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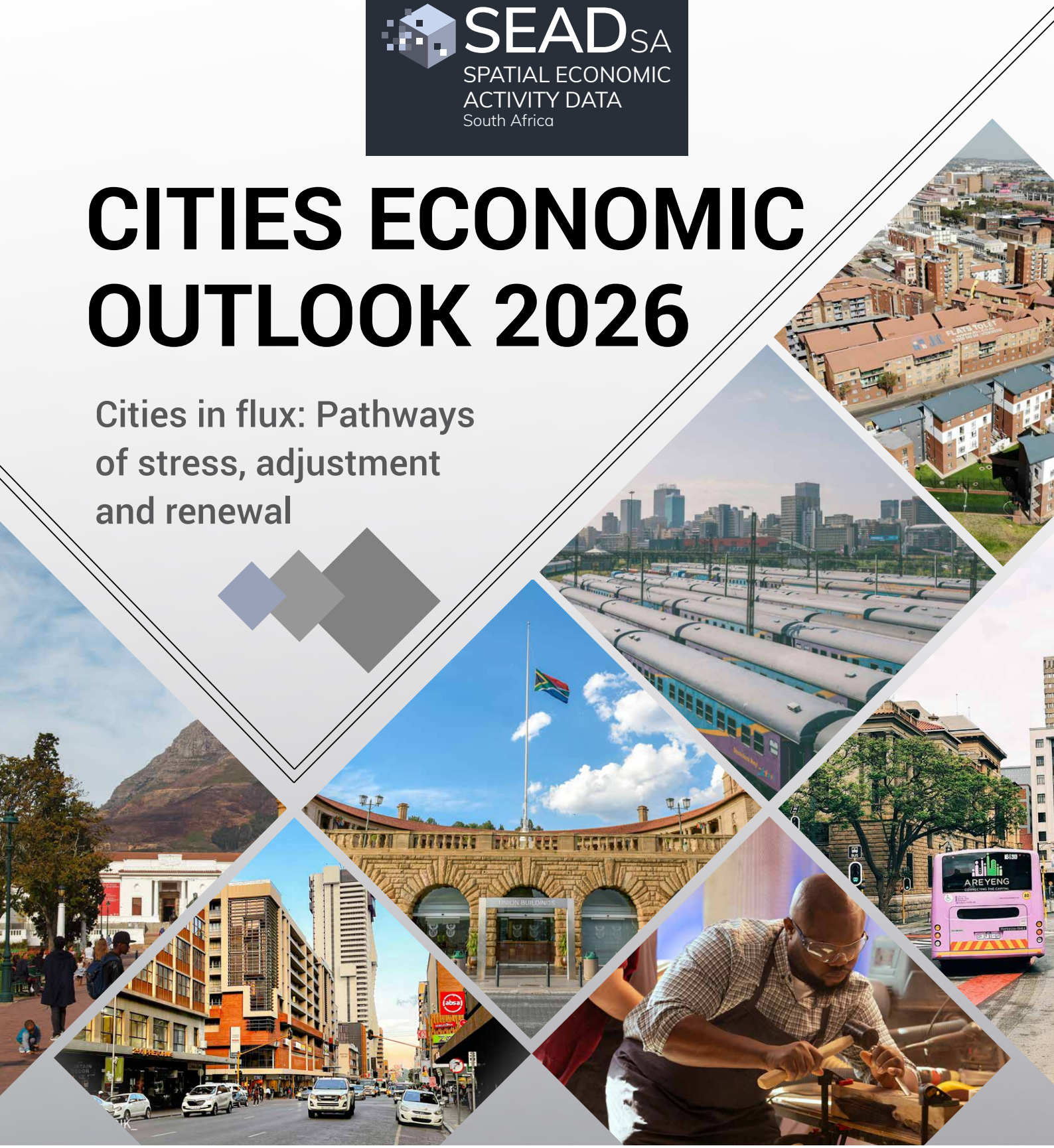
CITIES ECONOMIC OUTLOOK 2026

Cities in flux: Pathways of stress, adjustment and renewal



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CITIES ECONOMIC OUTLOOK 2026

Cities in flux: Pathways of stress, adjustment and renewal

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Contact: Justin Visagie, Associate Professor, Southern Centre for Inequality Studies

A: North Lodge | Wits University Parktown Campus | 2 St David's Place | Parktown 2050

T: +27 (11) 7178274

E: justin.visagie@wits.ac.za

W: www.spatialtaxdata.org.za

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Project managers: Kgomotso Tolamo (CSP-NT) and Justin Visagie (Wits-SCIS)

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The Cities Support Programme (CSP) is located within the intergovernmental relations (IGR) division of the National Treasury. Acting as a change agent and a vehicle for collaboration and integration, the CSP aims to improve the capacity of cities and create an enabling intergovernmental fiscal system and policy environment to support city-led transformation.

Cities Economic Outlook 2026

Cities in flux: Pathways of stress, adjustment and renewal

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Chapter 1:

Foundations of the Cities Economic Outlook: Introducing the Spatial Tax Panel

Authors: Justin Visagie, Associate Professor, Southern Centre for Inequality Studies, University of the Witwatersrand

Highlights:

- The Spatial Tax Panel provides the first near-universe administrative dataset on formal sector jobs and establishments at municipal and sub-municipal scales.
- Annual data from 2013/14 to 2024/25 enables dynamic analysis of employment, establishment growth, sectoral change and spatial restructuring.
- The Spatial Tax Panel database and user-friendly diagnostic tools are freely available at www.spatialtaxdata.org.za.
- The Cities Economic Outlook report moves beyond static indicators to examine resilience, industrial change, labour market shifts and spatial inequality within and across cities.

1.1 Introduction

This is now the second volume of the Cities Economic Outlook and one which marks a significant milestone in building up a credible evidence base – the Spatial Tax Panel – about the performance and trajectory of South African cities. Importantly, this volume moves beyond simple measurement to examine the dynamics shaping employment, industrial change, population pressures, and the potential resilience of metropolitan areas.

The stakes are high for getting South African cities to work. Today, +-4 out of every 10 South Africans live within a metropolitan municipality. And these 8 metropolitan municipalities have absorbed half of all population growth – in some cases doubling in total size – over the past 30 years. That's an extreme spatial concentration of demographic, social and economic change occurring within just 8 out of a total of 213 local municipalities in the country.

In the recent past, too little was known about the economy of South African cities. Even basic questions have been open to speculation such as: 'Are the metros leading or lagging growth in the rest of the country?', 'Which types of activities and sectors have created (or lost) the most jobs in cities?', 'What is the GDP of Johannesburg?' and 'Where are the jobs concentrated within the metros?'.

Yet this is starting to change.

1.2 The Spatial Tax Panel

The chapters in the Cities Economic Outlook all draw, to varying degrees, on data publicly released through the Spatial Tax Panel (STP). While South Africa publishes a wealth of household survey data, survey samples are generally insufficient to provide granular and reliable information at the level of municipalities and neighbourhoods.

This limitation underpins the rationale for the STP. Built from administrative tax records, the STP enables a comprehensive (that is, near-universe) account of local economic activity (in the formal sector), which can be analysed at municipal, and in some cases, suburb level. The data are also longitudinal such that each year data from tax returns can be re-extracted and added to the series. The data starts in 2013/14 tax year (March 2013 to February 2014) and the latest version at the time of writing (v6.0) had released information up until 2024/25 tax year.

The STP is currently published through a research consortium and project partnership known as 'Spatial Economic Activity Data: South Africa' (SEAD-SA). The partnership was formally launched by the Minister of Finance and the SARS commissioner on 19 June 2023 and has been funded by UK's Foreign Commonwealth and Development Office. The raw tax records (de-identified and protected) are made available within the National Treasury – Secure Data Facility (NT-SDF) which is a secure environment where researchers can safely access the data.

The STP is a 'special' output of the NT-SDF as a data product rather than a research output. This is possible because the STP does not release any unit-level information about individual firms or workers – which would be a breach of personal information. Instead, the STP aggregates records to create indicators about the performance of places.

To orient the reader, the key features and coverage of the Spatial Tax Panel are summarised below:

- How is the STP built? The STP is built primarily using pay-as-you-earn (PAYE) data collected by SARS through their IRP5/IT3a submissions and accessed through the NT-SDF. The forms provide each employer-employee relationship recorded in each tax year and provide additional information related to the period worked, remuneration, sector, age and importantly location of place of work. This is then combined with several other tax data (including the ITR14 – firm tax returns, VAT submission and transactional Customs data) to provide aggregate firm level information and then cleaned and aggregated into spatio-temporal cross-tabulations that can be distributed publicly without providing details related to highly sensitive individual tax payer information.
- Who is covered in the STP? The STP describes employer-employee relationships for establishments and workers (i.e. branch or plant level) in the formal sector. As such it excludes informal workers and enterprises as well as non-employer firms and establishments (i.e. companies with no employees).
- Which municipalities are covered in the STP? The Spatial Tax Panel is published for all municipalities in the country which can be scaled up to districts and provinces.
- What about sub-municipal (i.e. neighbourhood/suburb level) data? Sub-municipal level data is currently available only for metropolitan municipalities. The STP transforms postal codes (as the raw address field) into equal-area hexagons (edge lengths of approximately 1.2km ≈ 0.74 km) based on the Uber H3 system. This conversion introduces a degree of spatial 'noise', as firms or employees located within a postal code are probabilistically allocated across all hexagons that intersect that area.
- What sort of information is available? The database mainly reports on counts of employees, summed up into Full Time Equivalents (FTE), or counts of establishments. There is some demographic information such as age bands and gender as well as some earnings information. Economic information mainly relates to economic sector (at an extremely detailed 5-digit level), firm size and export/import status.
- Where can I access the STP? A detailed methodology, metadata, version release note and the STP databases can be accessed online: www.spatialtaxdata.org.za.

1.3 How to read the Cities Economic Outlook

The Cities Economic Outlook is not a ranking exercise. While comparisons of city and regional performance can be informative, it is important to consider the distinctive features, histories, and challenges of each place. Rather, the main objective is to bring into focus the performance of South African cities along with some of the key challenges that they face.

The national economy will inevitably be hamstrung if its largest cities cannot lead in job creation, investment, and the generation of high-value economic activity. Yet the attitude of many influential national actors and entities – reflected in trade and industrial policies – has been fairly ambivalent towards cities. Understanding where development occurs is critical. When viewed holistically, the combined dynamics of cities can produce results that exceed the sum of their individual parts. Otherwise, the realities on the ground risk being overlooked.

Each chapter is written in a jargon-free manner and is relatively succinct, making it accessible to a wider audience. The title page of each chapter includes highlights that summarise the key messages. Together, these chapters offer a much deeper understanding of South African cities, combining population trends, labour market dynamics, industrial complexity, and spatial inequalities.

Chapter 2:

Metropolitan Crisis? Tracking a decade of jobs and structural change

Authors: Ivan Turok, Professor, Department of Economics and Finance, University of the Free State; Distinguished Research Fellow, Human Sciences Research Council

Justin Visagie, Associate Professor, Southern Centre for Inequality Studies, University of the Witwatersrand

Highlights

- The trajectory of employment in the metros has faltered over the last decade and fallen behind the rest of South Africa. Only Cape Town and Tshwane buck the trend.
- Metros were hit harder by the pandemic than other settlement types and some cities have yet to fully recover.
- Metro jobs growth has been concentrated in the 'wrong' sectors dominated by non-tradables and public services.
- Higher-value and tradable sectors like manufacturing, construction and professional services have stagnated – although sub-sector trends are more variable.
- The weakening of the metro economies needs to be taken seriously. Urban reforms depend on stronger local leadership to coordinate alliances among the private sector, civil society and public sector.
- South Africa's economic outlook depends on stronger city performance, requiring explicit prioritisation of urban investment by national departments and state-owned entities.

2.1 Introduction

South Africa's cities have been in the spotlight recently for all the wrong reasons. A flood of negative publicity has exposed deep physical, social and institutional problems (Marrian, 2025). Infrastructure decay is a recurring theme, illustrated by broken pipes, leaking sewers, contaminated rivers, water restrictions, loadshedding, gaping potholes, derelict rail networks and degraded parks. Social frustration and unrest is a related concern, reflected in community protests, vandalised streetlights, hijacked buildings, illegal dumping and xenophobic outbreaks fuelled by competition for scarce resources. A catalogue of governance failures has also made the headlines, including unstable municipal leadership, chaotic coalitions, political infighting, corruption scandals, financial mismanagement, declining revenue collection and low investment in infrastructure (Götz, 2025; Harrison et al, 2025). These troubles have magnified the challenges of managing rapid population growth and tackling the legacy of apartheid spatial planning.

The question arising is what impact all this has had on economic activity, business investment decisions and the location of jobs? Has the cacophony of alarm bells and disruption affected the production of goods and services, or has business as usual prevailed? This chapter reveals how the economic performance of the country's main economic powerhouses is faltering. Most cities are now performing worse than the rest of South Africa (RoSA) in terms of jobs, and they are therefore holding back national economic growth and development. This reversal in fortunes warrants urgent attention from all spheres of government, along with other sectors of society with a stake in cities.

The chapter begins by considering the employment trajectory of cities in relation to the RoSA. It does so using the Spatial Tax Panel (STP) data and then the Quarterly Labour Force Survey (QLFS). It then provides a more disaggregated analysis of employment trends in the metros and other parts of the country using progressively more granular STP data. Breaking down the data in this way helps to show whether city economies have grown by expanding their most productive, tradable sectors or through local consumption and non-tradables. This has serious impliciations for cities' longer-term economic outlook (Turok and Visagie, 2025).

2.2 Metros versus the rest of South Africa

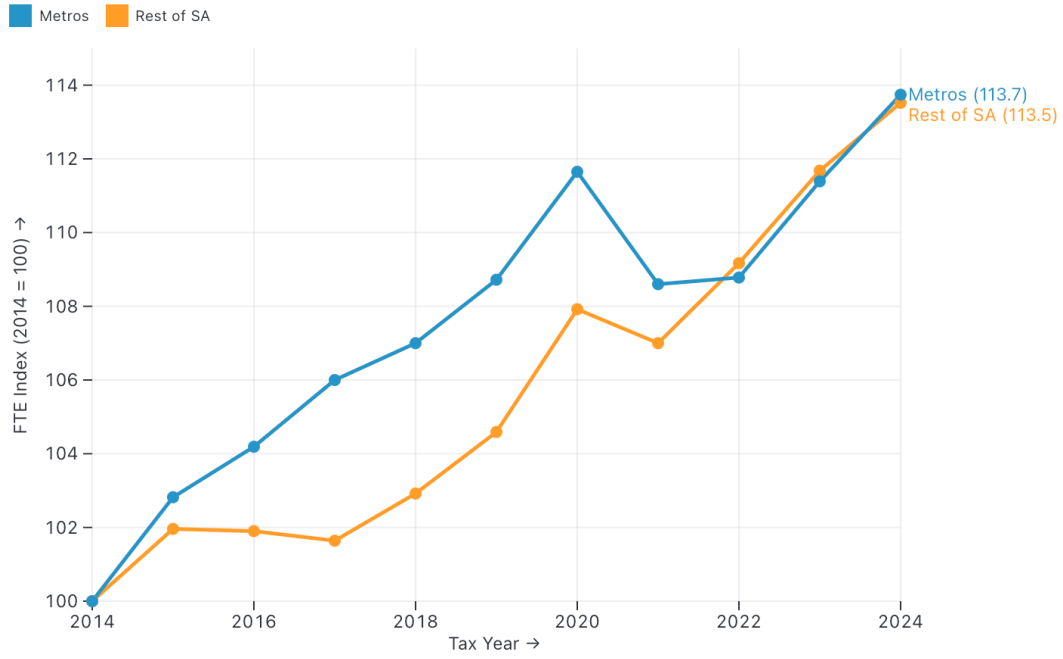
The metros have historically out-performed the rest of the country economically, with stronger growth in jobs, higher value jobs and higher average incomes. They have made a disproportionate contribution to the prosperity of their regions (the provinces) and to the country as a whole. This is why they are much larger settlements and are generally more prosperous than smaller cities, towns and rural areas. This is consistent with the pattern of urbanization found almost everywhere else in the world (Turok, 2021). It reflects the significant economic advantages associated with concentrated activity in terms of lower transport costs, larger labour pools, more knowledge spillovers and higher returns on public and private investment, generally known as 'agglomeration economies'.

Looking back over the last decade (figure 1), the employment trajectory of the metros – counting full-time equivalent (FTE) formal jobs collected in the tax data – clearly pulled ahead of the rest of the country in the mid-2010s, especially between 2014 and 2017. Since then, however, the metros have fallen back, so the advantage they accumulated between 2014 and 2017 has been lost. Their worst performance was during the Covid pandemic between 2020 and 2022. This was an actual slump, not just relative decline. The metros experienced far sharper net job losses than the RoSA as private businesses closed down or contracted during this period. In fact, the metros lost about 3% of their full-time equivalent jobs between 2020-21, whereas the rest of the country lost less than 1%. The metros also recovered much more slowly than other places between 2021-22. The rate of revival of the metros since 2022 has been similar to other places.

Two clear messages can be drawn from this evidence. First, employment in the metros has grown more slowly than in other parts of the country since 2017. This is surprising considering the intrinsic advantages of big cities for economic activity. It represents a major departure or turning point from the historic trajectory of urban areas, and suggests a deterioration in the operating environment for businesses. In fact, the relative decline of the cities coincided with the emergence of coalition governments in four of the eight metros following the 2016 local elections (Johannesburg, Ekurhuleni, Tshwane and Nelson Mandela Bay). It is widely understood that municipal governance has weakened in these cities since the coalitions took over because of leadership instability, declining accountability, short-term decision-making and deteriorating service delivery (Booysen, 2021, 2025).

Second, the metros experienced a particularly sharp shock during the Covid pandemic, from which they have not bounced back as strongly as the RoSA. Businesses in the big cities were clearly more vulnerable to the stringent lockdowns that restricted economic and social activity (Visagie and Turok, 2021). This reflects the dense living and working environments in the metros, and is perhaps less surprising than the gradual erosion of the relative advantages of the metros since 2017. In addition, it is clear from figure 1 that the metros have not recovered the advantage they lost during the initial period of the pandemic. Hence, the setback they suffered seems to have persisted as a kind of hysteresis effect, or permanent damage.

