migrants to both Cape Town and the Gauteng City Region in South Africa provides intriguing insights. It appears that elements of both The New Economic Geography (NEG) theory and the new neoclassical urban economics theory are at play. According to NEG, skilled labour tends to gravitate toward economically robust regions, drawn by agglomeration advantages. Similarly, the neoclassical perspective emphasizes the movement of skilled labour to areas with improved quality of life. In the South African context, these theories seem to align with the migration patterns observed. However, to validate this supposition fully, further investigation is warranted. A deeper exploration of the specific mechanisms driving skilled migration and their impact on regional development would enhance our understanding.

Migration to another city can have profound effects on economic variables, including per capita income, wages for the movers and the likelihood of employment for those who relocate. Against this backdrop, Chapters 4 and 5 employed descriptive analysis and econometric estimation strategies, respectively, to delve into the outcomes of skilled labour migration in South Africa.

The descriptive overview in Chapter 4, utilizing NIDS data from 2008 and 2017, initiated by delineating the individual and household characteristics of both non-migrants and migrants. The first group of migrants included those who moved from an urban area to a metro; while the second group was made up of those who moved from an urban area to another urban area, excluding a metro. A notable revelation surfaced: over 1.8 million working-age adults in urban areas, spanning metros and other urban regions, had engaged in migration to another metro from 2008 to 2017. Additionally, approximately 1.2 million adults had relocated within urban areas but refrained from settling in a metro. This observation underscores the pivotal role of metros in South Africa as primary centres for labour opportunities and economic activities, while also highlighting the continued importance of movement into non-metro urban areas.

Migrants exhibited characteristics aligning with expectations: they tended to be younger, single and more educated, indicating a higher level of mobility due to fewer attachments.
Real per capita income changes displayed positive trends for all three groups (non-migrants, urban to metro migrants and migrants from urban to non-metro urban areas), with migrants experiencing even more substantial improvements. These findings underscore that migrants to metros tend to enjoy more favourable income outcomes, attributed to increased income-generating opportunities in these areas. Moreover, the descriptive results offered a valuable perspective: a larger proportion of migrants who were in poverty in 2008 managed to escape poverty by 2017, surpassing the rate of those who achieved the same among individuals who remained in urban areas. Significantly, the urban-to-metro migrants witnessed the most substantial reduction in poverty rates.

In terms of employment outcomes, migrants exhibited positive trends. A significant proportion transitioned from non-economic activity or unemployment in 2008 to stable employment by 2017, with a substantial share remaining employed throughout the entire period from 2008 to 2017, suggesting a job stability premium associated with migration. The considerable enhancement in the economic circumstances of migrants in comparison to non-migrants aligns closely with and lends support to the human capital model of migration.
However, Chapter 4 acknowledged the limitations of a descriptive overview, which can only establish correlation and not causation and fails to quantify the relationship between migration and changes in income and employment outcomes.

Chapter 5, utilizing the same NIDS 2008 and 2017 data, employed the ordinary least squares approach and more sophisticated econometric methods, including the Fixed Effects (FE) model and the Difference-in-differences (DiD) approach, to isolate the pure effect of migration on employment, wages and income outcomes. This enhanced causal inference adds confidence to assertions about the direct impact of intercity migration on socio-economic outcomes in South Africa.

While past research has demonstrated the potential of moving from rural areas to cities to uplift many South Africans out of poverty (Visagie & Turok, 2017), Chapter 5's analysis

highlighted the significance of intercity migration for enhancing economic mobility, as suggested by the descriptive findings in the previous chapter. Individuals who moved between urban areas experienced notable increases in income, wages and employment probabilities.

The impact of migration varied, ranging from approximately 39% to 76% on income, 0.5% to 38% on wages and 4% to 13% on employment, depending on the choice model. These gains are impressive given the wider context of joblessness, poverty and a slack labour market, emphasizing the role of intercity migration as a key mechanism of economic advancement in South Africa.

Interestingly, the results did not consistently show an economic premium associated with moving to a metropolitan area compared to another urban region or vice versa. This highlights that urban migration, regardless of the specific destination, confers substantial economic benefits. Contrary to expectations, the data did not reveal an additional income, wage, or employment premium for high-skilled migrants. This unexpected outcome challenges the common assumption that high-skilled migrants would inherently enjoy a significantly larger economic advantage.

The absence of a pronounced economic advantage for high-skilled migrants defies conventional expectations rooted in the presumption that their advanced skills and qualifications would make them more competitive and valuable in certain job markets, naturally translating into higher income, wages and employment opportunities. This discrepancy suggests that other intricate factors, such as labour market dynamics, regional disparities, or social and institutional influences, may play a more pivotal role in shaping the economic outcomes of migrants.

The findings which suggest an absence of a disproportionate employment and wage advantage for skilled intercity migrants compared with unskilled intercity migrants raises some doubts to several established theoretical frameworks. Human capital theory, which emphasizes the economic value of an individual's skill set and experience, would predict that skilled migrants should enjoy better labour market outcomes. Similarly, neoclassical economic theory posits that migration to economically strong regions should yield advantages in terms

of employment and wages. The dual labour market theory and local labour market frameworks also anticipate differential outcomes based on skill levels and geographic location. However, our findings diverge from these assumptions. To unravel this paradox, further analysis is warranted. Exploring a larger dataset could reveal nuances and contextual factors that influence the employment and wage dynamics for skilled migrants.

The chapter demonstrated that various secondary explanatory variables, not the primary focus of this study, such as age, gender, marital status and race, demonstrated significance and expected impacts on income, wages and employment, providing confidence to the models and analytical work. To the best of the author's knowledge, an approach that comprehensively investigates three outcome variables in relation to intercity migration is a novel empirical contribution. The chapter advanced our understanding of migration by examining the interplay between migration, income, wages and employment, shedding new light on this complex relationship.

Based on the insights drawn from this chapter's analysis of income, wages and employment determinants, several noteworthy policy and practice implications emerged for South Africa. The focus should be on facilitating urban migration in general, as it consistently confers substantial economic advantages regardless of the type of urban destination and regardless of skill levels. Of course, high-skilled migrants are expected to contribute more significantly to the destination city's economy than their low-skilled counterparts. This enhanced contribution can materialize in several ways, such as bolstering innovation capacities, igniting entrepreneurial endeavours, facilitating knowledge spillovers and fostering positive effects on wages, employment and worker productivity within the receiving city.

Nonetheless, to enhance economic mobility and decrease reliance on migration, it is essential for South Africa to prioritize policies that promote local economic development and job creation, especially in smaller urban areas. This may involve investments in local industries. Ultimately, intercity migration should be supported in a controlled manner to maximize its benefits and minimize its costs. This approach would not only improve the well-being of the population but also alleviate the strain on public resources caused by the high influx of migrants into destination cities.

Chapter 6 of the thesis, set against the backdrop of the international and domestic war for talent, scrutinized the Integrated Development Plans (IDPs) of South Africa's eight metropolitan cities to assess the presence of strategies aimed at attracting and retaining skilled individuals within the country.

The analysis of the eight South African metropolitan IDPs across various thematic areas, including prioritization, incentivization, domestic talent attraction, education, infrastructure development and amenities, industry-specific strategies, migration support, Public-Private Partnerships (PPPs) and evaluation mechanisms, revealed several key findings. While there is some recognition of the importance of skills in the IDPs, there is limited emphasis on high/advanced skills. Notably, eThekwini's IDP stands out as the only one that explicitly prioritizes advanced skills, migration trends and the imperative of retention.

Regarding incentivization, efforts are made to support job creation and start-up businesses, but these incentives are not customarily tailored to high-value industries likely to employ highly skilled individuals. In the context of migration support, the analysis indicates that metros generally acknowledge the challenges and opportunities associated with migration, with some expressing intentions to support migrant reintegration. However, there is a notable absence of a clear intention to support the relocation and reintegration of high-skilled migrants across all metros. Concerning education and skill development programs, all IDPs generally show a positive intent by offering internships, bursaries and partnerships with higher learning institutions to enhance workforce skills.

In terms of infrastructure and amenity provision, most IDPs express prioritization through initiatives like public Wi-Fi hotspots, efficient public transport systems and cultural precincts. Nevertheless, none of these initiatives are explicitly articulated in terms of how they can attract and retain skilled individuals. In the realm of industry-specific strategies, some metros outline plans offering financial incentives, volunteer opportunities and internships. However, there is a lack of explicit mention regarding how these strategies can be utilized to attract and retain skilled individuals. Concerning Public-Private Partnerships (PPPs) for job creation and workforce retention, some metros document such partnerships, but without a specific focus on how they can be leveraged to attract and retain highly skilled individuals.

Lastly, while some evaluation mechanisms have been implemented to measure the success of development programs, such as the number of established Wi-Fi hotspots or the number of youths and businesses supported, these mechanisms are not directly linked to high-skilled individuals. This outcome aligns with the general observation that all IDPs perform inadequately in terms of skills attraction and retention planning.

Recognizing the potential significance of high-skilled labour in a city's economy, it is essential for the eight metro IDPs in South Africa to place greater emphasis on strategies that attract and retain high-skilled migrants. High-skilled individuals play a pivotal role in driving innovation, productivity and economic growth, making them critical assets for a city's success. By tailoring specific policies and pronouncements to address the unique needs of high-skilled workers, cities can create an environment that fosters their integration and encourages long-term commitment.

To achieve this, the IDPs should draw inspiration from global cities that have successfully implemented various strategies to attract and retain talent, both from international and domestic sources. These strategies, explored in detail in the literature review chapter of the thesis, encompass innovative approaches to talent attraction and retention, such as offering attractive relocation incentives for skilled migrants (for example, rental/house purchase loans), co-working spaces and networking opportunities with other high-skilled people in the city.

One key consideration is the development of a separate migration policy dedicated to attracting and retaining high-skilled workers. This dedicated policy can outline specific measures and programs aimed at meeting the unique needs of high-skilled migrants. By streamlining these efforts, cities can enhance their attractiveness to high-skilled talent and establish a competitive edge in the global market for skilled labour.

Policies aimed at attracting and retaining high-skilled labour present an enticing avenue for consideration by South African municipal policymakers. However, it is imperative to recognize that the issue of high-skilled labour in South Africa can be contentious, primarily due to the

country's history of deep-seated inequality and historical injustices. The legacy of Apartheid, a system characterized by racial segregation and discrimination, has cast a long shadow over South Africa. This system perpetuated racial inequality and led to disparities in the quality of education, particularly for Black South Africans (Chisholm, 2012). The consequences of apartheid have resulted in unequal educational outcomes, with those possessing financial and sociocultural advantages gaining access to quality education and achieving significant academic success. These individuals are often urbanized and reside in economically dominant provinces like Gauteng and the Western Cape, while the poorer, predominantly Black South Africans are more likely to live in rural areas and economically disadvantaged provinces (McKay, 2018).

The post-apartheid government inherited an unequal and unjust higher education system that had historically favoured white students while limiting opportunities for the Black majority. This inequity is evident in preferential access to higher education for white students, further exacerbating educational disparities (Sehoole & Adeyemo, 2016). University dropout rates are also notably high among African students, compounding the challenges faced by historically disadvantaged groups.

Given this historical context, policies specifically targeting high-skilled labour, which often originates from privileged classes and racial backgrounds, can be a source of contention. Some individuals may perceive these policies as reverse discrimination, further exacerbating the complexities surrounding the issue of high-skilled labour in South Africa. Balancing the imperative of addressing historical injustices with the need for equity in attracting and retaining high-skilled professionals can potentially pose a challenge for policymakers in the country.

Given the disparities in regional strengths, industrial composition and sectoral structure across these metros, a place-based labour and migration policy framework emerges as a more promising approach. Unlike a spatially blind policy, which treats all regions uniformly, a place-based framework recognizes the distinct contexts of each metro. By tailoring policies to local conditions, such as amenities, economic opportunities and infrastructure, we can better address the talent retention and attraction needs specific to each metro. Such an approach

would foster equitable development, enhance regional competitiveness and create a conducive environment for skilled workers to thrive.

Skeldon (2018) highlights key aspects regarding high-skilled migration policies. Firstly, the focus should be on indirect policies that promote industries and services, leading to the employment of skilled migrants, rather than solely relying on direct policies to attract them. Secondly, it is essential to integrate policies aimed at attracting skilled migrants with broader strategies that also recognize the significance of migration for less skilled individuals. Lastly, efforts to retain skilled workers should consider the dynamic nature of their mobility, acknowledging the frequent turnover facilitated by various channels that influence their decisions to move.

It is crucial to acknowledge that the proficiency of municipal administrations in managing migration varies across countries and is generally not as robust as that of national governments. Municipalities usually play a secondary role in migration regulation and operate within well-defined legal boundaries, often lacking the authority to propose or initiate legislation (Kvashnin, 2022). This is particularly evident in the context of South Africa, where the devolution of powers to local authorities through the Constitution has created a unique landscape for municipalities. However, the autonomy of these municipalities to set their own policies, distinct from national or provincial legislation, is often clouded by ambiguity (Sekgala, 2017).

Another crucial aspect to consider is that the effort to attract talent is not obligatory but rather discretionary in municipal policies, making it susceptible to being disregarded by the administration. Consequently, transient factors, such as the inclination of municipal leaders to devise suitable strategies, the ability to procure the necessary financial resources for implementation and established connections with urban entrepreneurs seeking skilled personnel, gain heightened significance (Kvashnin, 2022). The latter holds particular importance, as municipalities, being state institutions, cannot independently formulate migration strategies and must collaborate closely with companies and business associations (Kühn, 2018).

Finally, supporting high-skilled labour need not necessitate a significant allocation of public resources. Streamlining work permits and visa procedures can be a cost-effective measure, particularly in the context of facilitating the inward migration of foreigners. Additionally, offering information and advisory services is often an affordable option.

The thesis has contributed to our understanding of internal labour migration dynamics in South Africa through a unique lens – intercity migration of skilled labour. The following are potential areas for future research for each of the research objectives covered in this thesis:

1. Objective One: With the recently released Census 2022 results, it can be noteworthy to compare the intercity migration trends revealed in this thesis using the 2016 Community Survey with what has happened in the past 10 years when the 2022 Census data is released. The advent of the Covid-19 pandemic and the subsequent rise in remote work across various industries might have altered the dynamics of labour intercity migration. Additionally, it may have influenced the priorities of workers concerning housing and associated amenities.
2. Objective Two: Regarding the second objective, it may be worthwhile to analyse which type of jobs (formal or informal; different sectors) migrants and non-migrants moved into over the period of study and see whether this differed by the skill or occupational levels of the sample.
3. Objective Three: Regarding objective three, beyond the IDPs of the eight South African metros analysed, it can be noteworthy to have interviews with the city economic development planners and gain more perspective on their prioritization of skilled labour and strategies to attract and retain it, which may not have been explicitly mentioned in the IDPs.

REFERENCES

Abella, M. (2006). Global competition for skilled workers and consequences. In Kuptsch, C. & Fong, P.E. *Competing for global talent*, 11-32. International Labour Office: Geneva.

Agriculture, Land Reform and Rural Development (DALRRD) & Department of Planning, Monitoring and Evaluation (DPME). (2022). National Spatial Development Framework. DALRRD & DPME: Pretoria. https://www.gov.za/sites/default/files/gcis_document/202302/47999gen1594.pdf

Amior, M. (2015). Why are higher skilled workers more mobile geographically?: the role of the job surplus. *CEP Discussion Paper 1338*. Centre for Economic Performance, LSE, London, UK. http://eprints.lse.ac.uk/61279/1/__lse.ac.uk_storage_LIBRARY_Secondary_libfile_shared_repository_Content_Centre_for_Economic_Performance_Discussion_papers_dp1338.pdf

Angel, S., & Blei, A. M. (2016). The productivity of American cities: How densification, relocation and greater mobility sustain the productive advantage of larger US metropolitan labor markets. *Cities*, *51*, 36-51. https://doi.org/10.1016/j.cities.2015.11.030

Angrist, J. D., & Pischke, J. S. (2009). *Mostly harmless econometrics: An empiricist's companion*. Princeton University Press: Oxfordshire.

Antonakis, J., Bendahan, S., Jacquart, P., & Lalive, R. (2010). On making causal claims: A review and recommendations. *The leadership quarterly*, *21*(6), 1086-1120. https://doi.org/10.1016/j.leaqua.2010.10.010

Arndt, C., Davies, R and Thurlow, J. (2019) Urbanization, structural transformation and rural- urban linkages in South Africa. *SA-TIED Working Paper 41*. International Food Policy Research Institute: Washington, D.C. https://sa-tied.wider.unu.edu/sites/default/files/pdf/SATIED_WP41_Arndt_Davies_Thurlow_March_2019.pdf

Arntz, M., Brüll, E., & Lipowski, C. (2021). Do preferences for urban amenities really differ by skill?. *ZEW-Centre for European Economic Research Discussion Paper*, (21-045). https://dx.doi.org/10.2139/ssrn.3871649

Arora, A., Florida, R., Gates, G. J., & Kamlet, M. (2000). Human capital, quality of place and location. *Carnagie Mellon University*. *https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=da1d054cbe6ef701ecb2d0483814b7876db644c3*

Audretsch, D. B., Belitski, M., & Desai, S. (2015). Entrepreneurship and economic development in cities. *The Annals of Regional Science*, *55*, 33-60. https://doi.org/10.1007/s00168-015-0685-x

Baigrie, N., & Eyal, K. (2014). An Evaluation of the Determinants and Implications of Panel Attrition in the National Income Dynamics Survey (2008-2010). *South African Journal of Economics*, *82*(1), 39-65. https://doi.org/10.1111/saje.12024

Bakker, J. D., Parsons, C., & Rauch, F. (2020). Migration and urbanization in post-apartheid south africa. *The World Bank Economic Review*, *34*(2), 509-532. https://doi.org/10.1093/wber/lhy030