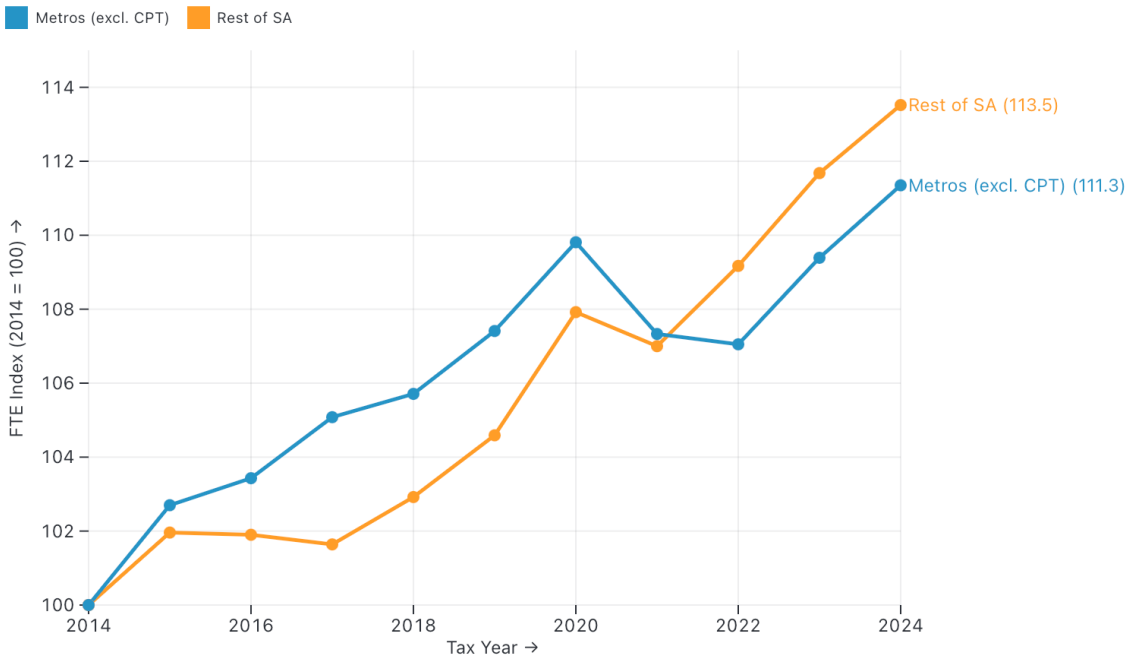
Figure 1: Metros versus Rest of South Africa, 2014-2024



Source: Spatial Tax Panel, V6.0

The metros have not all followed the same trajectories over the last decade. Cape Town, in particular, has performed somewhat better than the other cities. Therefore, when Cape Town is omitted from the metro total trend, job creation in the metros has clearly lagged behind employment growth elsewhere in South Africa (figure 2). The failure of the metros to keep pace with progress elsewhere is most apparent in the clear gap between the trendlines over the recent period 2021-2024. The headline message is that the underperformance of the metros has been noticeably worse than the rest of the country once Cape Town is left out. In other words, the achievements of the metros have been even poorer than it appeared at first sight from figure 1.

Figure 2: Metros (minus Cape Town) versus Rest of South Africa



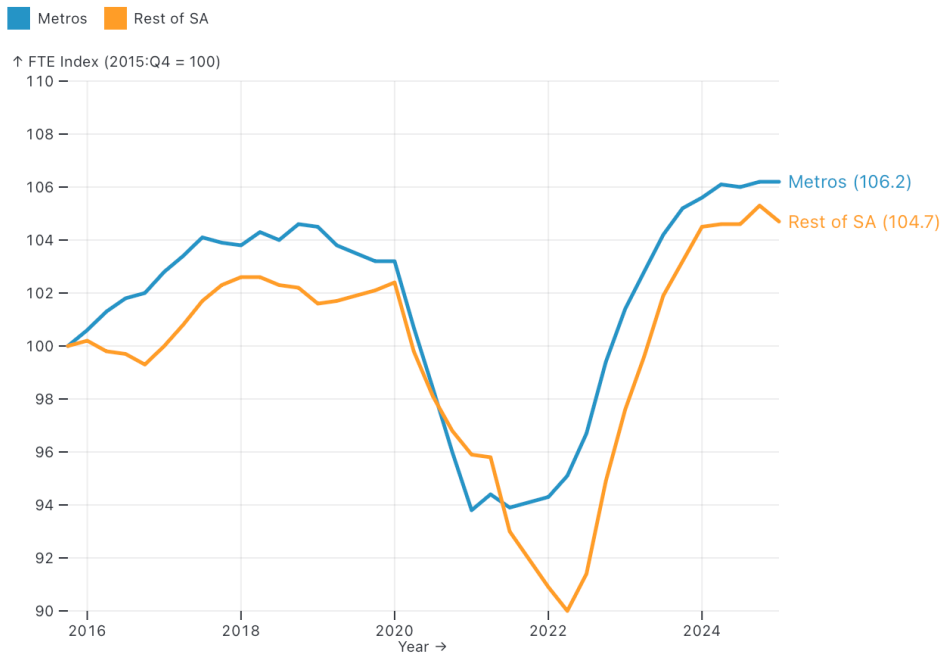
Source: Spatial Tax Panel, V6.0

In order to test the reliability of this important finding, we turn to another dataset, the QLFS. The QLFS measures any work opportunity (including part-time work) and is based on a sample survey of workers at the time of fieldwork. We restrict the QLFS sample to include formal workers only in order to be more compatible with the STP. However, the QLFS is still fundamentaly different to the STP, which is based on a complete count of tax certificates for workers based in formal firms during the tax year and converted into full-time equivalents. Consequently one would not expect the findings from the two datasets to correspond with each other precisely, although one might expect the broad patterns and trends to be consistent.

Figure 3 compares the employment performance of the metros with the rest of the country between 2015 and 2025, based on the QLFS. The main overall finding is that the growth is jobs is extremely weak everywhere – at less than one per cent per year for a decade. The cities have only slightly outperformed other parts of South Africa by the beginning of 2025, and this advantage first emerged early on. Therefore, cities have stopped functioning as distinct engines of the national economy during the last decade.

Looked at in more detail, the picture is slightly more nuanced. First, the metros performed better than the rest of the country in 2015-16. This is similar to the story emerging from the STP data. Second, the metros moved broadly in sync with the rest of South Africa between 2016 and 2020. This is also broadly consistent with the evidence from the STP data. Third, the metros experienced a sharper contraction in the first year of the Covid pandemic than elsewhere, which is also apparent in the STP data. Fourth, the rest of the country experienced a deeper and more prolonged downturn during the pandemic than the metros. This differs from the STP evidence. Finally, the metros have one again moved broadly in sync with the rest of South Africa between early 2023 and 2025, consistent with the STP data.

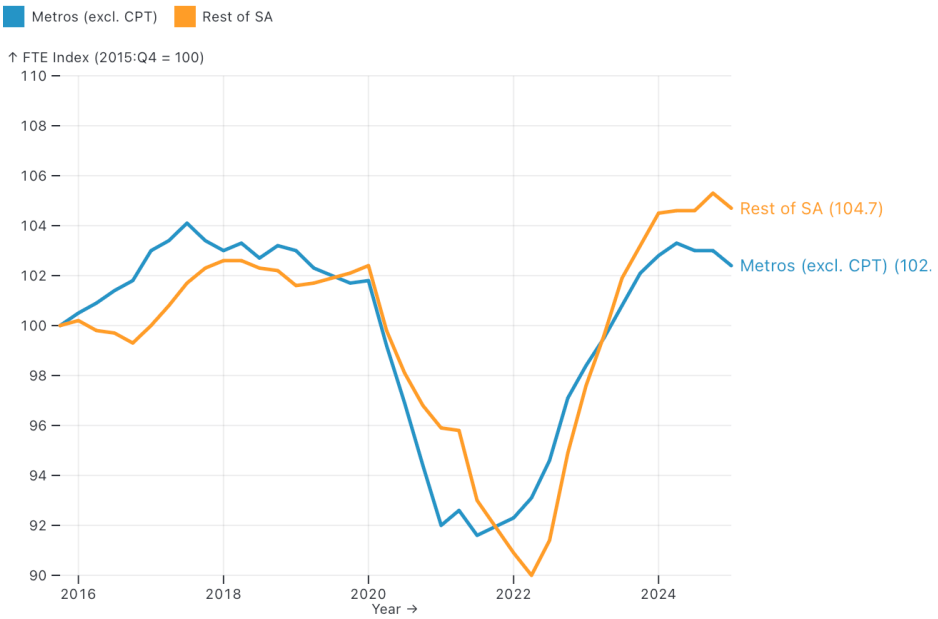
Figure 3: Metros versus Rest of South Africa, 2015-2025



Source: Quarterly Labour Force Survey, 2015 – 2025

Figure 4 repeats this analysis but without Cape Town this time. The broad finding is very similar to the STP once again. Job creation in the metros has lagged behind employment growth elsewhere in South Africa. The underperformance of the metros is most evident over the recent period 2022-2025. The conclusion appears to be that the shortfall in jobs in the metros has been even larger compared to the rest of the country once Cape Town is left out.

Figure 4: Metros (minus Cape Town) versus Rest of South Africa



Source: Quarterly Labour Force Survey, 2015 – 2025

2.3 Employment by settlement type

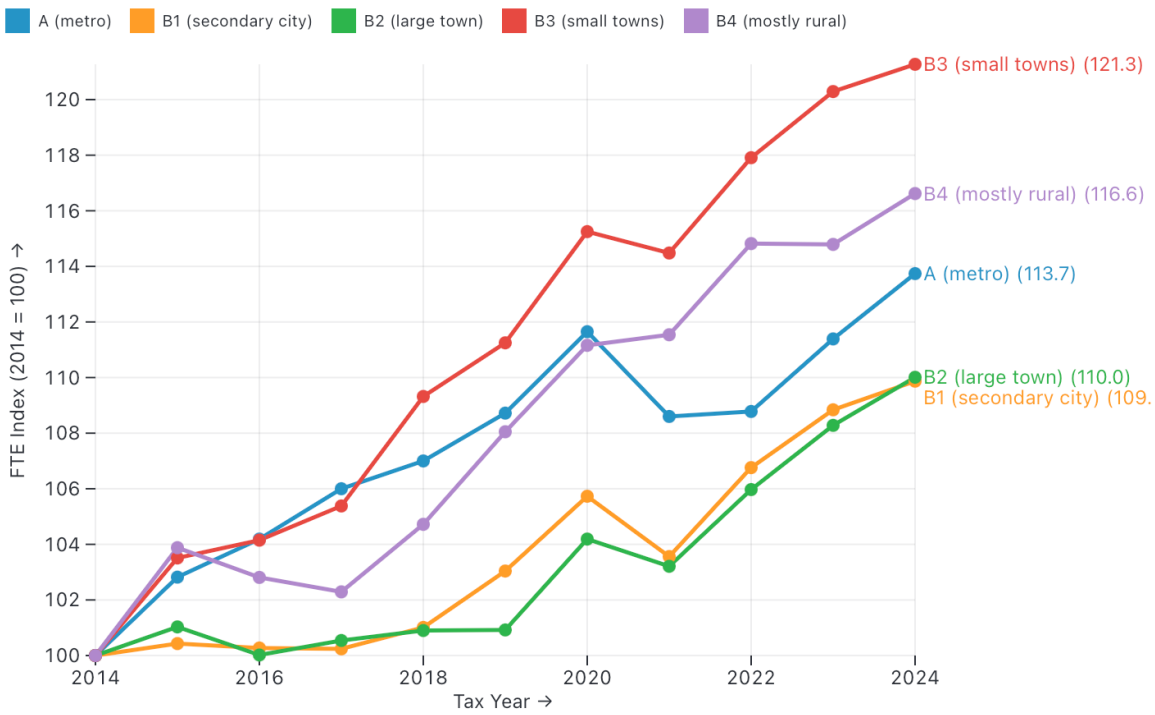
The next step in the analysis is to unpack the RoSA geography in order to compare employment trends across different settlement types. The performance of the metros against other (secondary) cities, towns and rural areas is of particular interest. Figure 5 shows the breakdown as extracted from the STP.

Secondary cities and large towns have been the poorest performing places, with only 10% net job growth between 2014-2024. This is considerably less than their population growth. In contrast, small towns and mostly rural municipalities have experienced stronger net jobs growth than other places (between 16-21%). We indicate below that this is partly attributable to relatively strong growth in agricultural output and employment.

The metros lie somewhere in between the predominantly rural areas and the other cities and large towns, with sluggish employment growth of only 13.7% over the last decade, or just 1.3% per annum (compound average annual growth). Clearly the urban-rural hierarchy of settlement sizes does not translate in any simple way into relatively strong or weak employment growth. Other factors are necessarily at work. For instance, many rural municiaplities fall within the former Bantustans where infrastructure shortfalls, uneven coverage of basic services and limited commercial farming continue to hamper agriculture.

One of the distinctive features of employment trends in the metros is the sharp shock associated with the Covid pandemic. The metros were worst affected by the lockdown, while the mostly rural areas seem to experience it unscathed, presumably because the need for restrictions on movement and social interaction was weaker. The metros have also struggled to recover lost ground and the initial setback seems to have persisted, as noted earlier. One of the little known effects of the pandemic has been the serious and enduring impact on the revenues of the metros because many businesses and households struggled to pay their bills, leading to higher municipal debt (Gotz, 2025).

Figure 5: Employment trends by settlement type, 2014-2024

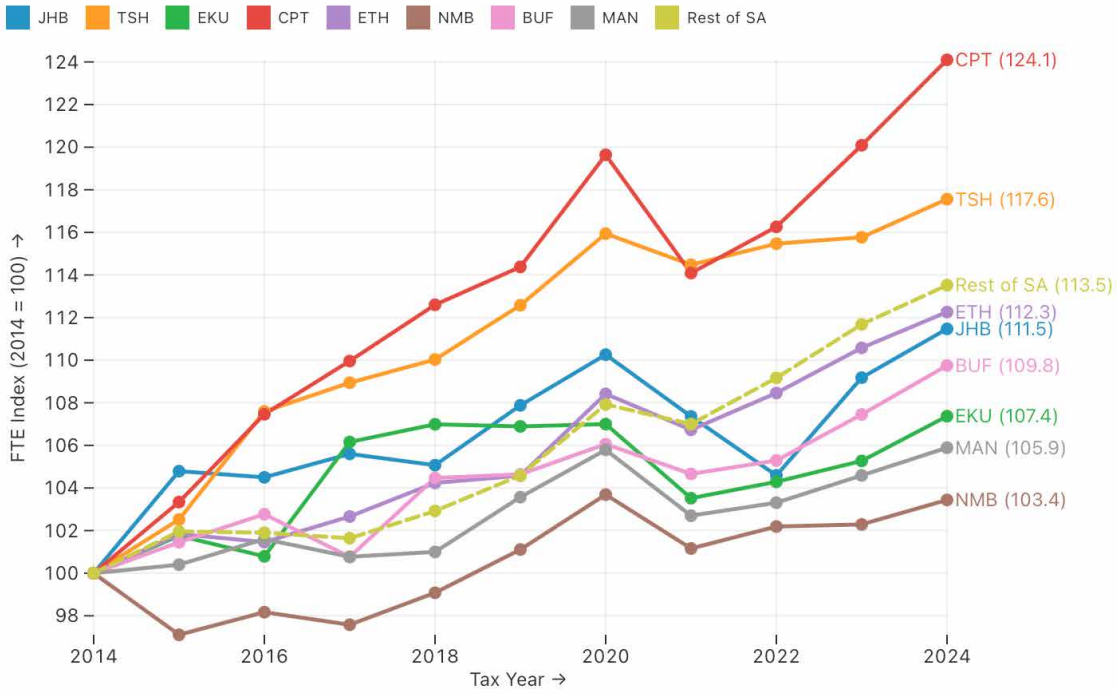


Source: Spatial Tax Panel, V6.0

2.4 Employment differences between metros

The final step in this analysis is to compare the metros against each other. Figure 6 indicates quite a divergent picture, with several metros barely increasing employment at all, and some with reasonably steady jobs growth. Nelson Mandela Bay experienced the weakest employment growth and Mangaung the second weakest. Both metros have faced serious governance problems over the last decade, including political instability, and Mangaung has been under provincial and then national administration since 2019. Cape Town stands out from the rest in having achieved net jobs growth of 24% (2.2% per annum). This is double the rate of growth of all other metros, except for Tshwane. Tshwane was less affected by the Covid pandemic than the other metros, partly because it has a larger share of jobs in public services, which tend to be more secure and 'recession-proof' than in the private sector. Only Cape Town and Tshwane performed better than the RoSA. The other six all lagged behind. Johannesburg's performance has been more changeable than the others. It was pulling ahead of the RoSA until 2020, but has since fallen behind. This is clearly unfavourable and ominous.

Figure 6: Employment trends for metros, 2014 – 2024

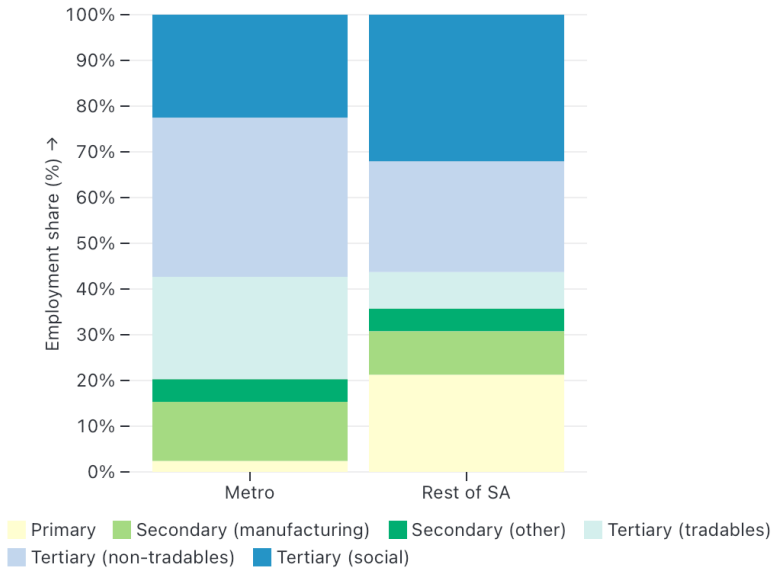


Source: Spatial Tax Panel, V6.0

2.5 Is the metro decline caused by underperforming industries?

Is it possible that the main cause of the metros' losing ground is their overrepresentation in poor performing industries, rather than local business conditions? It is well known that employment in mining, manufacturing and construction has declined over the last decade (TIPS, 2025). Figure 7 provides an initial indication that the industrial composition of the cities is not the main source of vulnerability. In fact, the metros tend to have more resilient economic structures than the RoSA, with more jobs in (high value) tradable tertiary sectors than in struggling primary and secondary industries. Services jobs are known to have performed relatively well over the last decade (TIPS, 2025). Services include tradables (such as finance and professional services), non-tradables (lower value consumer services such as retail and hospitality), and social (essentially government services).