Baldwin, J. R., Beckstead, D., Mark Brown, W., & Rigby, D. L. (2008). Agglomeration and the geography of localization economies in Canada. *Regional Studies*, *42*(1), 117-132. https://doi.org/10.1080/00343400701543199

Bartel, A. P. (1979). The migration decision: What role does job mobility play?. *The American Economic Review*, *69*(5), 775-786. https://www.jstor.org/stable/1813646

Behrens, K., Duranton, G., & Robert-Nicoud, F. (2014). Productive cities: Sorting, selection and agglomeration. *Journal of Political Economy*, *122*(3), 507-553. https://doi.org/10.1086/675534

Bell, A., & Jones, K. (2015). Explaining fixed effects: Random effects modeling of time-series cross-sectional and panel data. *Political Science Research and Methods*, *3*(1), 133-153. https://doi.org/10.1017/psrm.2014.7

Bell, M., Charles-Edwards, E., Kupiszewska, D., Kupiszewski, M., Stillwell, J., & Zhu, Y. (2015). Internal migration data around the world: Assessing contemporary practice. *Population, Space and Place*, *21*(1), 1-17. https://doi.org/10.1002/psp.1848

Benoit, K. (2011). Linear regression models with logarithmic transformations. *London School of Economics*. https://links.sharezomics.com/assets/uploads/files/1600247928973-from_slack_logmodels2.pdf

Berry, C. R., & Glaeser, E. L. (2005). The divergence of human capital levels across cities. *Papers in regional science*, *84*(3), 407-444. https://doi.org/10.1111/j.1435-5957.2005.00047.x

Beykpour, K. & Adegbite, U. (2021). Establishing Twitter's presence in Africa. *Twitter*. https://blog.twitter.com/en_us/topics/company/2021/establishing-twitter-s-presence-in-africa

Bolter, K., & Robey, J. (2020). Agglomeration economies: a literature review. Upjohn Institute for Employment Research. https://research.upjohn.org/cgi/viewcontent.cgi?article=1256&context=reports

Borjas, G. J., Bronars, S. G., & Trejo, S. J. (1992). Self-selection and internal migration in the United States. *Journal of urban Economics*, *32*(2), 159-185. https://doi.org/10.1016/0094-1190(92)90003-4

Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative research journal*, *9*(2), 27-40. https://doi.org/10.3316/QRJ0902027

Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development*. SAGE: Thousand Oaks.

Brophy, T., Branson, N., Daniels, R. C., Leibbrandt, M., Mlatsheni, C., & Woolard, I. (2018). *National income dynamics study panel user manual*. Southern Africa Labour and Development Research Unit (SALDRU): Cape Town. http://www.nids.uct.ac.za/images/documents/20180831-NIDS-W5PanelUserManual-V1.0.pdf

Brown, P., Lauder, H., & Sung, J. (2015). Higher education, corporate talent and the stratification of knowledge work in the global labour market. In Van Zanten, A., Ball, J., & Darchy-Koechlin, B. *World Yearbook of Education 2015: Elites, privilege and excellence: The national and global redefinition of educational advantage.* (pp. 217-230). Routledge: New York.

Brueckner, J. K., Thisse, J. F., & Zenou, Y. (1999). Why is central Paris rich and downtown Detroit poor?: An amenity-based theory. *European economic review*, *43*(1), 91-107. https://doi.org/10.1016/S0014-2921(98)00019-1

Bryceson, D., & MacKinnon, D. (2012). Eureka and beyond: mining's impact on African urbanisation. *Journal of contemporary african studies*, *30*(4), 513-537. https://doi.org/10.1080/02589001.2012.719376

Burger, R., & Woolard, I. (2005). The state of the labour market in South Africa after the first decade of democracy. *Journal of vocational education and training*, *57*(4), 453-476. https://doi.org/10.1080/13636820500200297

Buwembo, P. (2015). *Impact of inter-provincial migration on individual labour market status: The case of Limpopo-Gauteng migration flow*. Master's dissertation, Stellenbosch University: Stellenbosch University. http://hdl.handle.net/10019.1/97746

Chakwizira, J., Bikam, P., & A. Adeboyejo, T. (2018). Restructuring Gauteng City Region in South Africa: Is a Transportation Solution the Answer? IntechOpen. doi: 10.5772/intechopen.80810

Chambers, E. G., Foulon, M., Handfield-Jones, H., Hankin, S. M., & Michaels III, E. G. (1998). The war for talent. *The McKinsey Quarterly*, (3), 44. https://www.proquest.com/docview/224542898?pq-origsite=gscholar&fromopenview=true

Champion, T., & Coombes, M. (2007). Using the 2001 census to study human capital movements affecting Britain's larger cities: insights and issues. *Journal of the Royal Statistical Society Series A: Statistics in Society*, *170*(2), 447-467. https://doi.org/10.1111/j.1467-985X.2006.00459.x

Chen, L., Du, H., Hui, E. C. M., Tan, J., & Zhou, Y. (2022). Why do skilled migrants' housing tenure outcomes and tenure aspirations vary among different family lifecycle stages? *Habitat International*, *123*, 102553. https://doi.org/10.1016/j.habitatint.2022.102553

Chen, Y., & Rosenthal, S. S. (2008). Local amenities and life-cycle migration: Do people move for jobs or fun? *Journal of Urban Economics*, *64*(3), 519-537. https://doi.org/10.1016/j.jue.2008.05.005

Chinitz, B. (1961). Contrasts in agglomeration: New York and Pittsburgh. *The American Economic Review*, *51*(2), 279-289. https://www.jstor.org/stable/1914493

Chisholm, L. (2012). Apartheid Education Legacies and New Directions in Post-Apartheid South Africa. *Firenze University Press*. 81-103.

CIOBulletin. (2023). Bizakia Talent- Recruiting, engaging and retaining talent in Bilbao-Bizkaia. *CIO Bulletin*. https://www.ciobulletin.com/magazine/bizkaia-talent-recruiting-engaging-and-retaining-talent-in-bilbao-bizkaia

City of Cape Town. (2022). *Five-year Integrated Development Plan: June 2022 – June 2027*. City of Cape Town: Cape Town.

City of Ekurhuleni. *Integrated Development Plan 2022/23-2026/2027*. City of Ekurhuleni: Germiston.

City of Johannesburg. (2021). *City of Johannesburg Integrated Development Plan 2021-26: Rebuilding a resilient Joburg, Our Plan, Our Future.* City of Johannesburg: Johannesburg.

City of Tshwane. (2017). *City of Tshwane 2017/21 IDP*. City of Tshwane: Pretoria.

Clark, S. J., Collinson, M. A., Kahn, K., Drullinger, K., & Tollman, S. M. (2007). Returning home to die: circular labour migration and mortality in South Africa 1. *Scandinavian Journal of Public Health*, *35*(69_suppl), 35-44. https://doi.org/10.1080%2F14034950701355619

Clark, W., & Huang, Y. (2004). Linking migration and mobility: Individual and contextual effects in housing markets in the UK. *Regional studies*, *38*(6), 617-628. https://www.tandfonline.com/action/showCitFormats?doi=10.1080/0034340042000240932

Collinson, M., Tollman, S. M., Kahn, K., Clark, S., & Garenne, M. (2003). Highly prevalent circular migration: households, mobility and economic status in rural South Africa. *Agincourt Health and Population Unit*. Paper presented at the Conference on African Migration in Comparative Perspective, Johannesburg, South Africa, 4-7 June, 2003.

Commendatore, P., Filoso, V., Grafeneder-Weissteiner, T., & Kubin, I. (2015). Towards a multiregional NEG framework: comparing alternative modelling strategies. In: Commendatore, P., Kayam, S., Kubin, I. (eds) *Complexity and geographical Economics: Topics and Tools*, (pp 13-50). https://doi.org/10.1007/978-3-319-12805-4_2

Cooperative Governance and Traditional Affairs (COGTA). (2021). *A South African smart cities framework: A decision-making framework to guide the development of smart cities in South*

Africa. COGTA: Pretoria. https://www.cogta.gov.za/cgta_2016/wp-content/uploads/2023/01/Annexure-A-DCoG_Smart-Cities-Framework.pdf

Corbin, J., & Strauss, A. (2008). Basics of qualitative research: *Techniques and procedures for developing grounded theory* (*3rd ed)*. SAGE Publications: Los Angeles.

Cornwell, K., & Inder, B. (2004). *Migration and unemployment in South Africa: When motivation surpasses the theory*. Monash University: Clayton.