Figure 7: Composition of employment, 2024

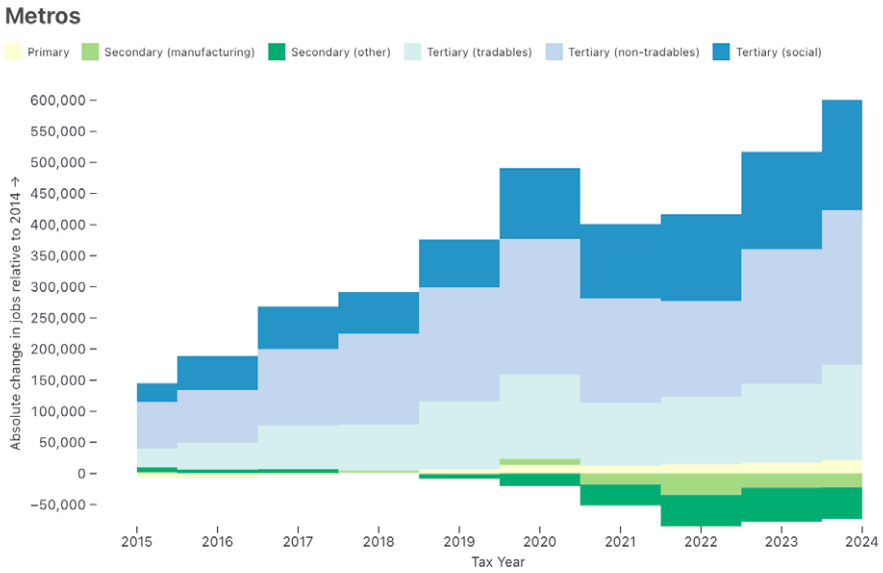


Source: Spatial Tax Panel, V6.0

Figure 8 shows the actual changes in employment in the metros for each broad industrial sector over the last decade. Almost all the net increase in jobs came from services. All the net loss of jobs came from the secondary sectors (manufacturing and other secondary activites). The biggest source of jobs growth was in non-tradables (consumer services) (+248,699 or +16.4%), followed by public services (+177,393, or +18.4%). Tradable services came next with more modest jobs growth in absolute and relative terms (+153,284 or +15.6%). The scale of net job loss in manufacturing was 22,597 jobs (-3.3%) and in the group of other secondary activities that includes construction it was 50,719 jobs (-16.7%). Figure 8 also shows that by far the biggest loss of jobs during the early Covid period was in consumer services. For example, it is well known that hospitality (restaurants and hotels) was badly affected. Government services were relatively immune from the pandemic.

The fact that the metros have lost more ground in tradable sectors (manufacturing and tradable services) than in non-tradable sectors over the last decade is unhealthy and undesirable. Non-tradable sectors rely heavily on local demand and do not draw in revenue from further afield. Their productivity also tends to be lower and they do not function as engines for a robust and resilient urban economy. Continuing growth in consumer services and public services is not sustainable in the long-term without growth in tradables to pull up the non-tradables. Structural transformation implies faster growth in tradables than non-tradables.

Figure 8: Source of jobs growth in the metros, 2014-2024

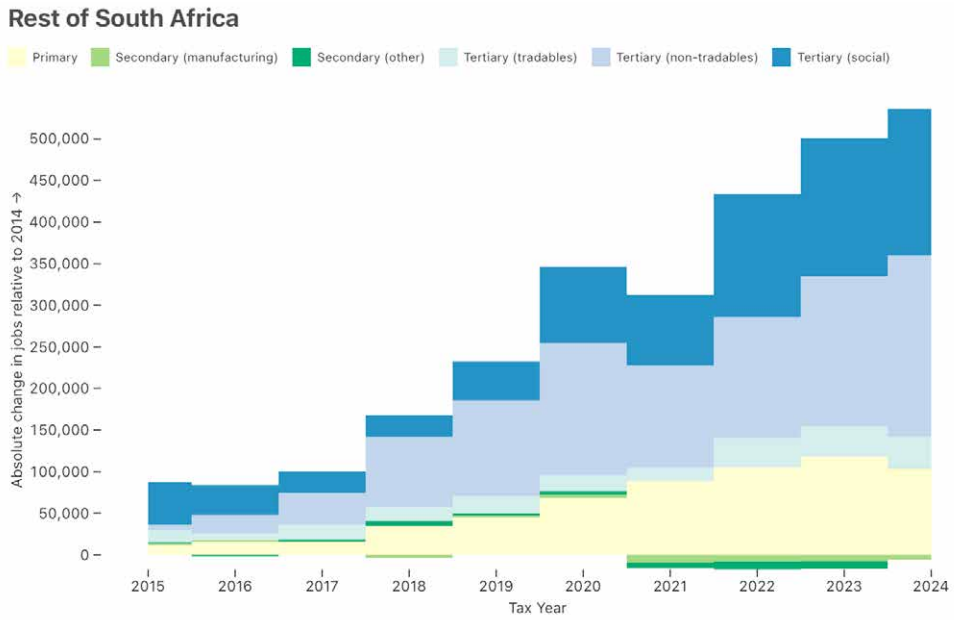


Source: Spatial Tax Panel, V6.0

Figure 9 shows the equivalent changes in employment for the rest of the country over the last decade. There are several important contrasts with the metros. First, there was much stronger growth in primary industries in the RoSA than in the metros – up 104,128 jobs or 12.9%. The metros enjoyed very little growth in primary industries, which is unsurprising considering most cities have few firms involved in agriculture and mining to start with. Second, the RoSA enjoyed relatively strong growth in jobs in non-tradables (consumer services) and public services. The net growth in public sector jobs was greater than in the metros. Third, the growth in tradable services in the RoSA was more muted than in the metros at 37,463 jobs, up 12.3%. This is unsurprising considering that high value finance, ICT and professional services are oriented towards large cities. Fourth, there was very little net loss of jobs in the secondary sectors (manufacturing and other secondary activites) in the RoSA, unlike the sizeable net job loss in secondary sectors in the metros. Finally, Figure 9 shows less job loss during the early period of Covid than in the metros. The sector most affected was consumer services, just as in the metros.

The message emerging is somewhat mixed. On the one hand, the economic resilience of the RoSA benefited from the growth of primary industries. On the other hand, the RoSA performed less well than the metros in tradable services. The strongest net employment growth was in non-tradables, which is inauspicious and inimical to sustained economic success. Ultimately, there is a high level of interdependence between the RoSA and the metros, because the towns and rural areas rely on the big cities for markets for much of their agricultural produce. They also depend on transfer payments from the cities to fund public services and social grants that underpin some of their consumer spending. Hence, the RoSA is hamstrung without the metros performing better.

Figure 9: Source of jobs growth in the rest of South Africa, 2014-2024



Source: Spatial Tax Panel, V6.0

2.6 A closer look at detailed sector trends

Figure 10 provides a more detailed sectoral breakdown at the one digit level to permit a more disaggregated, granular analysis of the performance of the metros in relation to the RoSA. The vertical axis shows the relative change in jobs from the 2014 baseline, in contrast to the absolute employment changes shown in figures 8 and 9. The graphs should be interpreted with care, because some of the trends may come off a small employment base and the contrasts may therefore seem more dramatic than they really are.

The first point of note is that in 10 sectors the metros outperformed the RoSA between 2014 and 2024, whereas in 15 sectors the RoSA pulled ahead of the metros. This imbalanced outcome is surprising when one considers the historic broad-based strengths of the metros. Three of the clearest examples of the metros falling behind are in the construction, other manufacturing and wholesale industries. Interestingly, all three of these sectors illustrate the earlier observation that the relative decline of the metros appears to be fairly recent, having started between 2017 and 2020. It does not date back as far as 2014. Yet, two other sectors in the metros do seem to have experienced consistent relative decline compared to the RoSA - professional services and real estate. Both are surprising considering the intrinsic advantages of the metros for these industries. The metros slow progress in these sectors warrants further investigation.

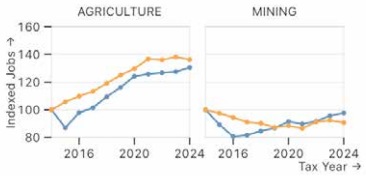
Second, across none of the broad industry groupings is there a pattern of consistent metro outperformance or underperformance for each sub-sector. The dissimilar trends apparent along each row in figure 10 belie simple generalisations about the worse operating environments in the metros. Hence, in the manufacturing category, the relatively positive experience of food and beverages in the metros stands in stark contrast to the negative experience of textiles and other manufacturing. In the category of other secondary industries, jobs in the utilities stood still, but there was sizeable job loss in construction. In the category of tradable services, finance and administrative services pulled ahead in the metros, whereas professional services lagged behind. In the category of non-tradable services, there was little difference between the performance of retail and hospitality sectors between the metros and RoSA. This is surprising considering the much stronger growth in population and tourism in the metros than elsewhere. The fact that most public services did not grow faster in the metros is another surprise bearing in mind the differential population trends in the metros and the RoSA.

Third, the sharp loss of jobs in construction is worthy of further comment as a disturbing feature of the data, along with the stagnation in utilities jobs. Construction activity reflects fixed investment in infrastructure, housing and other buildings, and is therefore a crucial indicator of the current dynamism of the economy and its future prospects. The fact that the decline in construction jobs was much greater in the metros than elsewhere is an ominous portend for the future, especially bearing in mind the faster growth of the metro populations and the serious housing shortage and the backlog of infrastructure capacity, replacement and repairs and maintenance (Gotz, 2025; Marrian, 2025).

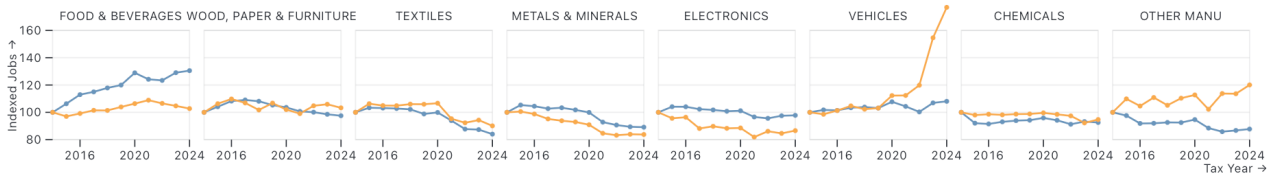
Fourth, the country as a whole benefited from a strong performance in agriculture over the last decade, with the RoSA gaining disproportionately. The metros benefited indirectly from this through the processing of food and beverages production.

Figure 10: Trends by 1-digit sector, 2014 – 2024, metros verses rest of SA

Primary:

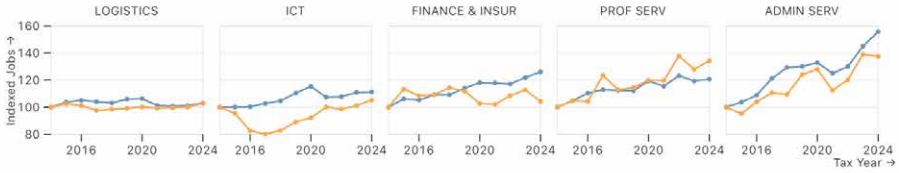


Secondary (manufacturing):

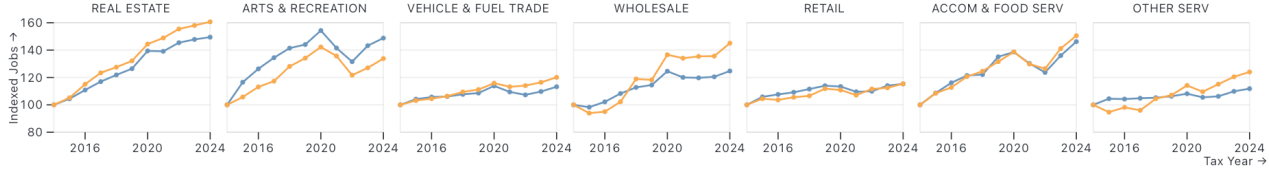


Secondary (other):

Tertiary (tradables):



Tertiary (non-tradables):



Tertiary (social):

2.7 Conclusion

The trajectory of employment in the metros has faltered over the last decade and fallen behind the rest of South Africa. This is a significant departure from the historic trend of the metros growing more strongly than towns and rural areas. It contradicts the conventional wisdom that big cities are natural economic powerhouses, and the assumption that their prosperity can be taken for granted in the way public resources are distributed across municipalities and provinces through the equitable share.

The underperformance of the metros reflects relative employment decline rather than absolute decline. As a group, the metros have been losing ground on other areas, rather than suffering a net loss of jobs. Therefore, their deterioration is steadily eroding their position, yet it should not be described as a slump or collapse. There was a slump during the first year of the pandemic, but conditions have improved somewhat since then.

The gradual weakening of the metro economies needs to be taken seriously by the government and other stakeholders for many reasons. One of the obvious concerns is that the metros have not been creating jobs at the rate required to keep pace with the growth of their working-age populations, so unemployment has been increasing, accompanied by poverty, inequality and despair. Another concern is that the performance of the foundational tradable sectors has lagged behind the growth of non-tradables, which poses risks for long-term sustainability. A third problem is that weaker jobs growth makes it harder for the metros to collect the revenue they require from households and businesses to fund improved services and investment in essential infrastructure.

Finally, the comparative decline of employment in the metros has not occurred in a uniform manner. The pattern is uneven and differentiated, with some economic sectors performing relatively well and some very badly. The decline in construction employment is a particular concern, along with selected manufacturing sectors, such as textiles. They have sizeable multiplier effects and provide manual jobs that are relatively accessible to the unemployed. Besides the sectoral variations, some metros have performed better than others, with a marked contrast between Cape Town and Tshwane, on the one hand, and Nelson Mandela Bay and Mangaung, on the other. Explaining these differences is beyond the scope of this chapter, but the quality of local governance appears to have a bearing on the outcome.

Looking ahead, the outlook is highly uncertain and it is difficult to speculate about the prospects for cities. The lack of a political champion for cities, or any kind of vision for cities at the heart of government, is unhelpful and unfortunate. There are several relevant initiatives at national level to strengthen city governance in one way or another, including the District Development Model, Presidential Working Groups for eThekwini and Johannesburg, work to prepare a new Local Government White Paper, the National Treasury's Metro Trading Services reforms, phase two of Operation Vulindlela, and the new powers of the Auditor General. Some of these initiatives may ultimately produce useful effects, although progress seems slow and the apparent lack of coordination is a concern.

At the local level, most forecasts and opinion polls suggest that the 2026 municipal elections are likely to usher in further political coalitions. This could reinforce the tendency towards short-term deal-making, rather than institutional strengthening, capacity building and sustained investment. The voting system tends to encourage small political parties and identity politics, which lack the broad support to develop inclusive place-based policies.

Greater recognition is needed that South Africa's future lies in its cities, and that cities are complex systems that require coordination and long-term thinking. With responsive local institutions, sound leadership and supportive national frameworks, cities function as dynamic ecosystems that engender a virtuous circle of business interaction, learning, higher productivity, more jobs, higher taxes, more investment, better infrastructure and greater connectivity. These positive economic and social outcomes depend on improved trust and cooperation between the public and private sectors and civil society, coupled with devolved decision-making responsibilities and stronger local accountability.

The idea of urban reform coalitions (Mitlin and Weldeghebrael, 2025) offers a promising way forward that deserves careful consideration. These alliances involve diverse stakeholders, including the private sector and civil society, working hand-in-hand with city governments on practical problem-solving. By working closely together they acquire a common understanding of the challenges faced and build a shared purpose and commitment to resolve them. Through close cooperation they also build trust, legitimacy and accountability among stakeholders. By drawing in external expertise they can increase the technical capabilities and resources available to municipalities and lay the foundations for recovery and growth.

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Chapter 3:

City population pressures and metro growth in South Africa: How fast, how large, and will it continue?

Authors: Justin Visagie, Associate Professor, Southern Centre for Inequality Studies, University of the Witwatersrand

Highlights

- South Africa's metros have absorbed half of all national population growth since 1996, with the Gauteng metros and Cape Town leading a rapid, sustained urban expansion that shows no sign of slowing.
- Large metros are doubling in size every 22–30 years, far faster than secondary cities and towns, whose doubling times stretch to 40–60+ years. This reflects a pronounced big-city advantage in attracting people.
- South Africa's urban growth rate is high by global standards, exceeding that of other upper-middle-income countries and most world regions, underscoring the enduring pull of its major city-regions.
- The structure of the urban system broadly aligns with Zipf's Law, showing no evidence of excessive primacy: South Africa has several large metros at the top rather than a single dominant mega-city. The main shift over time is the widening gap between the five largest metros and the rest.
- Economic opportunity remains strongly concentrated in metros, which show far higher labour absorption rates than secondary cities, towns, and rural areas explaining continued migration pressure toward metropolitan areas.
- Policy should focus on managing, not diverting, metropolitan growth. This includes strengthening infrastructure, service delivery, and regional integration to make it more productive, inclusive, and sustainable across a well-functioning urban system.

3.1 Introduction

Public opinion is often negative about migration to cities and urban population growth. This sentiment is understandable given the mounting pressure on South African cities to attract investment, create jobs, and deliver essential public services. The media is filled with reports of crises in urban management – from housing shortages and sprawling informal settlements to potholes, sewage spills, water leaks, and recurring power cuts – reinforcing the perception that cities are struggling to keep pace with their expanding populations.

This feeds into a related discussion about the desire to create 'new cities', a vision popularised by President Cyril Ramaphosa in his State of the Nation Addresses: "...I spoke about the dream of building new cities that will enable us to make a break with apartheid's spatial development. New post-apartheid cities are being conceptualised in a number of places in our country" (SONA, 2021). In practice, however, most new settlements in post-apartheid South Africa reflect the consolidation and expansion of existing metropolitan regions rather than the creation of entirely new urban centres.

Underlying these debates is an assumption that South African cities – and the metros in particular – are growing too fast and too large. The implication is that metros are at risk of overheating, and that national outcomes might improve if economic activity were more widely dispersed. Yet does this view hold up against the empirical evidence? How does population growth in the metros compare with the rest of the country? To what extent do South Africa's largest cities dominate the national urban system? And should we anticipate migration and growth of metropolitan areas to continue?

3.2 Defining cities

A critical issue for measuring the pace and scale of urban population change is the definition and consistency of urban boundaries. We adopt two approaches:

The first is to work with official administrative boundaries as collected and published by Statistics South Africa in the Census[1]. The advantage of using municipal borders to define population change is that these borders represent the political and fiscal authority of local governments, who are responsible and accountable for servicing communities living within these areas. Reporting on change within official boundaries is also intuitive for policymakers and residents living in these areas.

Metropolitan boundaries in South Africa are very large in practice, including wide commuting zones and often extending far beyond their built footprints, such that they arguable equate to functional economic areas. However they do also include segments of traditional and rural territories and therefore reflect an upper bound on the size of the local urban population.

Another limitation of using official boundaries arises in the case of Gauteng's adjoining metros. Johannesburg, Ekurhuleni, and Tshwane form a continuous urban corridor — stretching from Johannesburg through Sandton and Midrand to Pretoria — that many regard as a single, integrated city-region. This has implications for analysing urban primacy, as parts or combinations of these metros may need to be treated as one functional entity when considering wider commuting zones.

1 The demarcation board of South Africa is responsible for publishing municipal boundary changes. While there have been a number of changes to boundaries since 1994, these have been harmonized by Statistics South Africa for the Census period 1996, 2001 and 2011. StatsSA have yet to harmonise the latest Census 2022 boundaries with the former period, but changes in the last decade have been relatively few, and we combine municipalities in cases of merges.

To address these definitional limitations, we adopt a second approach that uses a consistent and independent method to identify urban areas. Specifically, we employ the Global Human Settlement Layer (GHSL) database, developed by the European Commission, which applies a 'Degree of Urbanisation' classification intended to harmonise city definitions (labelled as 'urban centres') and remove dependence on administrative boundaries. [2]Another advantage of examining the GHSL is that enables international benchmarking.

However, a drawback of the GHSL is that its boundaries are less intuitive, even though they can be visually inspected in each case. In addition, the population estimates for urban centres rely heavily on modelling that ultimately draws on official population counts – themselves based on administrative boundaries – which can introduce error. Last, South Africa's sprawling urban form means that the GHSL methodology sometimes classifies adjacent townships as separate cities, rather than as part of the same urban area.