Cortright, J. (2014). The young and restless and the nation's cities. *City Observatory*. https://www.pschousing.org/files/PSC_IForum_2-25-15_PostIndustrialCities_cityobservatory_article_YNR-Report-Final_fulltext.pdf

Crescenzi, R., Iammarino, S., Ioramashvili, C., Rodríguez-Pose, A., & Storper, M. (2019). The geography of innovation: local hotspots and global innovation networks. *World Intellectual Property Organization (WIPO) Economic Research Working Paper Series*, (57). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4424262

Cullen, J. B., & Levitt, S. D. (1999). Crime, urban flight and the consequences for cities. *The Review of Economics and Statistics 81* (2): 159–169. https://doi.org/10.1162/003465399558030

Daniels, R. C., Ingle, K. P., & Brophy, T. S. (2022). Determinants of attrition between Waves 1 and 2 of South Africa's National Income Dynamics Study–Coronavirus Rapid Mobile Survey (NIDS-CRAM). *South African Journal of Economics*, *90*(4), 535-552. https://doi.org/10.1111/saje.12318

David, A., Guilbert, N., Hamaguchi, N., Higashi, Y., Hino, H., Leibbrandt, M., & Shifa, M. (2018). Spatial poverty and inequality in South Africa: A municipality level analysis. *SALDRU Working Paper 221*. https://opensaldru.uct.ac.za/bitstream/handle/11090/902/2018_221_Saldruwp.pdf?sequence=1

Davoudi, S. (2003). European briefing: polycentricity in European spatial planning: from an analytical tool to a normative agenda. *European planning studies*, *11*(8), 979-999. https://doi.org/10.1080/0965431032000146169

de Haas, H. (2008). North-African migration systems: Evolution, transformations and development linkages. In S. Castles & R. Delgado Wise (Eds.), *Migration and Development: Perspectives from the South*. International Organization for Migration.

de Haas, H. (2010). Migration and Development: A Theoretical Perspective**.** *International Migration Review*, *44*(1), 227–264.

Deke, J. (2014). Using the linear probability model to estimate impacts on binary outcomes in randomized controlled trials. *Mathematica Policy Research*. https://opa.hhs.gov/sites/default/files/2020-07/lpm-tabrief.pdf

Delisle, F., & Shearmur, R. (2017). Where does all the talent flow? Migration of young graduates and nongraduates, Canada 1996–2001. *The Canadian Geographer/Le Géographe canadien*, *54*(3), 305-323. https://doi.org/10.1111/j.1541-0064.2009.00276.x

Department of Higher Education and Training (DHET). (2019). Skills supply and demand in South Africa. DHET: Pretoria. https://www.dhet.gov.za/SiteAssets/Report%20on%20Skills%20Supply%20and%20Demand%20in%20South%20Africa_%20March%202019.pdf

Dlamini, B., & Reddy, P. S. (2018). Theory and practice of integrated development planning-a case study of Umtshezi Local Municipality in the KwaZulu-Natal Province of South Africa. *African Journal of Public Affairs*, *10*(1), 1-24. https://hdl.handle.net/10520/EJC-e5e2c7208

Doeringer, P. B., & Piore, M. J. (2020). *Internal labour markets and manpower analysis*. Routledge: New York. https://doi.org/10.4324/9781003069720

Dunn, W. N. (2015). *Public policy analysis: An integrated approach (5th ed)*. Routledge: New York.
eThekwini Munciipality. (2023). eThekwini Munciipality Integrated Development Plan: 5 year plan: 2023/24 to 2027/28. Ethekwini Municipality: Durban.
Faggian, A., & McCann, P. (2009). Human capital, graduate migration and innovation in British regions. *Cambridge Journal of Economics*, *33*(2), 317-333. https://doi.org/10.1093/cje/ben042
Fehn, R., & Frings, H. (2018). Decomposing the returns to regional mobility. ZBW - Leibniz-Informationszentrum Wirtschaft, Kiel: Hamburg. https://www.econstor.eu/handle/10419/181609
Finn, A., Leibbrandt, M., & Levinsohn, J. (2012*). Income mobility in South Africa: Evidence from the first two waves of the National Income Dynamics Study*. Southern Africa Labour and Development Research Unit (SALDRU). https://www.opensaldru.uct.ac.za/bitstream/handle/11090/174/2012_82.pdf?sequence=1
Florida, R. (2000). Competing in the age of talent: environment, amenities and the new economy. *RK Mellon Foundation, Heinz Endowments, Sustainable Pittsburgh*, *& Pittsburgh Technology Council*. http://www.briem.com/files/Florida2000scan.pdf
Florida, R. (2002). The economic geography of talent. *Annals of the Association of American geographers*, *92*(4), 743-755. https://doi.org/10.1111/1467-8306.00314
Florida, R. (2002). The economic geography of talent. *Annals of the Association of American geographers*, *92*(4), 743-755. https://doi.org/10.1111/1467-8306.00314
Florida, R. (2003). Cities and the creative class. *City & community*, *2*(1), 3-19. https://doi.org/10.1111/1540-6040.00034
Föbker, S., Temme, D., & Wiegandt, C. C. (2014). A warm welcome to highly-skilled migrants: how can municipal administrations play their part?. *Tijdschrift voor economische en sociale geografie*, *105*(5), 542-557. https://doi.org/10.1111/tesg.12112
Ford, C. (2018). Interpreting log transformations in a linear model. *University of Virginia Library*. https://library.virginia.edu/data/articles/interpreting-log-transformations-in-a-linear-model
Frey, W. H. (2005). *Immigration and domestic migration in US metro areas: 2000 and 1990 census findings by education and race*. University of Michigan, Population Studies Center. https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=50d4fb0f0eebe767c534d8ab1d540ebb170d748e
Fujita, M., & Thisse, J. F. (2009). New economic geography: an appraisal on the occasion of Paul Krugman's 2008 Nobel Prize in Economic Sciences. *Regional science and urban economics*, *39*(2), 109-119. https://doi.org/10.1016/j.regsciurbeco.2008.11.003
Galobardes, B., Shaw, M., Lawlor, D. A., Lynch, J. W., & Smith, G. D. (2006). Indicators of socioeconomic position (part 1). *Journal of Epidemiology & Community Health*, *60*(1), 7-12. http://dx.doi.org/10.1136/jech.2004.023531
Giles, L., & Campbell, M. (2003). The productivity and skills challenge. *Industrial and commercial training*, *35*(3), 99-103. https://doi.org/10.1108/00197850310470311
Glaeser, E. and Saiz, A. (2003). The rise of the skilled city. *NBER Working Paper 10191*. DOI 10.3386/w10191
Glaeser, E. L. (1994). Cities, information and economic growth. *Cityscape*, *1*(1), 9-47. https://www.jstor.org/stable/20868363
Glaeser, E. L. (2007). The economics approach to *cities*. *National Bureau of Economic Research Working Paper 13696*. https://www.nber.org/papers/w13696
Glaeser, E. L., & Saiz, A. (2003). The rise of the skilled city. NBER Working Paper 10191. DOI 10.3386/w10191

Glaeser, E. L., Kolko, J., & Saiz, A. (2001). Consumer city. *Journal of economic geography*, *1*(1), 27-50. https://doi.org/10.1093/jeg/1.1.27

Gomila, R. (2021). Logistic or linear? Estimating causal effects of experimental treatments on binary outcomes using regression analysis. *Journal of Experimental Psychology: General*, *150*(4), 700. https://psycnet.apa.org/doi/10.1037/xge0000920

Gormley, T. A., & Matsa, D. A. (2014). Common errors: How to (and not to) control for unobserved heterogeneity. *The Review of Financial Studies*, *27*(2), 617-661. https://doi.org/10.1093/rfs/hht047

Gottlieb, P. D. (2003). Economy versus lifestyle in the inter-metropolitan migration of the young: a preliminary look at the 2000 census. *International Journal of Economic Development*, *5*(3). https://go.gale.com/ps/i.do?id=GALE%7CA178896660&sid=googleScholar&v=2.1&it=r&linkaccess=abs&issn=15239748&p=AONE&sw=w&userGroupName=anon%7E4663b889&aty=open-web-entry

Government of South Africa. (2000). Government Gazette No. 21776. *Government of South Africa*. https://www.gov.za/sites/default/files/gcis_document/201409/a32-000.pdf

Green, A. (2023). When should place-based policies be used and at what scale? Background paper for the OECD-EC High-Level Expert Workshop Series on "Place-Based Policies for the Future", Workshop 2, 12 May 2023.

Greenwood, M. J. (1997). Internal migration in developed countries. *Handbook of population and family economics*, *1*, 647-720. https://doi.org/10.1016/S1574-003X(97)80004-9

Grillitsch, M., & Asheim, B. (2018). Place-based innovation policy for industrial diversification in regions. *European Planning Studies*, *26*(8), 1638-1662. https://doi.org/10.1080/09654313.2018.1484892

Gubhaju, B., & De Jong, G. F. (2009). Individual versus household migration decision rules: Gender and marital status differences in intentions to migrate in South Africa. *International migration*, *47*(1), 31-61. https://doi.org/10.1111/j.1468-2435.2008.00496.x

Gueli, R., Liebenberg, S., & Van Huyssteen, E. (2007). Integrated development planning in South Africa: lessons for international peacebuilding?. *African Journal on conflict resolution*, *7*(1), 89-112. https://hdl.handle.net/10520/EJC16307

Haapanen, M., & Böckerman, P. (2017). More educated, more mobile? Evidence from post-secondary education reform. *Spatial Economic Analysis*, *12*(1), 8-26. https://doi.org/10.1080/17421772.2017.1244610

Hagen-Zanker, J. (2008). Why do people migrate? A review of the theoretical literature. *Maastrcht Graduate School of Governance Working Paper No 2008/WP002*. https://dx.doi.org/10.2139/ssrn.1105657

Haggarty, L. (1996). What is content analysis?. *Medical Teacher*, *18*(2), 99-101. https://doi.org/10.3109/01421599609034141

Hansen, S. B., Ban, C., & Huggins, L. (2003). Explaining the "brain drain" from older industrial cities: The Pittsburgh region. *Economic development quarterly*, *17*(2), 132-147. https://doi.org/10.1177/0891242403017002002

Harris, R. G. (2001). The knowledge-based economy: intellectual origins and new economic perspectives. *International journal of management reviews*, *3*(1), 21-40. https://doi.org/10.1111/1468-2370.00052

Hausman, J. A., & Taylor, W. E. (1981). Panel data and unobservable individual effects. *Econometrica: Journal of the Econometric society*, 1377-1398. https://doi.org/10.2307/1911406

Henderson, J. V. (1986). Urbanization in a developing country: City size and population composition. *Journal of Development Economics*, *22*(2), 269-293. https://doi.org/10.1016/0304-3878(86)90132-X

Hercog, M. (2019). High-skilled migration. In Gold, S, J. & Nawyn, S.J. *Routledge International Handbook of Migration Studies* (pp. 164-177). Routledge: New York.

Hicks, J. R. (1932). Marginal productivity and the principle of variation. *Economica*, (35), 79-88. https://doi.org/10.2307/2548977

Hlalele, D. (2012). Social justice and rural education in South Africa. *Perspectives in Education*, *30*(1), 111-118. https://hdl.handle.net/10520/EJC87656

Horrace, W. C., & Oaxaca, R. L. (2006). Results on the bias and inconsistency of ordinary least squares for the linear probability model. *Economics letters*, *90*(3), 321-327. https://doi.org/10.1016/j.econlet.2005.08.024

Hosegoed, V. & Benzler, J. & Solarsch, G. C. (2005). Population mobility and household dynamics in rural South Africa: implications for demographic and health research. *Southern African Journal of Demography*, *10*(12), 43-68. https://journals.co.za/doi/pdf/10.10520/AJA16824482_36

Hrnchir, T. (2022). Average annual salary is $89,000 for those who relocated here as part of Choose Topeka initiative. *cjonline*. https://www.cjonline.com/story/news/2022/02/10/relocation-program-proves-rewarding-participants-who-choose-topeka/6700854001/

Huang, F. L. (2023). Alternatives to logistic regression models when analyzing cluster randomized trials with binary outcomes. *Prevention Science*, *24*(3), 398-407. https://doi.org/10.1007/s11121-021-01228-5

Hunt, G. L., & Mueller, R. E. (2004). North American migration: returns to skill, border effects and mobility costs. *Review of Economics and Statistics*, *86*(4), 988-1007. https://doi.org/10.1162/0034653043125130

Hunt, J. C., & Kau, J. B. (1985). Migration and wage growth: A human capital approach. *Southern Economic Journal*, 697-710. https://doi.org/10.2307/1057873

Huy, H. T. (2009). Rural to urban migration as a household decision: experimental evidences from the Mekong Delta, Vietnam. *Development and Policies Research Center Working Paper*, *17*. http://www.depocenwp.org/upload/pubs/HuynhTruongHuy/Rural%20to%20Urban%20Migration%20as%20a%20Household%20Decision,%20Vietnam_DEPOCENWP.pdf

International Labour Office (ILO). (2010). A skilled workforce for strong, sustainable and balanced growth: A G20 training strategy. ILO: Geneva. https://www.oecd.org/g20/summits/toronto/G20-Skills-Strategy.pdf

Ivanov, I. (2019). Tax incentives for keeping and attracting highly skilled workers: The case of Serbia.*Journal of Legal and Social Sciences*, *67*(4), 173-199.

Jackson, T. (2021). Why Ghana's tech scene was booming even before Twitter and Dorsey moved in. *Disrupt-Africa*. https://disrupt-africa.com/2021/07/26/why-ghanas-tech-scene-was-booming-even-before-twitter-and-dorsey-moved-in/

Johnsen, H. C. G. (2016). *The new natural resource: Knowledge development, society and economics*. Routledge: London. https://doi.org/10.4324/9781315555140

Kan, K. (1999). Expected and unexpected residential mobility. *Journal of urban economics*, *45*(1), 72-96. https://doi.org/10.1006/juec.1998.2082

Kanaiaupuni, S. M. (2000). Reframing the migration question: An analysis of men, women and gender in Mexico. *Social forces*, *78*(4), 1311-1347. https://doi.org/10.1093/sf/78.4.1311

Kemeny, T., & Storper, M. (2020). Superstar cities and left-behind places: disruptive innovation, labour demand and interregional inequality. *International Inequalities Institute Working*

Paper 41. http://eprints.lse.ac.uk/103312/1/Kemeny_superstar_cities_left_behind_place_wp41.pdf

Kerr, S. P., Kerr, W., Özden, Ç., & Parsons, C. (2017). High-skilled migration and agglomeration. *Annual Review of Economics*, *9*, 201-234. https://doi.org/10.1146/annurev-economics-063016-103705

Khuluvhe, M., Bhorat, H., Oosthuizen, M., Asmal, Z., Ganyaupfu, E., Netshifhefhe, E., ... & Rooney, C. (2022). *Skills supply and demand in South Africa*. Department of Higher Education and Training: Pretoria. https://lmi-research.org.za/wp-content/uploads/2022/05/DPRU-LMI-1-1-B2-Skills-Supply-and-Demand-2022.pdf

Khwaja, Y. (2002). Should I stay or should I go? Migration under uncertainty: a real options approach. Brunel University. Economics and Finance Working papers, Brunel University, 02-10. https://bura.brunel.ac.uk/handle/2438/902

Kleinhans, J., & Yu, D. (2020). The Impact of Inter-provincial Migration on the Labor Market Outcomes in Two Developed Provinces in South Africa. *African Human Mobility Review*, *6*(2) 25-57. https://www.epubs.ac.za/index.php/ahmr/article/view/797/590

Kodrzycki, Y. K. (2001). Migration of recent college graduates: Evidence from the national longitudinal survey of youth. *New England Economic Review*, 13-34. https://www.bostonfed.org/-/media/Documents/neer/neer101b.pdf

Kok, P., & Collinson, M. (2006). *Migration and urbanisation in South Africa*. Statistics South Africa: Pretoria. https://repository.hsrc.ac.za/bitstream/handle/20.500.11910/6798/3823(1).pdf?sequence=1

Kok, P., & Collinson, M. (2006). *Migration and urbanisation in South Africa*. Statistics South Africa: Pretoria. https://repository.hsrc.ac.za/bitstream/handle/20.500.11910/6798/3823(1).pdf?sequence=1

Kollamparambil, U. (2017). Impact of internal in-migration on income inequality in receiving areas: A district level study of South Africa. *The Journal of Development Studies*, *53*(12), 2145-2163. https://doi.org/10.1080/00220388.2016.1277019

Kühn, M. (2018). Immigration strategies of cities: Local growth policies and urban planning in Germany. *European Planning Studies, 26*(9), 1747-1762. https://doi.org/10.1080/09654313.2018.1484428

Kuznets, S., & Murphy, J. T. (1966). *Modern economic growth: Rate, structure and spread* (Vol. 2). Yale University Press: New Haven.

Kvashnin, Y. D. (2022). European Urban Strategies for Attracting Highly Skilled Migrants. *Herald of the Russian Academy of Sciences*, *92*(Suppl 2), S113-S118. https://doi.org/10.1134/S1019331622080068

Kvashnin, Y. D. (2022). European Urban Strategies for Attracting Highly Skilled Migrants. *Herald of the Russian Academy of Sciences*, *92*(Suppl 2), S113-S118. https://doi.org/10.1134/S1019331622080068

Langford*, I. H., Kontogianni, A., Skourtos, M. S., Georgiou, S., & Bateman, I. J. (1998). Multivariate mixed models for open-ended contingent valuation data: willingness to pay for conservation of monk seals. *Environmental and Resource Economics*, *12*, 443-456. https://doi.org/10.1023/A:1008286001085

Lauby, J., & Stark, O. (1988). Individual migration as a family strategy: Young women in the Philippines. *Population studies*, *42*(3), 473-486. https://doi.org/10.1080/0032472031000143596

Lechner, M. (2011). The estimation of causal effects by difference-in-difference methods. *Foundations and Trends® in Econometrics*, *4*(3), 165-224. http://dx.doi.org/10.1561/0800000014

Lechner, M., Rodriguez-Planas, N., & Fernández Kranz, D. (2016). Difference-in-difference estimation by FE and OLS when there is panel non-response. *Journal of Applied Statistics*, *43*(11), 2044-2052. https://doi.org/10.1080/02664763.2015.1126240

Leibbrandt, M., Woolard, I., & De Villiers, L. (2009) *Methodology: report on NIDS Wave 1, technical paper no.1*. Southern Africa Labour and Development Research Unit (SALDRU): Cape Town.