3.3 Methodology

Our methods are largely descriptive. Exploring the pace of urban change is relatively straightforward and involves calculating rates of population growth.

For municipalities, we divide these settlements into an urban hierarchy following the Municipal Infrastructure Investment Framework (DBSA & COGTA, 2011) – which broadly corresponds with population size and density – grouping municipalities into 'A: metro', 'B1: secondary city', and 'B2: large town' which adds up to 53 municipalities[3]. The remaining 'B3: small town' and 'B4: mostly rural' municipalities are excluded.

For urban centres, as reported in the GHSL, we link each to its corresponding metropolitan identifier and group the sample into deciles of size rank: the largest (10th decile), middle (9th to 6th deciles), and smallest (5th to 1st deciles). There are a total of 81 urban centres.

Examining the structure of the urban system is less straightforward. There is no objective benchmark that defines an optimal city size. Yet in practice, urban economists often turn to regularities in city-size distributions, most notably Zipf's Law, as a heuristic guide for understanding whether a country's urban hierarchy is unusually top-heavy or dispersed (Arcaute et al., 2015; Kleynhans & Coetzee, 2022; Osorio et al., 2025; Venter et al., 2025). We apply this approach to explore the relative scale and balance of South Africa's city system.

Zipf's Law is the empirical regularity that the size of cities within a country tends to follow a predictable rank–size distribution. When plotted on a logarithmic scale, the relationship between log city rank (y-axis) and log population size (x-axis) approximates a straight line with a slope of –1, implying that the second-largest city is about half the size of the largest, the third-largest is one-third, and so on. This simple pattern has been found to hold remarkably well across countries and periods, providing a useful benchmark for comparing the concentration or dispersion of urban systems.

2 The GHSL defines an 'urban centre' as having at least 50,000 inhabitants and with a density of at least 1,500 people per km2. They are derived by aggregating contiguous cells from a fine-grained population grid where all cells have the same size and shape. Satellite imagery is used to distinguish cells that comprise relatively dense built-up areas from less dense areas and sparsely settled areas.

3 Interestingly, the smallest B2 municipality (Emakhazeni Local Municipality) has a population count of 50,164 in 2022 which corresponds to the GHSL threshold of 50,000 persons.

Deviations from this relationship are informative. A flatter slope (greater than −1, i.e., closer to 0) signals a top-heavy distribution with strong primacy, where the largest cities loom disproportionately large. By contrast, a steeper slope (less than −1, more negative) points to a more even city-size distribution with weaker primacy. A few empirical studies of South Africa's urban structure find that the Zipf distribution fits the distribution overall, with the exception of the lower tail where city sizes tend to drop off quickly (REF).

We use this framework to assess whether South Africa's city system aligns with, or departs from, the Zipf benchmark and what that implies for the relative scale of its metros. In particular we produce a fitted regression (OLS) line for different segments of the distribution and formally test whether it matches the Zipf's slope.

Last, we examine whether metropolitan areas continue to offer favourable opportunities for work. Cities are expected to generate greater employment potential due to agglomeration economies. Over time, however, migration and labour market adjustment should moderate these differences, as population growth in cities brings the ratio of jobs to residents back toward equilibrium. In other words, we expect faster population growth in cities to persist only as long as workers continue to enjoy better prospects of accessing formal employment.

To test this, we estimate municipal rates of labour absorption by comparing formal employment (as reported in the Spatial Tax Panel) with the working-age population (15–64 years, from Census 2022) as a leading indicator. Although detailed data on informal employment at the municipal level are not yet available, we assume that trends in formal and informal work opportunities tend to move together. Formal employment therefore serves as a reasonable proxy for overall economic vitality across South Africa's urban hierarchy.

3.3 Results

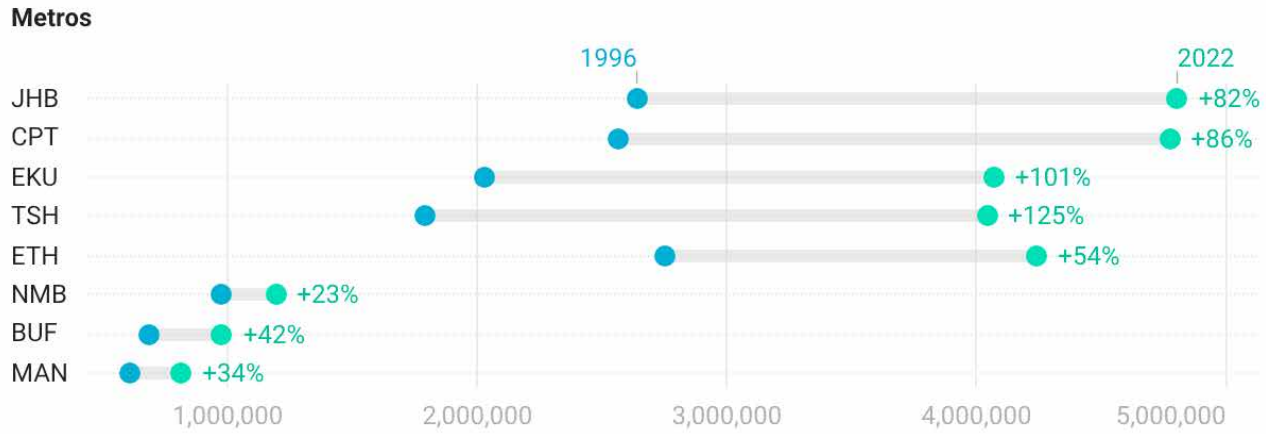
3.3.1 How fast?

We begin with a comparison of population growth across South African cities between 1996 and 2022 using official municipal boundaries (see Table A1 in the appendix). The results reveal a consistent pattern of metropolitan dominance, with the largest cities expanding far more rapidly than the rest of the country.

While the metros as a group experienced faster population growth than other parts of South Africa, this trend was driven primarily by expansion in the largest cities (see figure 1). In particular, Tshwane (125%) and Ekurhuleni (101%) each doubled their populations over the 25-year period, while Johannesburg and Cape Town followed with growth of more than 80%. The remaining metros expanded at roughly the national average (+/-50%), and a few fell well behind, such as Mangaung (34%) and Nelson Mandela Bay (23%).

Put differently – working off of the average annual growth rate over the period – Tshwane will double its population every 22 years, Ekurhuleni every 26 years and Johannesburg every 30 years (see table A1). This is much faster than in smaller metros such as Buffalo City and Nelson Mandela Bay which will double in size only after 51 and 88 years respectively.

Figure 1: Census population change in the metros, 1996 – 2022

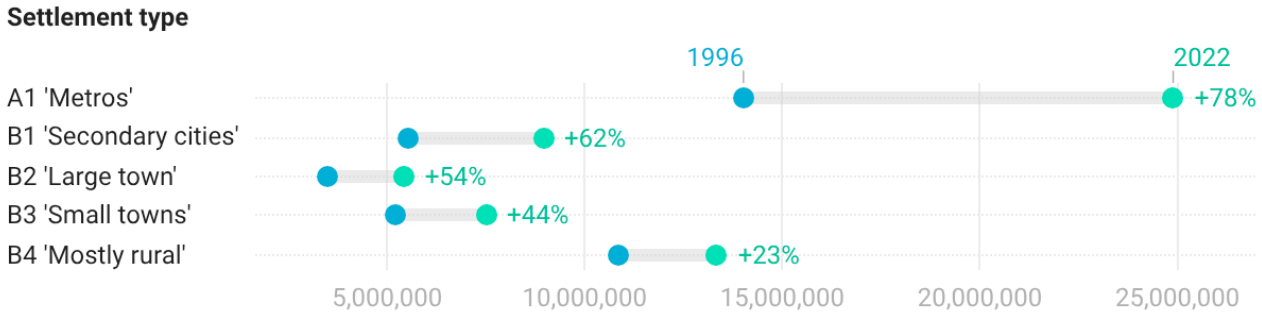


Source: Census 1996, 2001, 2011, 2022; own estimates

Notes: See table A1 in the appendix

Higher relative growth rates in the metros, combined with their larger starting populations, meant that absolute population increases were substantial. Metropolitan population change (10.8 million) accounted for about half of national population growth (21.4 million) over the period. Put differently, the eight metropolitan municipalities absorbed as much population growth as the remaining 205 local municipalities combined. Moreover, the largest five metros – the three Gauteng metros together with Cape Town and eThekwini – accounted for the vast majority of this (93%). Secondary cities and large towns, even when combined, did not come close to matching this scale (see figure 2).

Figure 2: Census population change by settlement type, 1996 – 2022



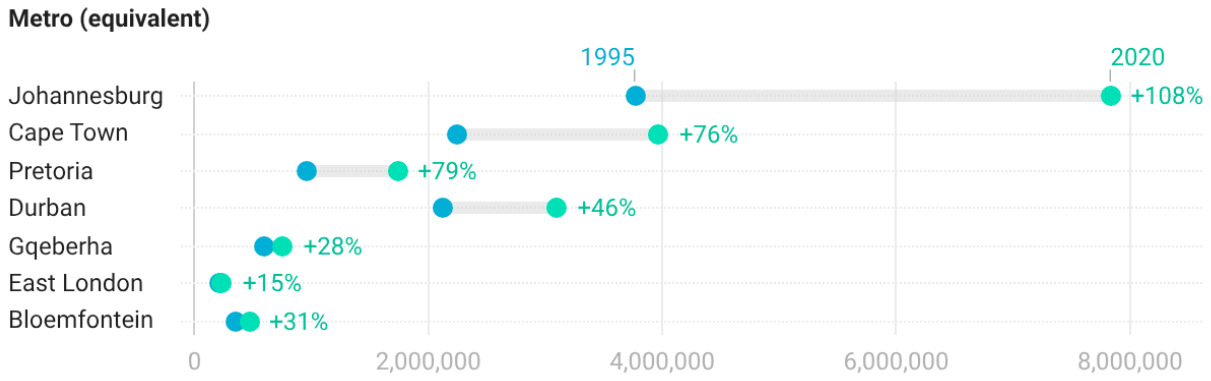
Source: Census 1996, 2001, 2011, 2022; own estimates

Notes: See table A1 in the appendix

A similar picture emerges when examining rates of population change using urban centres as defined by the Global Human Settlement Layer (GHSL) (table A2 in the appendix). It is reassuring to find the same pattern of dominance among the largest cities.

South Africa's largest urban centre of 'Johannesburg' (note: combines parcels of Johannesburg and Ekurhuleni metros) experienced the highest population growth among the group of metro equivalent urban centres (see figure 3). Johannesburg more than doubled in size over the period 1995 to 2020 and was followed by 'Cape Town' and 'Pretoria' at below 80%. None of the smaller cities featured – 'Gqeberha', 'East London' and 'Bloemfontein' each grew at 30% or below. We estimate that the top decile of South African cities will double in size every 30 years compared with every 58 years among the bottom half of smaller cities (see table A2).

Figure 3: Global Human Settlement Layer population change in urban centres, 1995 – 2020



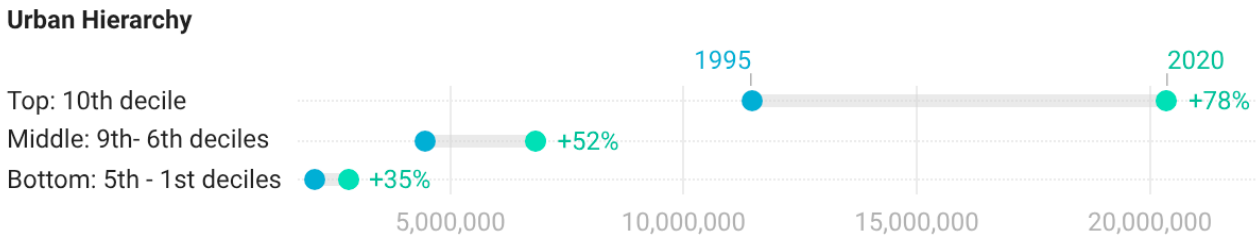
Source: GHSL, Urban Centre Database 2025; own estimates

Notes: See table A2 in the appendix

Breaking urban centres into deciles by population size confirms that the top (largest) decile of urban centres was responsible for the bulk of urban population growth (see figure 4). The largest decile accounted for roughly three quarters (8.9 million) of all population growth among urban centres and expanded at a higher rate than the middle and bottom deciles.

Interestingly, population change in South African cities – whether measured by the Census or the GHSL – shows no clear signs of slowing over the 25-year period. Both sources report relatively steady rates of growth between intervals, with a slight acceleration evident in the most recent period (2020–2022) (see tables in the appendix).

Figure 4: Global Human Settlement Layer population change in urban centres by decile, 1995 – 2020



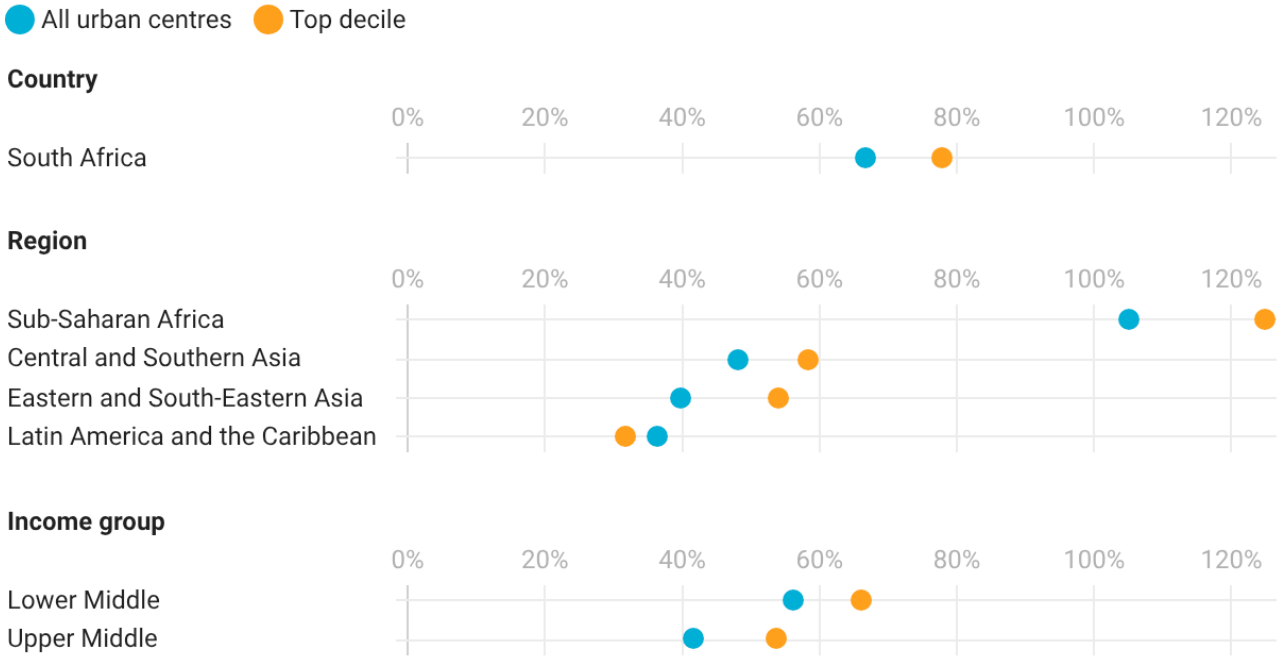
Source: GHSL, Urban Centre Database 2025; own estimates

Notes: See table A2 in the appendix

A key advantage of using the GHSL is that it allows us to contextualise South Africa's city growth within a global perspective (see table A3 in the appendix). Was the rate of urban expansion in South Africa over the last 25 years unusually high?

What stands out is that the rate of growth for South African cities was significantly higher than that of most peer groups (see figure 5). For instance, other upper-middle-income countries experienced urban centre growth of 41.6%, compared with 66.5% in South Africa. Restricting the sample to the largest (top-decile) urban centres produces a similar result: 53.7% growth for upper-middle-income countries versus 77.8% for South Africa. In fact, South Africa's cities grew faster over the period than most lower-middle-income countries which tend to have lower levels of urbanisation.

Figure 5: GHSL Urban Centre Population Growth, 1995 – 2020 (percentage change)



Source: GHSL, Urban Centre Database 2025; own estimates

Notes: See table A2 in the appendix

Across major world regions of the global South, South Africa's rate of urban growth was also generally higher — including Central and Southern Asia (58.1%), Eastern and South-Eastern Asia (54%), and Latin America and the Caribbean (31.6%). The exception is sub-Saharan Africa, where urban centres expanded by more than 100%. However, this is to be expected, given that the region includes many low-income countries growing from a relatively small urban base.

Overall, the GHSL benchmarking against other countries shows that South African cities expanded rapidly over the past twenty-five years – with most of this growth concentrated in the country's largest metropolitan areas.

Taken together, the evidence paints a consistent picture of South Africa's urban transition. Population growth has remained steady over the past quarter century, with metros, especially the Gauteng city-region and Cape Town, absorbing most of the increase. The top 5 largest cities have taken approximately 30 years to double in size. Smaller cities and towns have grown more slowly, doubling every 10 years, mirroring national averages. When benchmarked globally, South Africa's rate of urban expansion is high for an upper-middle-income country, underscoring the continuing pull of its major city regions.

3.3.2 How large?

The preceding analysis focused on the pace of urban growth in South Africa. We now turn to the question of scale: are cities sizes ranked as we would expect? In particular, are the South Africa's metros too large?

Recall that Zipf's law provides a reference point for how city populations tend to be distributed according to rank and size based on empirical work in other countries. We fit regression lines to different segments of the distribution to test how closely South Africa's city system aligns with this Zipf benchmark.

Figure 6 presents the results for municipalities as measured by the Census at the start (1996) and end (2022) of the period. The x-axis represents population size and the y-axis shows municipal rank (from largest to smallest). Both axes are logged so that the Zipf reference line appears as a straight line with a slope of –1. Three OLS regression lines are fitted for metros (blue), secondary cities (orange), and large towns (purple) to test the fit for each group.

Looking at the city–size–rank distribution in 1996, South Africa's urban system was not far from the Zipf reference. The OLS fit for metros is very close to –1, while the fit for secondary cities is marginally flatter (–0.921). The most noticeable difference occurs on the left-hand side of the distribution, where the slope for large towns (–0.489) is considerably flatter. A flatter slope indicates that city sizes decline more sharply than expected. In other words, the distribution is more uneven or dispersed among smaller cities. However, several other studies of city–size distributions report similar flattening at the lower end of the hierarchy, so this pattern is not unusual (REF).