Lewbel, A. (2012). Using heteroscedasticity to identify and estimate mismeasured and endogenous regressor models. *Journal of Business & Economic Statistics*, *30*(1), 67-80. https://doi.org/10.1080/07350015.2012.643126

Li, S., Gu, H., & Shen, J. (2023). Detecting spatial heterogeneity in the determinants of intercity migration in China. *Population, Space and Place*, e49. https://doi.org/10.1002/psp.2649

Liu, T., Feng, H., & Brandon, E. (2018). Would you like to leave Beijing, Shanghai, or Shenzhen? An empirical analysis of migration effect in China. *Plos one*, *13*(8), e0202030. https://doi.org/10.1371/journal.pone.0202030

Lora, E. (2020). Income Changes after Inter-city Migration. *CID Research Fellow and Graduate Student Working Paper 128*. https://dash.harvard.edu/bitstream/handle/1/37366851/128.pdf?sequence=1&isAllowed=y

Lucas Jr, R. E. (1988). On the mechanics of economic development. *Journal of monetary economics*, *22*(1), 3-42. https://doi.org/10.1016/0304-3932(88)90168-7

Macdonald, T., & Winklerprins, A. M. (2014). Searching for a better life: Peri-urban migration in western Para State, Brazil. *Geographical Review*, *104*(3), 294-309. https://doi.org/10.1111/j.1931-0846.2014.12027.x

Makgetla, N. (2010). Synthesis Paper: South Africa. *Development Bank of Southern Africa. Unpublished paper.*

Makiwane, M., & Gumede, N.A (2020). Distance and duality: migration, family and the meaning of home for Eastern Cape migrants (105-122). In Bank. L.J., Posel, D., & Wilson, F (eds). *Migrant labour after Apartheid: the inside story*. HSRC Press: Cape Town.

Mangaung Metropolitan Municipality. (2022). Mangaung Metropolitan Municipality Integrated Development Plan 2022/2027. Mangaung Metropolitan Municipality: Bloemfontein.

Marais, L., & Cloete, J. (2017). The role of secondary cities in managing urbanisation in South Africa. *Development Southern Africa*, *34*(2), 182-195. https://doi.org/10.1080/0376835X.2016.1259993

Marlet, G. A., & Van Woerkens, C. (2004). Skills and Creativity in a Cross-section of Dutch Cities. *Discussion Paper Series/Tjalling C. Koopmans Research Institute*, *4*(29). https://dspace.library.uu.nl/handle/1874/7392

Marshall, A. (2009). *Principles of economics: eighth edition*. Cosimo, Inc: New York.

Mbatha, C. N., & Roodt, J. (2014). Recent internal migration and labour market outcomes: Exploring the 2008 and 2010 national income dynamics study (NIDS) panel data in South Africa. *South African Journal of Economic and Management Sciences*, *17*(5), 653-672. https://hdl.handle.net/10520/EJC162629

McKay, T. (2019). The Geography of Education: From Race to Class Apartheid?. In J. Knight & C. Rogerson (Eds.), *The Geography of South Africa* (pp. 17). World Regional Geography Book Series. Springer, Cham. [https://doi.org/10.1007/978-3-319-94974-1_17]

McKenzie, D. J., & Yang, D. (2022). *Field and Natural Experiments in Migration*. CReAM Discussion Paper Series 2226, Centre for Research and Analysis of Migration (CReAM), Department of Economics, University College London.
McMillan, M., & Headey, D. (2014). Introduction–understanding structural transformation in Africa. *World Development*, *63*, 1-10. https://doi.org/10.1016/j.worlddev.2014.02.007
Mellander, C., & Florida, R. (2006). The creative class or human capital: Explaining regional development in Sweden. *Creative Class*. https://www.creativeclass.com/rfcgdb/articles/The_Creative_Class_or_Human_Capital.pdf
Mellander, C., & Florida, R. (2021). The rise of skills: Human capital, the creative class and regional development. In M.M. Fischer & P. Nijkamp (Eds.), Handbook of Regional Science (pp. 707-719). Springer: Berlin.
Michaels, E., Handfield-Jones, H., & Axelrod, B. (2001). *The war for talent*. Harvard Business School Publishing: Boston.
Mincer, J. (1981). Human capital and economic growth. *NBER Working Paper No. 803.* https://www.nber.org/system/files/working_papers/w0803/w0803.pdf
Miniaoui, H., & Schilirò, D. (2017). Innovation and entrepreneurship for the diversification and growth of the gulf cooperation council economies. *Qatar University*. http://dx.doi.org/10.11114/bms.v3i3.2594
Moretti, E. (2010). Local labor markets. National Bureau of Economic Research *Working Paper 15947.* https://www.nber.org/papers/w15947
Moretti, E. (2013). *Are cities the new growth escalator?* World Bank. Washington, D.C. https://documents1.worldbank.org/curated/en/455521468148522294/pdf/842280WP0Moret0Box0382136B00PUBLIC0.pdf
Mosomi, J. (2019). An empirical analysis of trends in female labour force participation and the gender wage gap in South Africa. *Agenda*, *33*(4), 29-43. https://doi.org/10.1080/10130950.2019.1656090
Nakosteen, R. A., & Zimmer, M. (1980). Migration and income: the question of self-selection. *Southern Economic Journal*, 840-851. https://doi.org/10.2307/1057152
Nathan, M. (2011). The long term impacts of migration in British cities: Diversity, wages, employment and prices. *SERC Discussion Paper 67.* https://eprints.lse.ac.uk/33577/1/sercdp0067.pdf
Nathan, M. (2014). The wider economic impacts of high-skilled migrants: a survey of the literature for receiving countries. *IZA Journal of Migration*, *3*(1), 1-20. https://doi.org/10.1186/2193-9039-3-4
Nathan, M., Urwin, C., Champion, T., & Morris, J. (2005). *City People: City centre living in the UK*. Centre for Cities: London. https://discovery.ucl.ac.uk/id/eprint/10175199
National Planning Commission (NPC). (2012). *National Development Plan 2030: Our Future- make it work*. NPC: Pretoria. https://www.gov.za/sites/default/files/gcis_document/201409/ndp-2030-our-future-make-it-workr.pdf
Nelson Mandela Bay Municipality. (2022). 2022/23-2026/27 Inetgrated Dveelopment Plan. Nelson Mandela Bay Municipality: Port Elizabeth.
Newland, K. (2009). Circular migration and human development. *Human Development Research Paper (HDRP) Series* 42. https://mpra.ub.uni-muenchen.de/19225/
Niedomysl, T., & Fransson, U. (2018). On distance and the spatial dimension in the definition of internal migration. In *Geographies of Migration* (pp. 147-162). Routledge: Oxfordshire.

Norbrook, N., Soumaré, M., Velluet, Q., & Galtier, M. (2020). Tech hubs across Africa to incubate the next generation. *The Africa Report*. https://www.theafricareport.com/23434/tech-hubs-across-africa-to-incubate-the-next-generation/

Nyoni, G., & Kollamparambil, U. (2022). Rural-urban migration and the well-being of the migrant-sending households: An impact evaluation study. *South African Journal of Economic and Management Sciences*, *25*(1), 4120. https://doi.org/10.4102/sajems.v25i1.4120

O'reilly, K. (2022). Migration theories: A critical overview. In Triandafyllidou, A (ed) *Routledge handbook of immigration and refugee studies*, 3-12. Routledge: New York.

Oaxaca, R. L., & Geisler, I. (2003). Fixed effects models with time invariant variables: a theoretical note. *Economics Letters*, *80*(3), 373-377. https://doi.org/10.1016/S0165-1765(03)00121-6

Oosthuizen, M., & Naidoo, P. (2004). Internal migration to the Gauteng Province. *Development Policy Research Unit Working paper 04/88*. https://africaportal.org/wp-content/uploads/2023/05/Internal_Migration_to_the_Gauteng_Province.pdf

Organization for Economic Cooperation and Development (OECD). (2001). *Education Policy Analysis*. OECD: Paris. https://doi.org/10.1787/19991517

Organization for Economic Cooperation and Development (OECD). (2011). *OECD Regional Outlook 2011: Building Resilient Regions for Stronger Economies: Improving Regional Development Policies*. OECD: Paris.

Organization for Economic Cooperation and Development (OECD). (2023). *Rethinking Regional Attractiveness in the New Global Environment*. OECD Publishing: Paris. https://doi.org/10.1787/a9448db4-en.

Parilla, J., & Trujillo, L.T. (2015). South Africa's global gateway: Profiling the Gauteng City-Region's international competitiveness and connections. *Brookings.* https://www.brookings.edu/articles/south-africas-global-gateway-profiling-the-gauteng-city-regions-international-competitiveness-and-connections/

Pedraza, S. (1991). Women and migration: The social consequences of gender. *Annual review of sociology*, *17*(1), 303-325. https://doi.org/10.1146/annurev.so.17.080191.001511

Pons, J., Paluzie, E., Silvestre, J., & Tirado, D. A. (2007). Testing the new economic geography: migrations and industrial agglomerations in Spain. *Journal of regional science*, *47*(2), 289-313. https://doi.org/10.1111/j.1467-9787.2007.00510.x

Posel, D. (2020). Measuring labour migration after apartheid: Patterns and trends. In *Migrant labour after apartheid: the inside story* (29-43*). In* Bank. L.J., Posel, D., & Wilson, F (eds). HSRC Press, Cape Town.