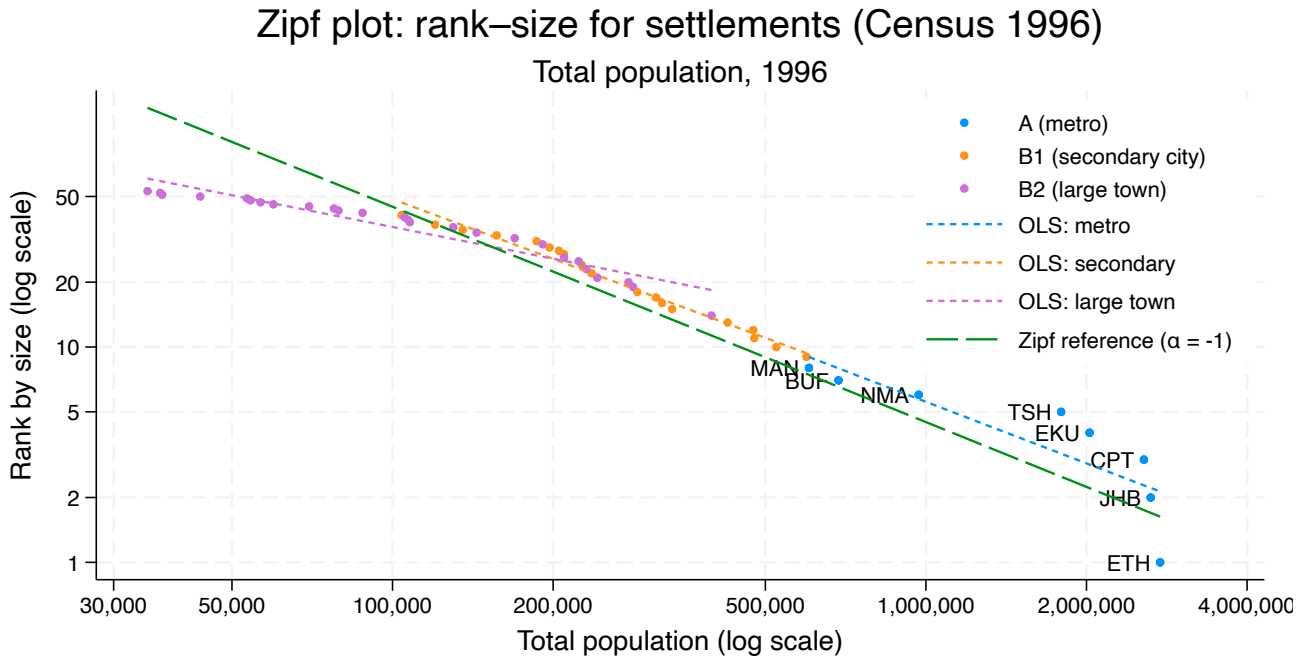
What is more interesting – and partially obscured in the modelled results – is the distribution of individual points on the right-hand side of the plot (i.e. among the metros). While the OLS line for metros aligns almost exactly with the Zipf benchmark, the largest five metros are in fact clustered closely together. In 1996, eThekwini was ranked as the largest metro, with Johannesburg and Cape Town not far behind. The distribution therefore showed little evidence of primacy: the major metros shared the population base relatively evenly at the top of the hierarchy.

By the end of the period, in 2022, the city–rank–size distribution had changed in subtle but important ways. The lower and middle portions of the distribution remained largely unchanged, but the upper end (representing the metros) was marked by a growing divide between the larger and smaller metros. In particular, the Gauteng metros, eThekwini and Cape Town pulled further away from Nelson Mandela Bay, Buffalo City and Mangaung metros. This caused the OLS fitted line to flatten (a slope of -0.784) reflecting a growing polarisation. In addition, Johannesburg overtook eThekwini to become the country's largest metro, pulling ahead of the rest, while Cape Town also overtook eThekwini in size. In fact the differences in size among the five largest metros tightened even further.

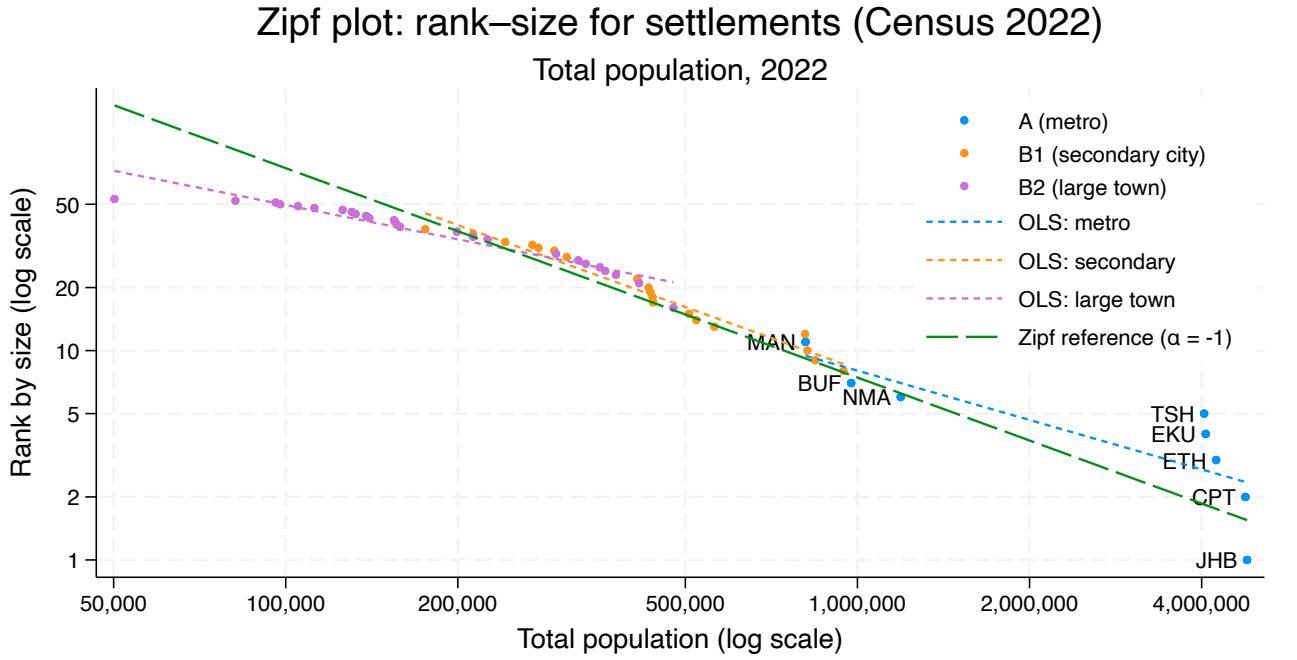
A key challenge with the analysis so far is that arbitrary differences in administrative boundaries may obscure the actual population distribution across functional urban areas. This is particularly relevant for Gauteng, where the urban population spans several municipalities. Figure 7 therefore repeats the analysis using the GHSL database, which defines urban centres consistently for South Africa over the same period.

In 1995, the distribution of South African cities provided a reasonable match with the Zipf reference line. The lower end of the distribution is flatter – consistent with the municipal-based analysis – while the middle portion aligns closely with Zipf. The main difference lies at the top of the distribution, among the largest decile of urban centres. Here, Johannesburg clearly stands out with a larger population than other cities, followed by Durban and Cape Town, while Pretoria falls much further back. Compared with the municipal-based results, the GHSL data show a clearer rank–size hierarchy, with stronger primacy in Johannesburg.

Figure 6: Distribution of cities, Census 1996 and 2022



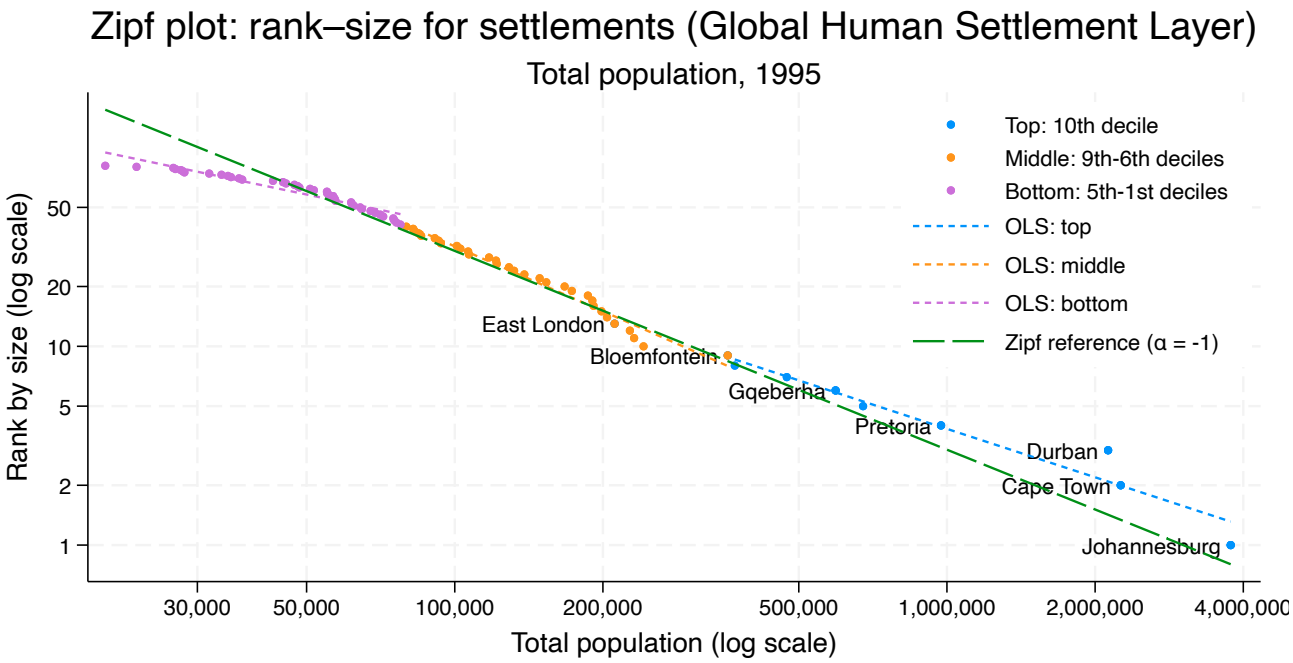
Metro OLS: β=-0.949 (R^2= 0.709; p-value(β=-1)=0.8246; N=8)
Secondary city OLS: β=-0.921 (R^2= 0.977; p-value(β=-1)=0.0585; N=19)
Large town OLS: β=-0.489 (R^2= 0.912; p-value(β=-1)=0.0000; N=26)



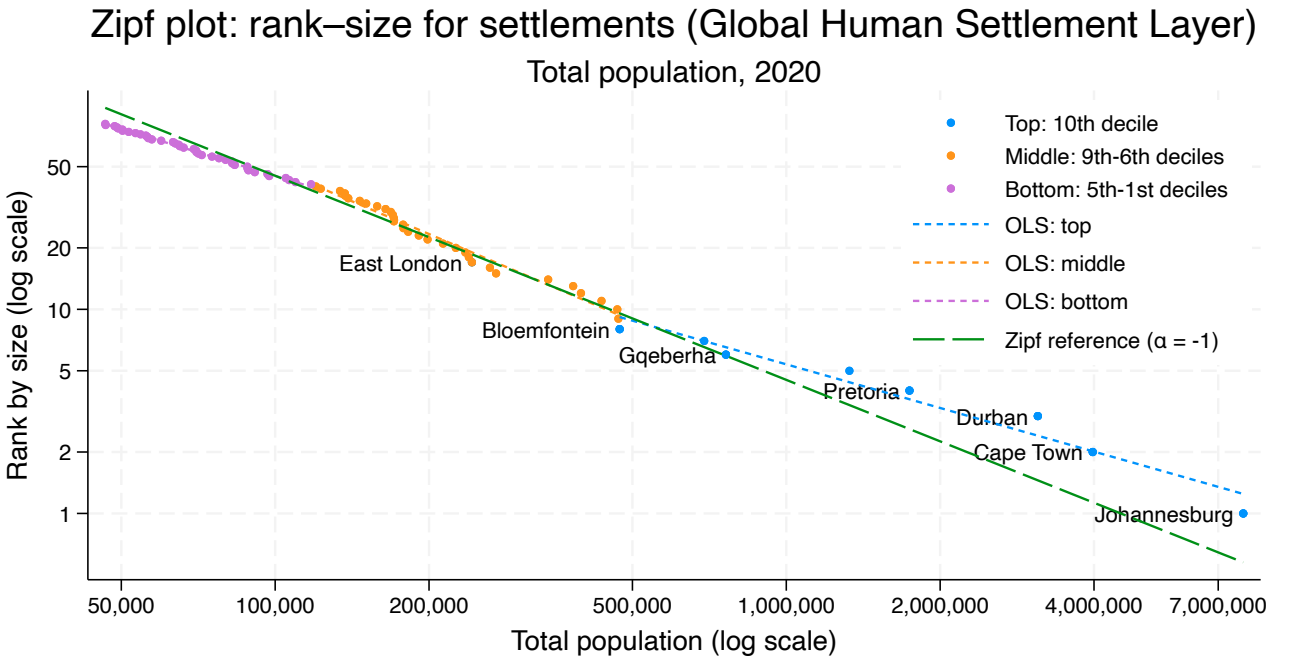
Metro OLS: β=-0.784 (R^2= 0.654; p-value(β=-1)=0.3077; N=8)
Secondary city OLS: β=-0.984 (R^2= 0.965; p-value(β=-1)=0.7752; N=19)
Large town OLS: β=-0.544 (R^2= 0.913; p-value(β=-1)=0.0000; N=26)

Source: Census 1996 and 2022; own estimates

Figure 7: Distribution of cities, GHSL 1995 and 2020



Top declie OLS: β=-0.810 (R^2= 0.938; p-value(β=-1)=0.1179; N=8)
Middle deciles OLS: β=-1.085 (R^2= 0.975; p-value(β=-1)=0.0588; N=32)
Bottom deciles OLS: β=-0.517 (R^2= 0.906; p-value(β=-1)=0.0000; N=41)



Top declie OLS: β=-0.710 (R^2= 0.957; p-value(β=-1)=0.0072; N=8)
Middle deciles OLS: β=-1.067 (R^2= 0.980; p-value(β=-1)=0.0236; N=32)
Bottom deciles OLS: β=-0.765 (R^2= 0.995; p-value(β=-1)=0.0000; N=41)

Source: Global Human Settlement Layer, Urban Centre Database 2025; own estimates

By 2020, the overall distribution remains broadly similar. Among smaller cities, the lower end of the distribution is less flat, indicating that these places grew more strongly, helping to normalise the size distribution. The middle section continues to fit Zipf's law closely. At the top, the rank order remains Johannesburg–Cape Town–Durban–Pretoria, but Cape Town has pulled slightly ahead of Durban, and all have widened their gap relative to Bloemfontein and Gqeberha. Although stronger growth among the largest cities is less pronounced than in the municipal data, the same pattern holds true in the GHSL. The effect is a modest flattening of the regression fit among the top decile of urban centres over the period (from 0.81 to 0.71), indicating greater dispersion.

To summarise, the overall distribution of South Africa's cities aligns closely with the Zipf benchmark, indicating that the urban system is ordered much as prior research and empirical studies would predict. However, there are a few notable points of difference.

First, South Africa lacks any compelling evidence of excessive urban primacy. The municipal data in particular shows an even split in population among the five largest metros. Second, and related to the point above, South Africa's largest cities as a group have gradually pulled further ahead of the rest over the past twenty-five years. The underperformance of smaller metros (such as Nelson Mandela Bay, Buffalo City and Mangaung) is of concern, particularly as lagging regions in the Eastern Cape and Free State are in desperate need of economic drivers.

3.3.3 Will it continue?

The final question, then, is whether we should expect city growth to continue at a similar pace and scale in the years ahead. In particular, can the metros continue to absorb people and sustain economic opportunity at the same rate into the future?

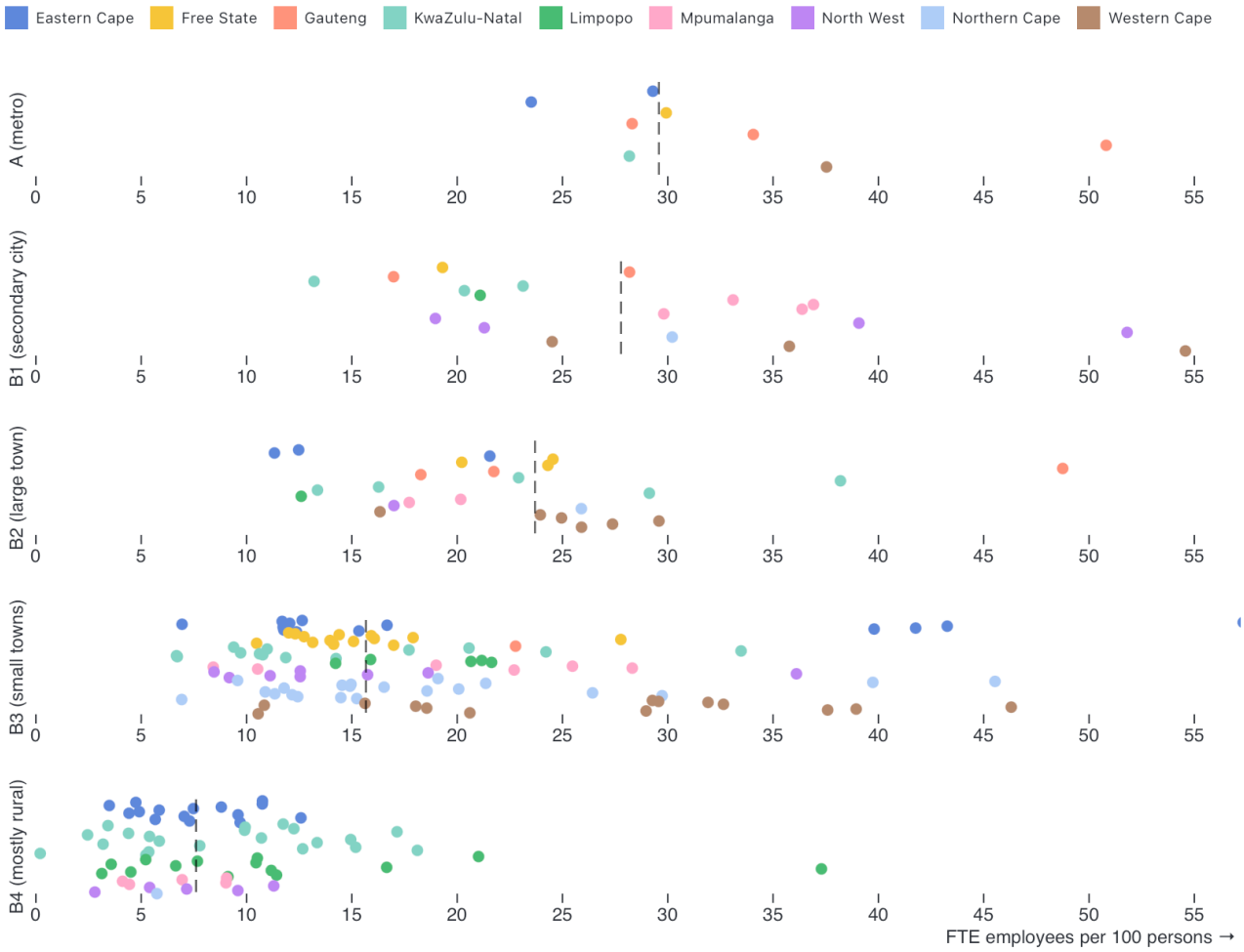
Figure 8 presents the labour absorption rate (the ratio of employment to the working-age population) calculated for each municipality by combining formal employment data from the Spatial Tax Panel with the Census 2022 working-age population. The average labour absorption rate within each size class of municipality is shown as a dotted line.

The differences in economic outcomes across the urban hierarchy are striking, with labour absorption rates declining systematically from the largest to the smallest municipalities.