Posel, D., & Marx, C. (2013). Circular migration: A view from destination households in two urban informal settlements in South Africa. *The Journal of Development Studies*, *49*(6), 819-831. https://doi.org/10.1080/00220388.2013.766717

Posel, D., Casale, D., & Vermaak, C. (2014). Job Search and the Measurement of Unemployment in S outh A frica. *South African journal of economics*, *82*(1), 66-80. https://doi.org/10.1111/saje.12035

Property24. (2023). Cape Town's thriving tech city fuels property market and foreigners flock to the Atlantic Seaboard. *Property 24*. https://www.property24.com/articles/cape-towns-thriving-tech-city-fuels-property-market-and-foreigners-flock-to-the-atlantic-seaboard/31680

Ravenstein, E. G. (1885). The laws of migration. *Journal of the Statistical Society 48*.

Rees, P., & Kupiszewski, M. (1999). Internal migration: what data are available in Europe?. *Journal of Official Statistics*, *15*(4), 551. https://www.scb.se/contentassets/ff271eeeca694f47ae99b942de61df83/internal-migration-what-data-are-available-in-europe.pdf

Reiner, C., Meyer, S., & Sardadvar, S. (2017). Urban attraction policies for international academic talent: Munich and Vienna in comparison. *Cities*, *61*, 27-35. https://doi.org/10.1016/j.cities.2016.10.010

Rogan, M. (2018). Post-school education and the labour market in South Africa. HSRC Press: Cape Town. http://hdl.handle.net/20.500.11910/13700

Romer, P. M. (1990). Endogenous technological change. *Journal of political Economy*, *98*(5, Part 2), S71-S102. https://www.journals.uchicago.edu/doi/abs/10.1086/261725

SA news. (2010). Buffalo City, Mangaung categorized Metros. *SA news*. https://www.sanews.gov.za/south-africa/buffalo-city-mangaung-categorised-metros

Schmutzler, A. (1999). The new economic geography. *Journal of Economic Surveys*, *13*(4), 355-379. https://doi.org/10.1111/1467-6419.00087

Schotte, S., Zizzamia, R., & Leibbrandt, M. (2022). Snakes and ladders and loaded dice: Poverty dynamics and inequality in South Africa between 2008 and 2017. *South African Journal of Economics*, *90*(2), 214-242. https://doi.org/10.1111/saje.12308

Sehoole, C., & Adeyemo, K. S. (2016). Access to and success in, higher education in post-apartheid South Africa: Social justice analysis. *Journal of Higher Education in Africa/Revue de l'enseignement supérieur en Afrique*, *14*(1), 1-18. https://www.jstor.org/stable/90016098

Sekgala, M. P. (2017). From South Africa to Zimbabwe with devolution: comparing the constitutional powers of local governments. *Journal of Public Administration and Development Alternatives (JPADA)*, *2*(2), 105-117. https://hdl.handle.net/10520/EJC-d33f4ab2d

Sekhampu, T. J. (2017). Association of food security and household demographics in a South African township. *International Journal of social sciences and humanity studies*, *9*(2), 157-170. https://dergipark.org.tr/en/download/article-file/440417

Shilpi, F., Xu, L., Behal, R., & Blankespoor, B. (2018). People on the move: Spatial mismatch and migration in post-apartheid South Africa. *World Bank*. https://www.ukesa.info/download/w2WdHU56BTLzEkoCg819xb7ApDGvZfhM/Paper-1-People-on-the-Move.pdf

Shipley, B. (2016). *Cause and correlation in biology: a user's guide to path analysis, structural equations and causal inference with R*. Cambridge university press: Cambridge.

Silvanto, S., & Ryan, J. (2014). Relocation branding: a strategic framework for attracting talent from abroad. *Journal of Global Mobility*, *2*(1), 102-120. https://doi.org/10.1108/JGM-07-2013-0046

Simon, C. J. (1998). Human capital and metropolitan employment growth. *Journal of Urban Economics*, *43*(2), 223-243. https://doi.org/10.1006/juec.1997.2048

Simon, C. J., & Nardinelli, C. (2002). Human capital and the rise of American cities, 1900–1990. *Regional Science and Urban Economics*, *32*(1), 59-96. https://doi.org/10.1016/S0166-0462(00)00069-7

Singer, J. D., & Willett, J. B. (2003). A Framework for Investigating Change over Time. In Applied Longitudinal Data Analysis: Modeling Change and Event Occurrence (Online edn, pp. 1-20). Oxford Academic. https://doi.org/10.1093/acprof:oso/9780195152968.003.0001

Sjaastad, L. A. (1962). The costs and returns of human migration. *Journal of political Economy*, *70*(5, Part 2), 80-93. https://www.journals.uchicago.edu/doi/abs/10.1086/258726

Skeldon, R. (2018). International migration, internal migration, mobility and urbanization: Towards more integrated approaches. *United Nations*. https://doi.org/10.18356/a97468ba-en

Solow, R. M. (1956). A contribution to the theory of economic growth. *The quarterly journal of economics*, *70*(1), 65-94. https://doi.org/10.2307/1884513

South African Cities Network (SACN). 2016. *State of South African Cities Report 2016*. SACN: Johannesburg. https://www.sacities.net/wp-content/uploads/2020/09/SoCR16-Main-Report-online.pdf
Statistics SA. (2020). Quarterly Labour Force Survey: Quarter 4 2019. Statistics SA: Pretoria. https://www.statssa.gov.za/publications/P0211/P02114thQuarter2019.pdf
Statistics South Africa (Statistics SA). (2016a). *Community Survey 2016: Statistical release P0301.* Statistics SA: Pretoria. http://cs2016.statssa.gov.za/wp-content/uploads/2016/07/NT-30-06-2016-RELEASE-for-CS-2016-_Statistical-releas_1-July-2016.pdf
Statistics South Africa (Statistics SA). (2016b). *Community Survey 2016: Metadata report 03-01-02*. Statistics SA: Pretoria. http://cs2016.statssa.gov.za/wp-content/uploads/2016/06/CS-2016-Metadata.pdf
Statistics South Africa (Statistics SA). (2019). Five facts about poverty in South Africa. Statistics SA. https://www.statssa.gov.za/?p=12075
Statistics South Africa (Statistics SA). (2017). Education Series Volume III: Educational enrolment and achievement, 2016. Statistics SA: Pretoria. https://www.statssa.gov.za/publications/Report%2092-01-03/Report%2092-01-032016.pdf
Statistics South Africa (Statistics SA). (2019). *Inequality trends in South Africa: A multidimensional diagnostic of inequality*. Statistics South Africa: Pretoria. https://www.statssa.gov.za/publications/Report-03-10-19/Report-03-10-192017.pdf
Storper, M. (2011). Why do regions develop and change? The challenge for geography and economics. *Journal of economic geography*, *11*(2), 333-346. https://doi.org/10.1093/jeg/lbq033
Storper, M. (2013). *Keys to the city: How economics, institutions, social interaction and politics shape development*. Princeton University Press: Princetion
Strauss, M. (2019). A historical exposition of spatial injustice and segregated urban settlement in South Africa. *Fundamina*, *25*(2), 135-168. http://dx.doi.org/10.17159/2411-7870/2019/v25n2a6
Sunley, P., Martin, R., Gardiner, B., & Pike, A. (2020). In search of the skilled city: Skills and the occupational evolution of British cities. *Urban Studies*, *57*(1), 109-133. https://doi.org/10.1177/0042098019834249
Tassinopoulos, A., & Werner, H. (1999). *To move or not to move: migration of labour in the European Union* (Vol. 35). Institut für Arbeitsmarkt-und Berufsforschung der Bundesanstalt für Arbeit. https://doku.iab.de/topics/1999/topics35.pdf
Tippel, C., Plöger, J., & Becker, A. (2017). 'I don't care about the city': the role of connections in job-related mobility decisions of skilled professionals. *Regional Studies, Regional Science*, *4*(1), 94-108. https://doi.org/10.1080/21681376.2017.1315611
Todaro, M. (1980). Internal migration in developing countries: a survey. In Eastern, A. (eds) *Population and economic change in developing countries* (pp. 361-402). University of Chicago Press: Chicago.
Todaro, M. P. (1969). A model of labor migration and urban unemployment in less developed countries. *The American economic review*, *59*(1), 138-148. https://www.jstor.org/stable/1811100
Topel, R. H. (1986). Local labor markets. *Journal of Political economy*, *94*(3, Part 2), S111-S143. https://www.journals.uchicago.edu/doi/abs/10.1086/261401
Toruk, I. (2014).South Africa's tortured urbanisation and the complications of reconstruction. In McGranahan, G., & Martine, G (eds) 143-169. *Urban growth in emerging economies: lessons from the BRICS.* Routledge: New York.