Metros show the strongest performance, averaging around 30 formal jobs per 100 working-age residents, although there is considerable variation within the group. Buffalo City records the lowest absorption rate (24 per 100), while Johannesburg has the highest (51 per 100).

Secondary cities follow with an average of 28 formal jobs per 100 working-age residents, but with greater volatility. Some, like Newcastle and Emfuleni, have relatively low rates, while others such as Stellenbosch and Rustenburg perform well above the group average.

Figure 8: Labour absorption rate (formal jobs to working-age population), 2022



Source: Spatial Tax Panel 2024 (formal employment); Census 2022 (working population: aged 15 – 64)

Note: dashed line represents the median labour absorption rate in each case

Large towns exhibit weaker labour absorption overall. With the exception of a few outliers (e.g. Midvaal and uMngeni), most hover around 24 formal jobs per 100 working-age residents.

Last, small towns and rural municipalities record very low levels of formal labour absorption at around 16 and 8 jobs per 100 working-age residents, respectively. While there are isolated exceptions, most fall well below 20, highlighting the stark contrast with the stronger performing metropolitan municipalities.

Overall, South Africa's urban system clearly supports better economic outcomes for local residents, at least in terms of formal labour absorption. Although not definitive, these disparities in employment opportunity provide a strong rationale for continued migration into cities and sustained metropolitan population growth.

3.4 Conclusion

South Africa's metropolitan municipalities play a crucial role in social progress as gateways to public services and containers of local economic activity. Their ability to facilitate development, however, is not guaranteed and requires a delicate balance of coordinating actors, prioritising investments and nurturing the skills needed to manage urban change. As population pressures intensify, the ability of these cities to plan, coordinate, and sustain growth is of growing importance to national outcomes.

The empirical evidence presented in this chapter suggests that the metros have had to absorb as much as half of total population growth over the last twenty five years. The pace of urban change has been rapid by international standards – and skewed towards larger cities. Most of the larger metros have doubled in size, or at least come fairly close, and show little sign of slowing down. The pace of population change is half this rate in many smaller settlements.

Therefore there are legitimate concerns about the ability of metros to keep pace with rapid urban change. Yet at the same time, the overall rank-size distribution of cities in South Africa continues to match up with expectations from other countries. The urban system is broadly ordered, with little evidence of excessive primacy. South Africa has a number of big urban centres at the top of its distribution. These statistics should put the emerging narrative around 'semigration' to Cape Town into perspective. It also cautions against any attempt to diffuse population growth by engineering 'new cities' – unless in practice this relates to consolidation within existing metros.

For policymakers, the key challenge is arguably not to restrain metropolitan expansion but to manage it more effectively – by strengthening infrastructure, improving service delivery, and extending the benefits of urban growth to surrounding regions. As this chapter has shown, larger cities also offer stronger economic prospects in terms of labour absorption rates. Therefore we should expect similar patterns of population change to persist.

Migration and urban growth ultimately reflect the enduring pull of employment and wage opportunities rather than an imbalance to be corrected. Lagging cities and towns will need targeted strategies to build their economic base and retain working-age residents. The goal is not to slow urbanisation, but to make it more productive, inclusive, and sustainable across a well-functioning urban system.

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Chapter 3: Appendix

Table A1: Cities and population growth (Census data)

	1996		2001		2011		2022		1996-2022		
	Tot count (000's)	% change	Tot count (000's)	% change	Tot count (000's)	% change	Tot count (000's)	% change	Abs ch (000's)	% change	# years to double
Metros											
JHB	2,638	-	3,226	22.3%	4,435	37.5%	4,803	8.3%	2,165	82.0%	30
CPT	2,562	-	2,892	12.9%	3,740	29.3%	4,773	27.6%	2,211	86.3%	29
EKU	2,027	-	2,482	22.4%	3,178	28.1%	4,067	27.9%	2,040	100.6%	26
TSH	1,792	-	2,142	19.5%	2,921	36.4%	4,040	38.3%	2,248	125.4%	22
ETH	2,748	-	3,090	12.4%	3,442	11.4%	4,240	23.2%	1,492	54.3%	42
NMB	970	-	1,006	3.7%	1,152	14.5%	1,190	3.3%	221	22.8%	88
BUF	686	-	705	2.8%	755	7.1%	975	29.1%	290	42.2%	51
MAN	604	-	645	6.9%	747	15.8%	811	8.6%	208	34.4%	61
Urban hierarchy											
A1 'Metros'	14,027	-	16,189	15.4%	20,372	25.8%	24,900	22.2%	10,873	77.5%	31
B1 'Secondary cities'	5,528	-	6,147	11.2%	7,505	22.1%	8,946	19.2%	3,418	61.8%	37
B2 'Large town'	3,507	-	3,861	10.1%	4,333	12.2%	5,416	25.0%	1,909	54.4%	41
South Africa	**40,584**	**-**	**44,820**	**10.4%**	**51,771**	**15.5%**	**62,028**	**19.8%**	**21,444**	**52.8%**	**42**

Source: Census 1996, 2001, 2011, 2022; own estimates

Notes: Harmonised over the period 1996 and 2011. Municipal mergers have been updated between 2011 and 2022 but minor changes in boundaries might cause slight discrepancies between 2011 and 2022 Census years.

Table A2: Global Human Settlements Layer, Urban Centres

	1995		2000		2005		2010		2015		2020		1995-2020		
	Tot count (000's)	% change	Tot count (000's)	% change	Tot count (000's)	% change	Tot count (000's)	% change	Tot count (000's)	% change	Tot count (000's)	% change	Abs change (000's)	% change	# years to double
Metros (equivalent)															
Johannesburg	3,771	-	4,625	22.6%	5,307	14.8%	5,998	13.0%	6,772	12.9%	7,837	15.7%	4,066	107.8%	24
Cape Town	2,254	-	2,513	11.5%	2,800	11.4%	3,119	11.4%	3,476	11.5%	3,977	14.4%	1,723	76.4%	31
Pretoria	973	-	1,029	5.8%	1,167	13.4%	1,333	14.2%	1,511	13.4%	1,742	15.3%	769	79.1%	30
Durban	2,125	-	2,580	21.4%	2,765	7.2%	2,846	2.9%	2,930	2.9%	3,105	6.0%	980	46.1%	46
Gqeberha	594	-	615	3.6%	642	4.3%	673	4.9%	706	4.9%	762	7.9%	168	28.3%	70
East London	211	-	225	6.6%	228	1.3%	231	1.4%	234	1.2%	243	3.6%	31	14.9%	123
Bloemfontein	359	-	377	5.2%	400	6.0%	421	5.2%	441	4.7%	472	7.2%	113	31.6%	63
Urban Hierarchy															
Top: 10th decile	11,466	-	13,362	16.5%	14,897	11.5%	16,409	10.1%	18,079	10.2%	20,384	12.8%	8,919	77.8%	30
Middle:9th- 6th deciles	4,493	-	4,925	9.6%	5,303	7.7%	5,716	7.8%	6,265	9.6%	6,849	9.3%	2,355	52.4%	41
Bottom:5th - 1st deciles	2,087	-	2,226	6.6%	2,346	5.4%	2,501	6.6%	2,726	9.0%	2,813	3.2%	726	34.8%	58
Total (All Urban Centres)	**18,046**	**-**	**20,513**	**13.7%**	**22,545**	**9.9%**	**24,625**	**9.2%**	**27,070**	**9.9%**	**30,046**	**11.0%**	**12,000**	**66.5%**	**34**

Source: Global Human Settlement Layer, Urban Centre Database 2025; own estimates

Table A3: Global Human Settlement Layer, International Benchmarks

	1995		2000		2005		2010		2015		2020		1995-2020		
	Tot count (million)	% ch	Tot count (million)	% ch	Tot count (million)	% ch	Tot count (million)	% ch	Tot count (million)	% ch	Tot count (million)	% ch	Abs change (million)	% ch	# years to double
South Africa	18.0	-	20.5	13.7%	22.5	9.9%	24.6	9.2%	27.1	9.9%	30.0	11.0%	12.0	66.5%	34
World Regions															
Sub-Saharan Africa	202.4	-	235.4	16.3%	272.8	15.9%	315.6	15.7%	364.6	15.5%	414.5	13.7%	212.1	104.8%	24
Central and Southern Asia	582.6	-	656.2	12.6%	720.3	9.8%	777.5	7.9%	829.0	6.6%	862.1	4.0%	279.5	48.0%	44
Eastern and South-Eastern Asia	787.7	-	886.9	12.6%	942.1	6.2%	991.6	5.3%	1,047.0	5.6%	1,100.0	5.1%	312.3	39.6%	52
Latin America and the Caribbean	261.8	-	286.6	9.5%	306.8	7.0%	326.4	6.4%	345.5	5.9%	356.8	3.3%	95.0	36.3%	56
Income Groups															
Lower Middle	862.1	-	969.2	12.4%	1,069.0	10.3%	1,167.0	9.2%	1,264.0	8.3%	1,344.0	6.3%	481.9	55.9%	39
Upper Middle	966.2	-	1,085.0	12.3%	1,157.0	6.6%	1,224.0	5.8%	1,301.0	6.3%	1,368.0	5.1%	401.8	41.6%	50

Source: Global Human Settlement Layer, Urban Centre Database 2025; own estimates

Note: reproducing this table for a restricted sample of the top (largest) decile of urban centres produces a very similar pattern except with higher rates of growth across all groups (by about 10 percentage points

Chapter 4:

Mapping the Green Transition: Implications for Local Labour Markets

Authors: Katherine Davidson, Southern African Development Research Unit (SALDRU), University of Cape Town;

Anda David, Agence Française de Développement;

Ariane De Lannoy; SALDRU, University of Cape Town;

Joanna Grotte, SALDRU, University of Cape Town;

Arindam Jana, SALDRU, University of Cape Town;

Murray Leibbrandt ACEIR, SALDRU, University of Cape Town;

Andrew Nell, Freelance Consultant and Data Scientist;

Justin Visagie, Southern Centre for Inequality Studies, University of the Witwatersrand

Highlights

- The impacts of South Africa's green transition are deeply spatial as shaped by the industrial structure and emissions profile of local economies.
- Balancing job gains from new green sectors with losses in declining brown industries remains a central challenge for a just transition.
- High-emission municipalities in Mpumalanga face the greatest risks due to coal dependence. Yet workers in the same municipalities also show promise for green adaptation through reskilling and higher levels of green skills demand.
- Mining and agriculture-driven municipalities display mixed outcomes. Some, like platinum-belt economies, may benefit from green-related technologies. Others, like agricultural towns, register less room for worker adaptation and face greater exposure to climate shocks.
- Metropolitan areas tend to be less carbon-intensive per worker as well as facing higher green skills demand. At the same time, total emissions from metros is large making them key levers for decarbonisation and workforce transformation.
- Looking ahead, a key concern is the potential for a spatial mismatch between where green job opportunities emerge compared with where workers in brown industries are displaced.
- There is a need for reliable granular data sources that track relevant aspects of the labour market over time at the subnational level to inform Green Transition policy and planning.

4.1 Introduction

South Africa's green transition will impose both costs and benefits on local labour markets. Yet most existing research continues to focus narrowly on either potential job losses (i.e. perils of "brown" workforce displacement) or new employment opportunities (i.e. promise of "green" jobs), without considering how these forces interact or overlap (World Resources Institute, 2021; Makgetla, 2021; Bhorat et al., 2024; Institute for Advanced Sustainability Studies et al., 2019; Mosomi and Cunningham, 2024). Understanding both constraints is crucial to minimising harms and maximising the benefits through a transition which will inevitably be disruptive.

Another critical, but often neglected, dimension of the transition is where job gains and losses might occur. Certain local economies will experience profound disruption while others may benefit from new forms of investment and industrial activity. For instance, Mpumalanga contains around 80 percent of all coal-fired power plants, more than one hundred coal mines, and Sasol's coal-to-liquid industrial complex (The Presidency, Republic of South Africa, 2023a, 2023b). Local municipalities dependent on the minerals-to-energy value chain are at greater risk of job losses.

Yet cities will also play a pivotal role in this transformation. Urban areas concentrate the majority of South Africa's economic activity, employment, and energy use, and will therefore be central to strategies of decarbonisation. Metropolitan economies are where industrial restructuring, technological change, and new green investments will be concentrated (Yatzkan et al., 2025; Muñoz et al., 2023). They are also where the demand for reskilling and new occupational capabilities will be most intense (South African Cities Network, 2022; Kane and Tomer, 2023).

This chapter brings together both perspectives – the tension between a potential growing demand for green jobs and the loss of jobs in brown industries – to explore the implications for South Africa's local municipalities, and cities in particular[1].

4.2 Green transition framework

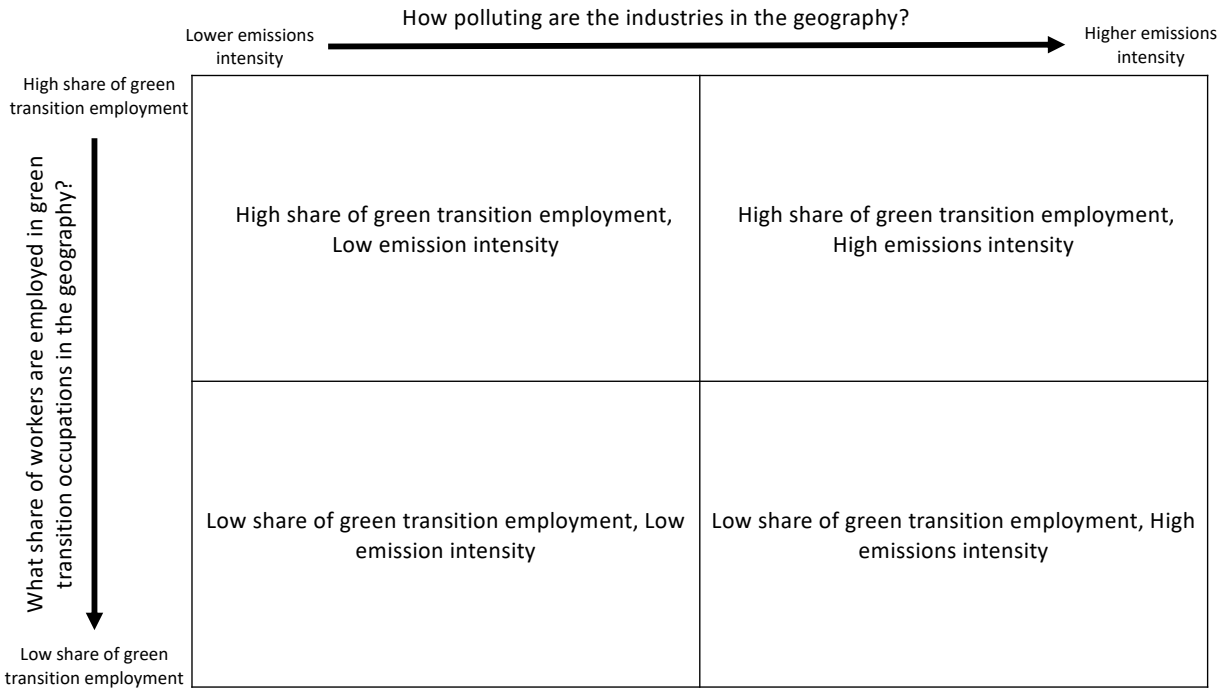
This chapter applies the Green Transition Framework developed by Davidson et al. (2024), which combines a bottom-up approach to identifying occupations linked to the green economy with a top-down approach to measuring emissions intensity across industries. Together, these perspectives allow us to locate where workers and local economies sit along the spectrum between green employment and carbon-intensive activity. Understanding both what people do (their occupation) and where they work (the industry and place) is essential for anticipating how the green transition will reshape local labour markets.

By combining these two measures, the Green Transition Framework profiles places according to their share of green employment (vertical axis) and their emissions intensity (horizontal axis) (Figure 1).

Geographies in the top-right quadrant have both high emissions and high green-job shares, marking them as priorities for transition support. The top-left quadrant shows lower emissions but a strong green job presence, suggesting potential to expand the green economy. Areas in the bottom-right quadrant face high emissions and few green jobs, implying the greatest risks. Those in the bottom-left quadrant face limited exposure but also limited opportunity.

1 This chapter draws on a research paper by Davidson et al. (2025) "The Impact of the Green Transition on Jobs in South Africa," available at https://www.afd.fr/sites/default/files/2025-09/pr_373_web_v1.pdf. It adapts the findings into a shorter policy-oriented format focused on the implications for cities and local labour markets.

Figure 1: Understanding the effects of the green transition on the local labour markets



Source: Davidson et al. (2024)

This framework provides a simple way to visualise which local economies are most vulnerable to decarbonisation and which are best positioned to benefit from the shift toward greener growth.

4.3 Data and limitations

The analysis combines two key labour market datasets: Statistics South Africa's Labour Market Dynamics Survey (LMDS) and the Spatial Tax Panel (STP). These are linked through their shared industrial and spatial information, drawing on the occupational detail of the LMDS and the fine-grained geographic coverage of the STP. The pooled 2018–2019 LMDS data provide a pre-COVID-19 baseline and are restricted to formal sector workers to ensure comparability with the administrative records in the STP.

The bottom-up dimension uses the O*NET Green Economy Programme, which identified the extent to which occupations might face green transitions including 'Green Increased Demand' (GID)2. Green transition occupation information is extracted from the LMDS data to estimate GID employment shares within each industry. Because the LMDS only disaggregates data to the metro and provincial level, the STP is used to extend this analysis to all local municipalities. This is achieved by matching industries across the two datasets and using the spatial distribution of formal employment from the STP to model the share of green transition jobs at the municipal scale.

The top-down dimension estimates emissions intensity using industry-level carbon data from EXIOBASE 3, expressed as emissions per worker. These national estimates are again linked to STP employment data at the municipal level to produce local measures of total and per-worker emissions, benchmarked against international data from Emissions Database for Global Atmospheric Research (EDGAR) CO2 emissions data (Crippa et al., 2024).

The end result is a national, spatially detailed picture of how workers are distributed across both green and carbon-intensive employment. That said, several important data limitations should be acknowledged.

First, the LMDS data are available only at broad spatial scales, and occupational distributions at the municipal level are inferred from the industrial structure in the STP. Linking the two databases, therefore assumes comparable industrial-occupational patterns across datasets, which may not always hold.

Second, the analysis excludes workers in the informal sector. While the informal economy accounts for a modest share of GDP (around 5 percent) and employment (around 20 percent), it nevertheless represents a meaningful component of South Africa's labour market that is not captured here.

Third, the emissions data are modelled at the national industry level, introducing some uncertainty when applying these patterns to municipal contexts. Differences in emissions intensity between firms operating in the same industry but in different places could therefore affect the precision of local estimates.

Finally, there are concerns around measurement error due to the reliance on detailed breakdowns by occupation, industry, and geography, which result in small sample sizes.