Turok, I. (2012). Urbanisation and development in South Africa: Economic imperatives, spatial distortions and strategic responses. *Urbanization and Emerging Population Issues Working Paper 8*. International Institute for Environment and Development: London. https://www.iied.org/sites/default/files/pdfs/migrate/10621IIED.pdf

Turok, I. (2018). Worlds apart: Spatial inequalities in South Africa. In M.N. Smith (Ed.), *Confronting Inequality* (pp. 159-182). Jacana Media: Johannesburg.

Turok, I. (2020). Density, informality and the urban premium. In R. T. Tubin, A. Todes, P. Harrison, & A. Appelbaum (Eds.), Densifying the City: Global cases and Johannesburg (pp. 40-51). Edward Elgar Publishing: Cheltenham.

Turok, I., Scheba, A., & Visagie, J. (2017). Reducing spatial inequalities through better regulation. *Human Sciences Research Council*. http://hdl.handle.net/20.500.11910/11097

UN-Habitat. (2023). South Africa. UN-Habitat. https://unhabitat.org/south-africa

VioletPR. "Choose Topeka" PR campaign: Persuading young professionals to make Topeka their new home. *VioletPR*. https://www.violetpr.com/choose-topeka

Visagie, J. & Turok, I. (2020) Rural-urban migration as a means of getting ahead (44-70). In: Bank, LJ, Posel, D. & Wilson, F. (eds). *Migrant labour after apartheid: the inside story*. HSRC Press: Cape Town. http://hdl.handle.net/20.500.11910/15200

Visagie, J., & Turok, I. (2022). Firing on all cylinders: Decomposing regional growth dynamics in South Africa. *South African Journal of Economics*, *90*(1), 57-74. https://doi.org/10.1111/saje.12303

Wahba, J. (2015). Selection, selection, selection: the impact of return migration. *Journal of Population Economics*, *28*, 535-563. https://doi.org/10.1007/s00148-015-0541-4

Wang, C., & Wu, J. (2011). Natural amenities, increasing returns and urban development. *Journal of Economic Geography*, *11*(4), 687-707. https://doi.org/10.1093/jeg/lbq020

Wang, H., & Guo, F. (2023). City-level socioeconomic divergence, air pollution differentials and internal migration in China: Migrants vs talent migrants. *Cities*, *133*, 104116. https://doi.org/10.1016/j.cities.2022.104116

Weinar, A., Klekowski von Koppenfels, A., Weinar, A., & Klekowski von Koppenfels, A. (2020). Highly skilled migration: Concept and definitions. *Highly-Skilled Migration: Between Settlement and Mobility: IMISCOE Short Reader*, 9-35. https://doi.org/10.1007/978-3-030-42204-2_2

Weiss, A., & MacKay, N. (2009). *The talent advantage: How to attract and retain the best and the brightest*. John Wiley & Sons: Hoboken.

Wentzel, M., & Tlabela, K. (2006). Historical background to South African migration. In Kok, P., Gelderbloem, D., Oucho, J.O., & Van Zyl, J (ed). *Migration in South and Southern Africa: dynamics and determinants* (71-96). HSRC Press: Cape Town.

Whisler, R. L., Waldorf, B. S., Mulligan, G. F., & Plane, D. A. (2008). Quality of life and the migration of the college-educated: A life-course approach. *Growth and Change*, *39*(1), 58-94. https://doi.org/10.1111/j.1468-2257.2007.00405.x

Wickramasekara, P. (2011). Circular migration: A triple win or a dead end. *Global Union Research Network Discussion Paper*, (15). https://dx.doi.org/10.2139/ssrn.1834762

Wilson, F. (2001). Minerals and migrants: how the mining industry has shaped South Africa. *Daedalus*, *130*(1), 99-121. https://www.jstor.org/stable/20027681

Woolard, I., Leibbrandt, M., & De Villiers, L. (2010). The South African national income dynamics study: design and methodological issues. *Studies in Economics and Econometrics*, *34*(3), 7-24. https://hdl.handle.net/10520/EJC21509

Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data*. MIT press: Cambridge.

World Bank. (2009). *World Development Report: Reshaping economic geography*. World Bank: Washington: D.C.

Wozniak, A. (2010). Are college graduates more responsive to distant labor market opportunities?. *Journal of Human Resources*, *45*(4), 944-970. https://doi.org/10.3368/jhr.45.4.944

Yankow, J. J. (1999). The wage dynamics of internal migration within the United States. *Eastern Economic Journal*, *25*(3), 265-278. https://www.jstor.org/stable/40325930

Yankow, J. J. (2003). Migration, job change and wage growth: a new perspective on the pecuniary return to geographic mobility. *Journal of Regional Science*, *43*(3), 483-516. https://doi.org/10.1111/1467-9787.00308

Yap, L. Y. (1977). The attraction of cities: a review of the migration literature. *Journal of Development Economics*, *4*(3), 239-264. https://doi.org/10.1016/0304-3878(77)90030-X

Yeo, Y., & Lee, J. D. (2020). Revitalizing the race between technology and education: Investigating the growth strategy for the knowledge-based economy based on a CGE analysis. *Technology in Society*, *62*, 101295. https://doi.org/10.1093/jeg/lbq033

Yu, B., Niu, G., Ye, J., & Zhang, W. W. (2023). Human capital agglomeration, institutional barriers and internal migration in China. *Growth and Change*, *54*(1), 284-303. https://doi.org/10.1111/grow.12650

Zhang, M., Partridge, M. D., & Song, H. (2020). Amenities and the geography of innovation: evidence from Chinese cities. *The Annals of Regional Science*, *65*, 105-145. https://doi.org/10.1007/s00168-020-00977-5

Zhao, M. (2023). Moving to 'Bei–Shang–Guang'? Internal migration, local hukou barriers and labour market outcomes among college graduates in China. *Population, Space and Place*, e2651. https://onlinelibrary.wiley.com/doi/pdf/10.1002/psp.2651

Zhou, M., & Bankston III, C. L. (2016). *The rise of the new second generation*. Polity Press: Cambridge.

ANNEX

Annex 1: List of secondary cities

	Municipality name	Code
1	Emfuleni	760
2	Mogale City	763
3	Msunduzi	566
4	Newcastle	524
5	Matjhabeng	467
6	uMhlatuze	538
7	Polokwane	974
8	Govan Mbeki	866
9	Emalahleni (Mp)	868
10	Steve Tshwete	869
11	Madibeng	661
12	Rustenburg	662
13	Mbombela	874
14	Tlokwe	676
15	City of Matlosana	677
16	Drakenstein	166
17	Stellenbosch	167
18	Sol Plaatje	383
19	George	177

Annex 2: Classification of education level into skill levels

Highest level of education in 2016	Skill classification
No schooling	Low skilled
Grade 0	Low skilled
Grade 1/Sub A/Class 1	Low skilled
Grade 2/Sub B/Class 2	Low skilled
Grade 3/Standard 1/ABET 1	Low skilled
Grade 4/Standard 2	Low skilled
Grade 5/Standard 3/ABET 2	Low skilled
Grade 6/Standard 4	Low skilled
Grade 7/Standard 5/ABET 3	Low skilled
Grade 8/Standard 6/Form 1	Low skilled
Grade 9/Standard 7/Form 2/ABET 4/Occupational certificate NQF Level 1	Low skilled

Grade 10/Standard 8/Form 3/Occupational certificate NQF Level 2	Low skilled
Grade 11/Standard 9/Form 4/NCV Level 3/Occupational certificate NQF Level 3	Low skilled
Grade 12/Standard 10/Form 5/Matric/NCV Level 4/ Occupational certificate NQF Level 3	Low skilled
NTC I/N1	Low skilled
NTCII/N2	Low skilled
NTCIII/N3	Low skilled
N4/NTC 4/Occupational certificate NQF Level 5	Skilled
N5/NTC 5/Occupational certificate NQF Level 5	Skilled
N6/NTC 6/Occupational certificate NQF Level 5	Skilled
Certificate with less than Grade 12/Std 10	Skilled
Diploma with less than Grade 12/Std 10	Skilled
Higher/National/Advanced Certificate with Grade 12/Occupational certificate NQF	Skilled
Diploma with Grade 12/Std 10/Occupational certificate NQF Level 6	Skilled
Higher Diploma/Occupational certificate NQF Level 7	Skilled
Post-Higher Diploma (Master's, Doctoral Diploma)	Skilled
Bachelor's degree/Occupational certificate NQF Level 7	Skilled
Honours degree/post-graduate diploma/Occupational certificate NQF Level 8	Skilled
Master's/Professional Master's at NQF Level 9 degree	Skilled
PHD (Doctoral degree/Professional doctoral degree at NQF Level 10)	Skilled
Other	Unclassified
Do not know	Unclassified
Unspecified	Unclassified

Annex 3: Categorization of reasons of change of residence

Category of reasons	

Family	Divorce; moving as a household with a household member; moving to live with or be closer to spouse
Education	Education
Employment	Job transfer; take up new job opportunity; looking for paid work
Housing	New dwelling for household
Other	Better municipal services; health; high levels of crime; job loss/retrenchment/contract ended; other business reasons; political instability; retirement; start a business; other
Do not know	Do not know