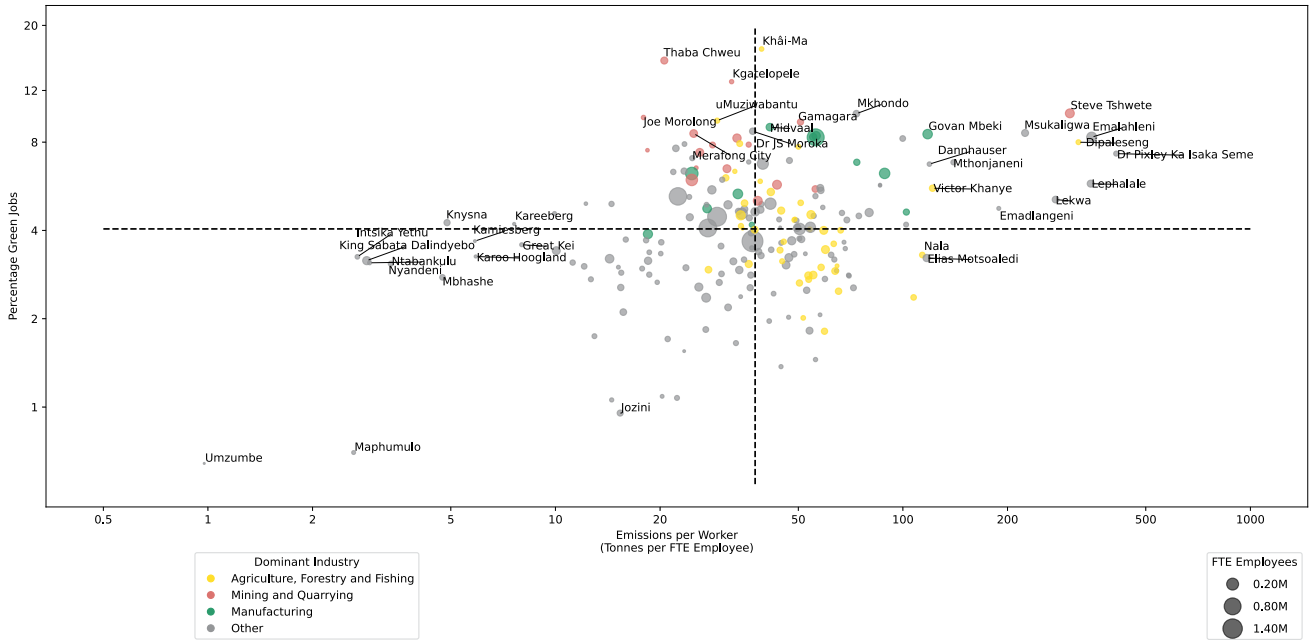
For these reasons, the findings should be interpreted as exploratory rather than definitive. For a more detailed discussion of the data and methodology applied in this chapter, see Davidson et al. (2025).

4.4 Municipal impacts of the green transition

Applying the Green Transition Framework to local municipalities reveals stark spatial disparities across labour markets. Figure 2 plots municipalities according to their emissions intensity per worker and the share of employment in green occupations. The axes are logged to account for the wide variation in values, while the size of each bubble represents the workforce and the colour indicates the dominant industry.

2 The O*NET framework classifies occupations into Green Increased Demand (GID), Green Enhanced Skills (GES) and Green New and Emerging (GNE) categories. GES occupations are defined as existing jobs whose tasks or required skills are significantly altered by the green transition (for example, architects adapting to green-building standards). GNE occupations are defined as new roles created by the transition (for example, wind-turbine technicians). This analysis in this chapter applies to Green Increased Demand (GID) occupations, which refers to existing occupations expected to see higher demand from the green transition without major changes in tasks or worker requirements (for example, bus drivers supporting expanded public transport). For a fuller application and discussion of each of the green occupation definitions refer to Davidson et al. (2025).

Figure 2: Green transition jobs and emissions per worker by municipality



Source: Own calculations

Notes: Dashed lines indicate median values for all municipalities

The ten municipalities with the highest emissions per worker are Dr Pixley Ka Isaka Seme, Emalahleni, Lephalale, Dipaleseng, Steve Tshwete, Lekwa, Msukaligwa, Emadlangeni, Mthonjaneni, and Victor Khanye. Seven of these are in Mpumalanga, where coal mining and coal-fired power generation are concentrated. Emissions intensity is linked directly to the presence of major power stations such as Majuba in Dr Pixley Ka Isaka Seme, Duvha, Kendal, Kriel and Matla in Emalahleni, and Komati, Arnot and Hendrina in Steve Tshwete. These municipalities also have a relatively small formal workforce outside of mining and energy, leaving them heavily dependent on a single, high-emission industry.

Encouragingly, several of these high-emission municipalities also record above-average shares of workers in green occupations – typically between 5 and 10 percent of total employment indicating some local potential to adapt. However, the demand for green transition occupations may not occur in the same place as where these workers currently live. This implies that we might experience an upturn in migration if a significant share of workers with green compatible skills relocate. The risk for local municipalities is that displacement of brown jobs could still have severe knock-on effects for surrounding businesses and services – even if some of these workers could be retrained and redeployed elsewhere.

Beyond the coal belt, mining municipalities display a wide range of emission intensities. For example, Thabazimbi, Thaba Chewu and Rustenburg show below-average emissions and greater potential for diversification into locally traded goods and services. Platinum-belt towns may even gain from the green transition through the growing demand for platinum in catalytic converters and green-hydrogen technologies. So the relationship between mining activities and emissions is mixed.

These differences within the mining sector highlight that transition risks are not confined to extractive industries alone. A number of rural municipalities also show elevated emissions per worker associated with agricultural production. While less extreme than coal-based economies, these areas often rank low in green employment shares, suggesting limited readiness for worker transition. The longer-term consequences of climate change could also disrupt crop yields and undermine agricultural productivity. That said, agricultural workers may be shielded from direct job losses, as food production remains essential even if it is carbon-emitting.

At the other end of the spectrum are municipalities with low emissions and low green-job shares, largely small settlements with limited formal activity. The ten lowest emitters include Umzumbe and Maphumulo (KwaZulu-Natal); Intsika Yethu, King Sabata Dalindyebo, Ntabankulu, Nyandeni and Mbhashe (Eastern Cape); Knysna (Western Cape); and Kamiesberg and Karoo Hoogland (Northern Cape). Most rely on government and service employment, though some host small hydro-electric projects or tourism. Their low emissions reflect narrow economic bases rather than strong green-economy capacity.

Together, these results show that the impacts of the green transition are deeply spatial. The economic structure of each municipality shapes how the transition will play out. High-emission municipalities face acute risks linked to coal production, but many also hold potential for adaptation through existing green-relevant skills if supported by targeted investment, reskilling, and diversification. Yet a key question remains whether worker redeployment is feasible within the same local labour markets. There is also no guarantee that the gains from rising demand for green jobs will match the losses from the decline of brown industries.

4.5 Metro impacts of the green transition

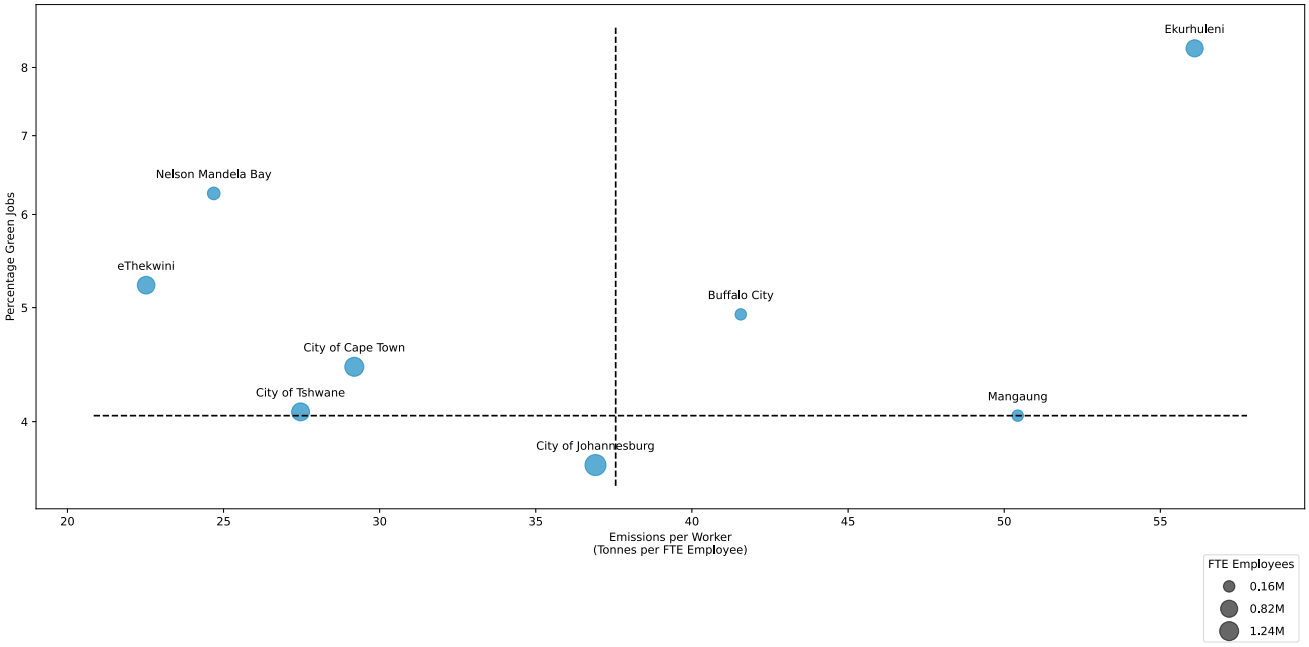
We next turn to the metros, where the dynamics of the green transition take on a different character given their size, diversity, and economic importance. The Green Transition Framework is applied to the metros in figure 3.

It is important to note that most metros record limited emissions intensity per worker. Johannesburg, Cape Town, Tswane, Nelson Mandela Bay and eThekwini each fall below the municipal average while Buffalo City, Managuang and Ekurhuleni slightly above the average. These patterns mirror international findings in which large cities tend to be more carbon-efficient. The density of firms, skills, and infrastructure may also make cities better positioned to accelerate emission reductions.

Yet the metropolitan municipalities are clearly not all alike. Ekurhuleni stands out with about one and a half times the emissions level observed in Johannesburg, while eThekwini's intensity is roughly half that of Johannesburg. This means Ekurhuleni emits about two and a half times more per worker than eThekwini. Interestingly, both Ekurhuleni and eThekwini play a similar role in the national economy – as manufacturing-logistics hubs – however the key difference is the dependence on heavy industry within Ekurhuleni. These potential differences in emissions intensity, particularly in Ekurhuleni, warrant further research and strategic action.

What is less clear from the figure is that the sheer size of the metro economies (in absolute terms) means that the total level of emissions is significant. For instance, we estimate that Johannesburg, Ekurhuleni and Cape Town together account for roughly one-third of total estimated CO_2 emissions in the country, driven largely by their size and concentration of economic activity. Similarly, the metros also employ the largest number of workers in green transition occupations: Johannesburg, Tshwane and Cape Town together account for almost half of such green workers. This makes them key levers for influencing national emissions and shaping the labour-market effects of the green transition.

Figure 3: Green transition jobs and emissions per worker by metro



Source: Own calculations

Notes: Dashed lines indicate median values for all municipalities.

4.6 Conclusion

The findings from this chapter highlight the deeply spatial nature of South Africa's green transition and its uneven implications for local labour markets. By linking information on industry emissions with employment in green occupations, the analysis provides a clearer picture of which places are most exposed to the risks of de-carbonisation alongside opportunities to benefit from new forms of green employment.

We find that high-emission municipalities are concentrated in Mpumalanga, where coal mining and coal-fired power generation dominate local economies. Interestingly, while these municipalities face the greatest transition risks, they also show relatively higher concentrations of occupations compatible with green activities. This suggests scope for investment in retraining and redeployment to help smooth the transition for workers in these areas. However, the demand for green-compatible jobs may not emerge in the same places where these workers currently live, implying a potential spatial mismatch between job losses and new opportunities which will be difficult to navigate.

Metropolitan municipalities tend to be less carbon-intensive per worker while employing a significant share of the country's green transition workforce. They are also strategic levers for change, contributing large total shares of emissions simply due to their size. Their economic diversity positions them as key actors in advancing decarbonisation, technological innovation, and workforce reskilling. Yet the pattern of exposure and opportunity is not uniform, reflecting differences in industrial structure and workforce composition, that warrant closer monitoring and research.

We reiterate that the green transition will not unfold evenly across South Africa's economic geography. Local economies face distinct challenges that require tailored, place-based responses. Achieving a just and inclusive transition will depend on managing these uneven spatial impacts effectively.

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Chapter 5:

Understanding the DNA of Cities: An Economic Complexity Perspective

Authors: Wouter Bam, Assistant Professor, School of Engineering, University of British Columbia

Abhishek Krishnan, School of Engineering, University of British Columbia

Justin Visagie, Associate Professor, Southern Centre for Inequality Studies, University of Witwatersrand

Highlights

- Economic complexity is a method for assessing a region's capabilities by analysing and ranking its outputs, such as employment patterns.
- A "complex city" can sustain a wide diversity of activities, while a "complex industry" can support more diversified and sophisticated economies.
- Evidence for South Africa suggests that industry complexity is associated with higher wages – a reward of industrial upgrading. And more complex activities are concentrated in large, diversified metropolitan areas.
- The complexity-relatedness trade-off provides a practical policy framework, balancing high-growth potential against risk when targeting new industries. This helps identify a set of "sweet spot" industries for each city, rather than relying on blanket industrial strategies that are less likely to be effective.
- Economic complexity can also be used to explore the implications of industry growth for inequality, sustainability, and other development outcomes.

5.1 Introduction

Cities have long served as the economic powerhouses of countries. They are often the primary sites where new technologies emerge and diffuse, not only nationally but also globally. Many of the world's largest cities – from San Francisco and London to Shenzhen and Bangalore – are not only prosperous; they are also sources of technological innovation that provide a sustained competitive edge, making them both dominant and resilient. As a result, fostering strong and competitive cities has become a central priority for policymakers around the world.

However, building a competitive city is not an overnight process; it involves many interdependent components where the sum is greater than its parts. Cities embody the systematic accumulation and integration of a broad set of capabilities, including skills, know-how, infrastructure, and technology, which are collectively shared and become embedded among firms, workers and institutions. However, many key capabilities are difficult to measure because they are not directly observable.

An alternative approach to studying the capabilities and potential of cities is to examine the outputs which reflect underlying capabilities. For example, industries that employ people within a city provide an indication of the underlying bundle of capabilities available. For example, if a city has very few people employed in providing internet services, we can expect it to be unlikely that the city will be able to support a large software development industry. Similarly, without a strong logistics industry, manufacturing may be more constrained.

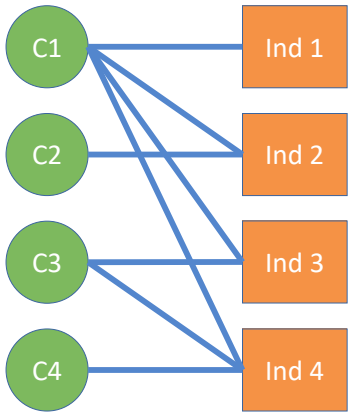
Building on this intuition, the "economic complexity" framework is the study of how industries emerge from path-dependent processes of capability accumulation. The framework provides a systematic approach to identifying high-potential economic sectors and segments by examining patterns of interindustry relatedness (based on co-location patterns – inferring shared capability requirements) and differences in industrial complexity (based on the industrial diversity required to enable the emergence of an industry/product – inferring sophistication of capabilities required).

The approach has gained increasing prominence in the study of regional development, including in policy domains such as Europe's Smart Specialization strategy (Balland et al., 2019; Hidalgo & Hausmann, 2009). Yet most empirical applications have focused on developed countries in the Global North. In this chapter, we introduce the key concepts of this framework and demonstrate how it can be applied to analyse cities and inform policy choices in South Africa.

5.2 Economic Complexity: inferring that which you cannot observe

Economic Complexity is an outcome-driven methodology: rather than attempting to directly measure the many underlying capabilities a city possesses, it infers their combined presence from observable outcomes such as the industries present and the outputs the city produces. The methodology leverages a network linking cities or regions to their observed outcomes, where patterns of given outcomes (Figure 1), can be used to infer regional capabilities and quality of given outcomes.

Figure 1. Network of Cities linked to Industries



Source: Adapted from Hidalgo and Hausmann (2009)

For cities, employment by industry or economic sector is the most common output evaluated to study complexity for several reasons. First, it provides a comprehensive overview that encompasses industries as diverse as agriculture, mining, the visual arts, finance, and manufacturing. Second, such data are available in many jurisdictions, as formal employment figures are routinely recorded in administrative records maintained for taxation and related purposes. Third, the industry of employment data can often be linked to other variables, ranging from individual characteristics such as gender, education level, age, and income to broader variables such as occupation and the skills generally required for each occupation. This linkage can be particularly useful when considering the broader impacts of different productive structure orientations. One drawback of employment data is that the format in which it is captured is not widely standardized, which can make cross-country comparisons challenging.

5.3 What does it mean to be good at something?

The level of employment considered sufficient to deem a city to have a substantial presence of a particular industry within its jurisdiction is relative, as it depends on the size of the city's workforce. For this reason, economic complexity relies on relative comparisons to interpret output data that provides a sense of a city's productive structure. For employment data, we need to compare cities with other metropolitan areas and municipalities across the country. In our benchmarking, we also need to account for each city's size. Hence, we compare the relative size of each industry in each city's total employment with its share of national employment. If a particular industry constitutes a larger share of a city's total employment than that industry's share of national employment, we may say that the city is specialized in that industry.[1]

1 Industry classifications are based on discretionary boundaries. For example, a worker engaged in the production of a car may be classified as employed in manufacturing, automotive production, vehicle manufacturing, passenger vehicle production, or internal-combustion-engine vehicle production, depending on the classification scheme and level of aggregation. As a result, depending on the economic classification system used, we may group together activities, products, occupations, or industries that differ along technological, functional, or market dimensions, affecting empirical interpretation.

5.4 Can industries be “related”?

Once we’ve identified all the industries in which municipalities specialize, we can infer broader patterns of industrial specialization. For example, we can identify groups of industries that often co-occur in municipalities’ sets of specialized industries. We can then assume that industries that often co-occur are likely to be related to each other with respect to the capabilities they require. We can further analyse each city to identify which activities are highly related to the industries in which it specializes. Higher relatedness is predictive of which industries cities are likely to become specialized in in the future, as they are likely to require similar capabilities to those already present in the city.

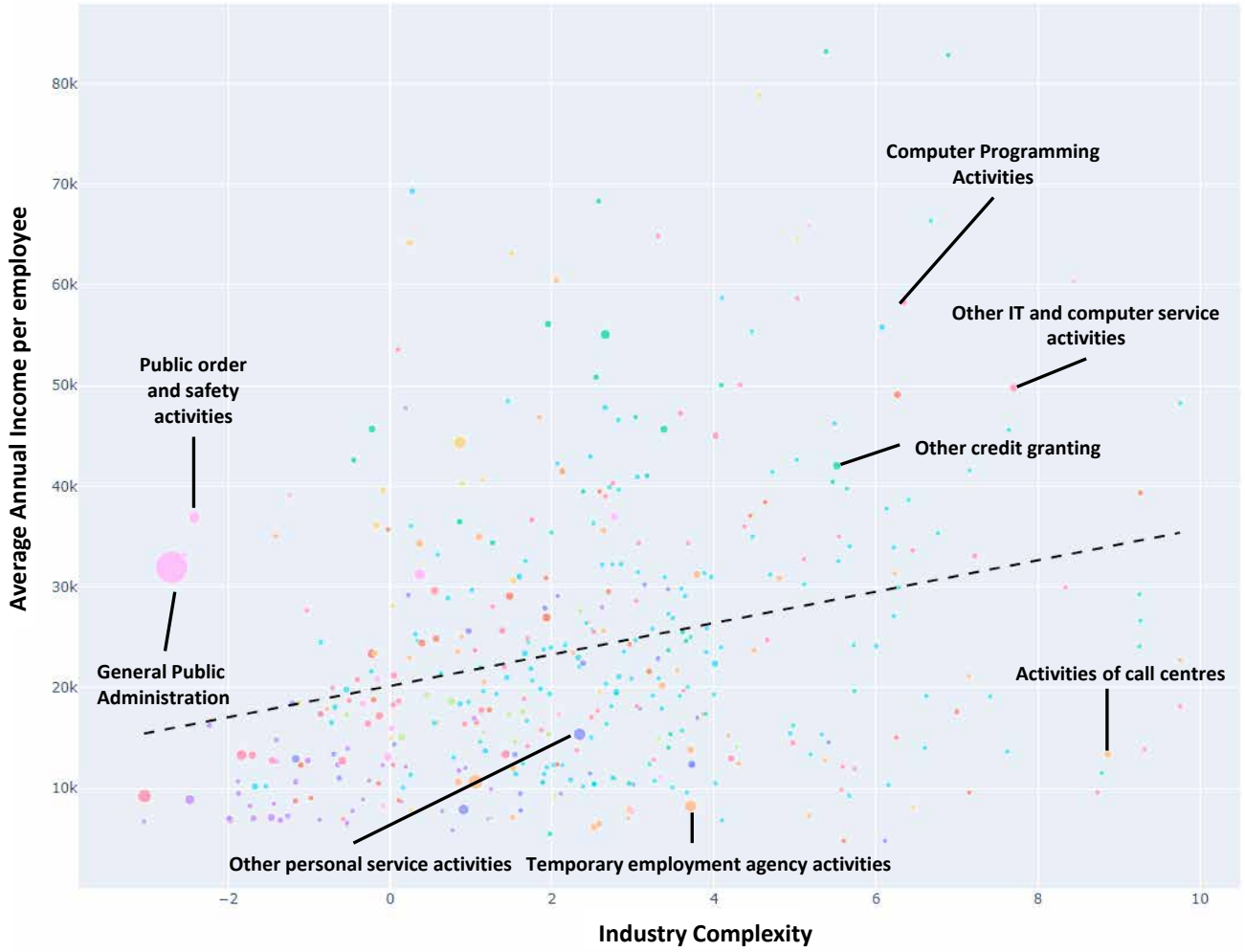
5.5 Complex or not?

A city’s capabilities can be assessed by analysing its employment-industry specialization. However, it is important to rely on an objective methodology to identify how “complex” different industries or activities are, as this reflects a city’s capacity to produce sophisticated, high-value outputs, which underpins long-term economic growth.

For this, we rely on a few stylized facts and assumptions. First, we assume that a more “complex” city (that has achieved a broader range of more complex capabilities) can sustain a greater diversity of activities. This relationship is well established in the literature. Second, we assume that more “complex” activities can only be supported by more diversified economies that possess complex capabilities. We can then calculate the complexity of industries based on the average complexity of the cities that are specialized in that activity. Similarly, we can calculate the complexity of a city as the average complexity of the industries in which it is specialized.

When we apply this to South African formal employment data, the resulting metrics provide fascinating insights. Consider Figure 2, which shows the estimated “complexity” of industries on the x-axis, the average income per employee on the y-axis; bubble size indicates the number of people employed in the industry, and bubble colour indicates the industry group. The dotted line is the trendline.

Figure 2. Number of employees per industry plotted against industry complexity and average income, 2024



Industries

- Other service activities
- Transportation and storage
- Water supply; sewerage, waste management and remediation activities
- Agriculture, forestry and fishing
- Administrative and support activities
- Manufacturing
- Wholesale and retail trade; repair of motor vehicles and motorcycles
- Activities of households as employers
- Education
- Mining and quarrying
- Accommodation and food service activities
- Human health and social work activities
- Financial and insurance activities
- Activities of extraterritorial organizations and bodies
- Professional, scientific and technical activities
- Arts, entertainment and recreation
- Information and communication
- Construction
- Public administration and defence; compulsory social security
- Electricity, gas, steam and air conditioning supply
- Real estate activities
- Trendline

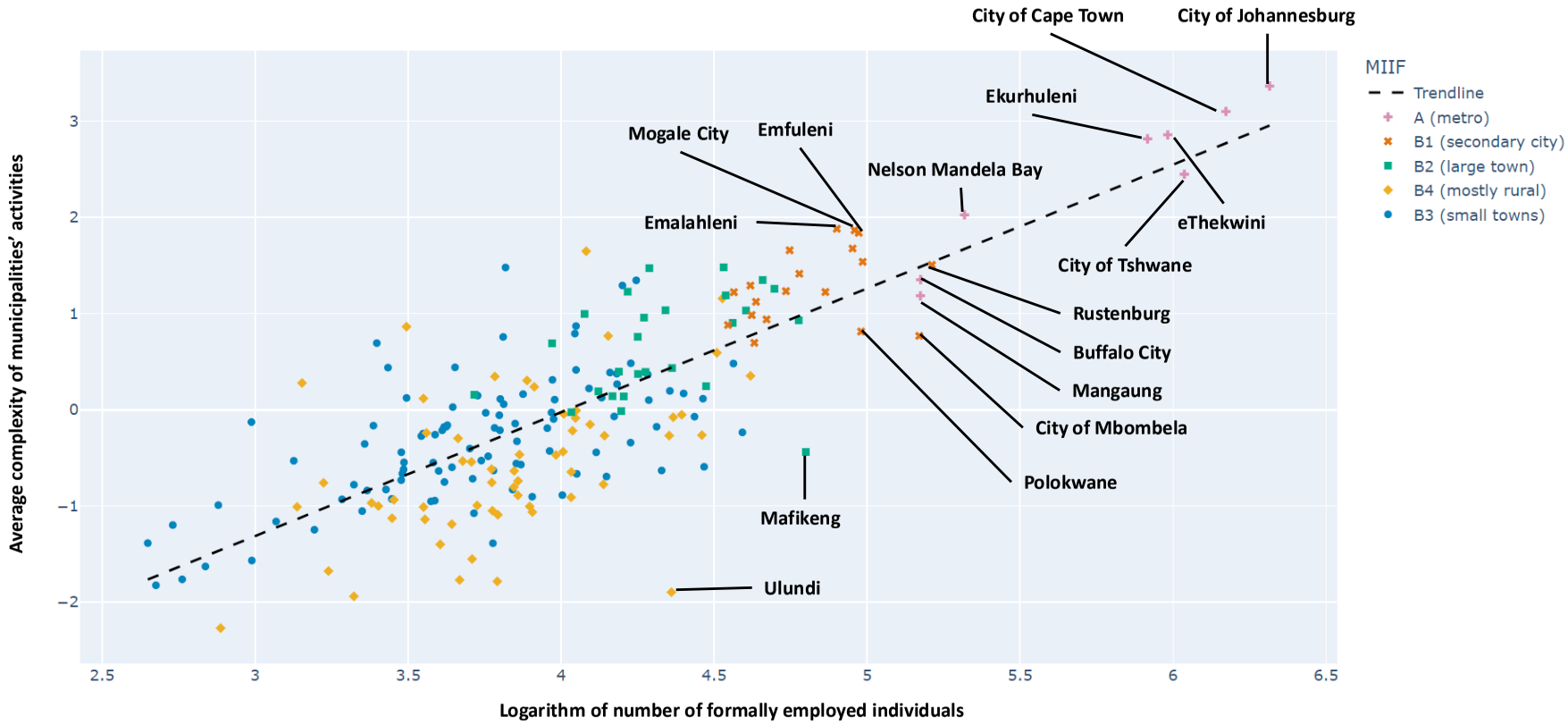
Source: Own calculations based on Spatial Tax Panel, v5.1

What we see is a clear upward trend whereby more “complex” industries (i.e., those that are only present in larger and more diversified cities), are generally higher paid than the less “complex” industries (i.e., those present in almost all municipalities). This aligns with empirical evidence from other countries and suggests how the accumulation of know-how, skills, and institutional capabilities in complex industries can translate into higher productivity and, ultimately, higher wages.

That said, contextual factors can disrupt the pattern and lead to some important outliers. For example, public administration and public order and safety activities – represented by the large pink dots – have low complexity but above-average income. These are public service roles that pay well and are well distributed geographically. Government is also a large employer, which accounts for a significant portion of the formal workforce. Another interesting outlier is call centres – represented by the light orange dot – which have high complexity but fairly low pay. This is understandable considering that call centres are generally found in larger, more diversified cities, but pay salaries well below the national formal employment average.

Figure 3 shows how the average complexity of municipalities (i.e., the diversity of specialization and specialization into rarer activities) is related to the size of the formal workforce. This implies that metros, with larger workforces, can sustain a greater diversity of activities. The metros in Gauteng, along with eThekwini and the City of Cape Town form a clear complex cluster. A number of secondary cities in Gauteng (e.g., Emfuleni, Mogale City) and even neighbouring cities in Mpumalanga (i.e., Emalahleni) can sustain higher-complexity activities than more isolated metros such as Mangaung and Buffalo City, indicating that agglomeration effects can extend beyond artificial municipal or even provincial boundaries.

Figure 3. Number of full-time equivalent formally employed individuals vs. the complexity of municipalities, 2024



Source: Own calculations based on Spatial Tax Panel, v5.1

5.6 Is complexity important?

Using an extensive panel dataset for the United States (U.S.), Mealy et al. (2018) have shown that economic complexity methods can explain the variance in per capita income across U.S. states. Interestingly, they find occupational data to be more instructive than just relying on industry data. Similarly, Hausmann et al. (2021) show that economic complexity based on industry employment can explain the wage gap between regions in Mexico. Cardoso et al. (2024) confirm that economic complexity based on industry employment patterns is useful for explaining regional economic growth, and even outperforms economic complexity based on regionalized international trade data.

It is intuitive that innovation, research and industrial activities tend to concentrate in cities. However, Balland et al. (2020) have shown that this trend is becoming increasingly pronounced. They show that the spatial concentration of activities tends to increase with increasing complexity. As technology progresses and becomes increasingly complex, so too does the importance of cities as foundational locations for vibrant and productive innovation ecosystems where complex knowledge can be leveraged and combined in new ways.

Surprisingly, the rise of improved communication technology has not been able to reverse this trend, but paradoxically seems to have increased the importance of cities. As Balland et al. (2020) point out, in the United States, the ten “most innovative” cities account for 23% of the population, but 48% of patents and 33% of GDP. Similarly, Kemeny & Storper (2024) find that “superstar” cities in the U.S. are increasing their income levels significantly, whilst the other regions are converging to a slowly growing mean income. They highlight the ability of the superstar regions to adapt to the changing requirements of the modern economy.

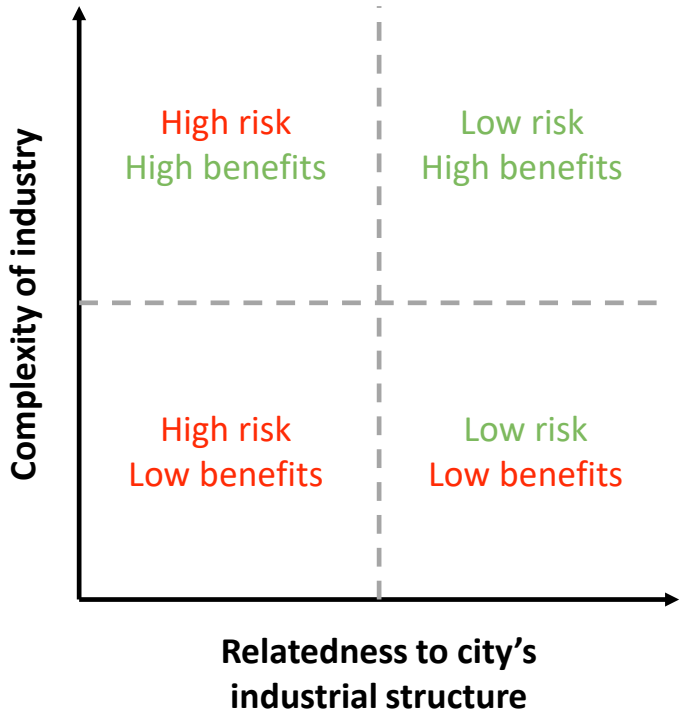
How this plays out in South Africa is less understood yet the preliminary evidence presented here (see figures 2 and 3) reinforces similar sentiments about the importance of cities for industrial upgrading and development. Understanding how these dynamics relate to South Africa is critical in addressing the country’s low national growth rate while remaining mindful of implications for spatial inequality. South Africa’s cities will need to play a critical role in fostering innovation and supporting complex activities if the country is to succeed in growing its economy in the modern global economy. At the same time, finding ways of “spreading the gains” to the “left behind places” in a meaningful way that increases national productivity will be equally important.

5.7 Development “sweet spots”

A further advantage of generating complexity scores for industries and regions is the potential to enhance industrial targeting. When selecting industries to target for development, cities must balance stretching their existing capabilities to develop new, more complex industries with realism about their existing capabilities. In other words, industrial upgrading could have better chances of success if matched with activities that are already related to their industrial base and therefore could be easier to nurture and develop. If cities invest in activities that are too unrelated, their investments are more likely to fail, often incurring substantial losses. On the other hand, if cities pursue only highly related activities, they may fail to upgrade, if these support only low-complexity industries and, consequently, lower productivity and growth. Finding this balance requires an in-depth understanding of a city’s existing capabilities, coupled with a grounded risk appetite, a realistic vision, and policy alignment.

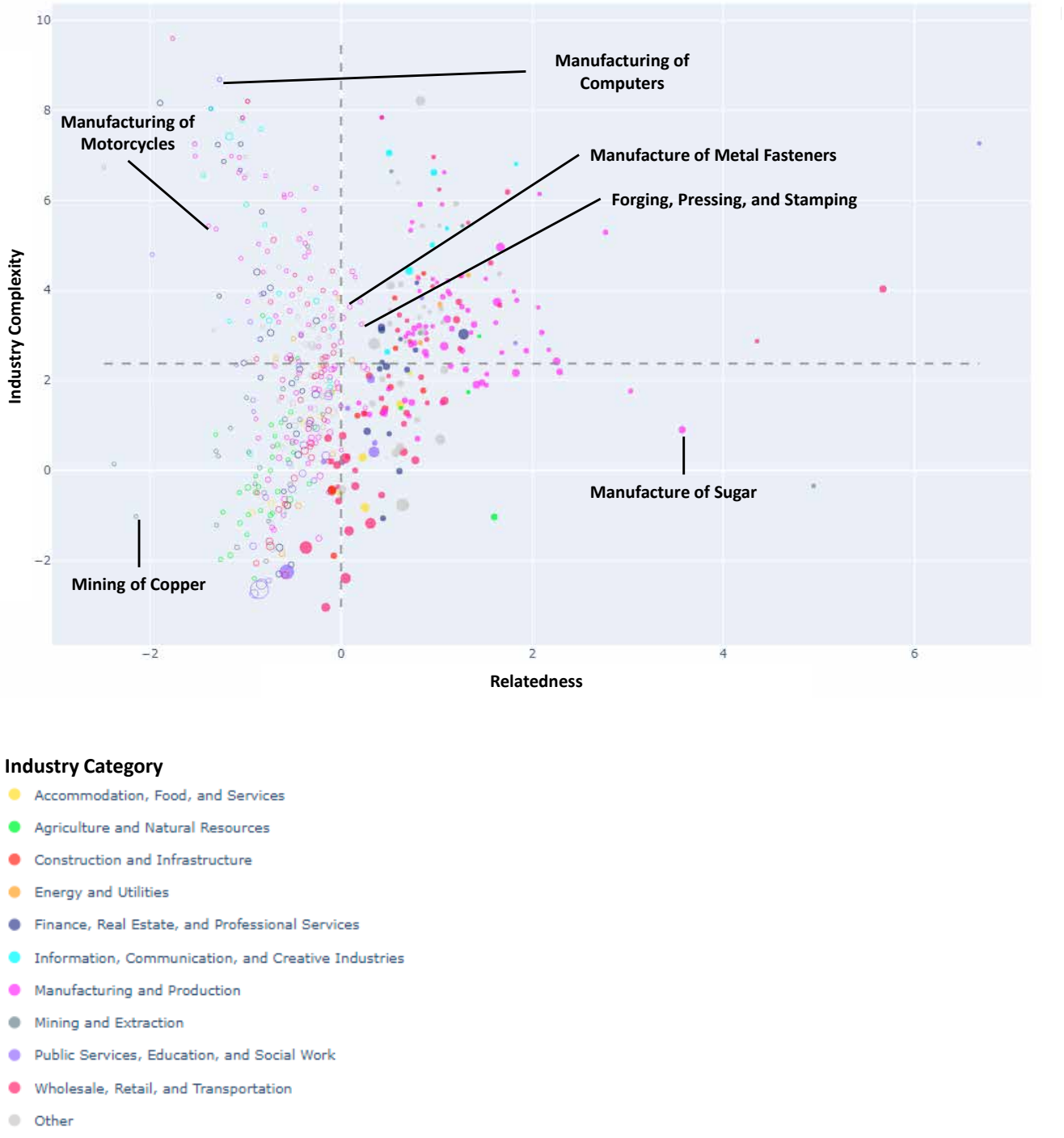
The tension is illustrated by the risk–benefit framework shown in Figure 4. Industries located in the top-right quadrant are considered the most attractive targets for policy, as they are both highly related to a city’s existing activities and highly complex (likely to support growth).

Figure 4. Risk Benefit Framework



Source: Adapted from Balland et al., 2019

Figure 5. Industry Complexity vs. Relatedness for eThekwini



Source: Own calculations based on Spatial Tax Panel, v5.1

We can operationalise this framework for any municipality in the country. Figure 5 presents the results in the case of eThekwini metropolitan municipality. Solid markers indicate industries in which eThekwini already has a competitive presence, while transparent markers indicate industries in which it does not. The dotted lines represent the average relatedness and average industry complexity for eThekwini's industry makeup. The figure shows that eThekwini is already competitive in many industries located in the top-right quadrant. However, a small number of industries, such as forging and manufacturing of metal fasteners, are low-risk, high-benefit opportunities and thus represent potential targets for policy intervention. In contrast, other manufacturing industries, including computers and motorcycles, exhibit higher levels of complexity but fall into the high-risk, high-benefit quadrant.

However, as these metrics are based on correlation, they should be used with caution. Identified targets can be considered merely a shortlist of activities for further evaluation. There may be valid reasons why a particular industry is not a specialization of a focal city, even if it is well developed in other, similar, and complex cities.

5.8 Conclusion

Economic complexity is enabling a deeper understanding of how cities and regions develop. It highlights the importance of cities as custodians of complex activities – which can sustain higher levels of productivity, value-addition and incomes – and therefore their role in technological upgrading and development of modern economies. Our preliminary results suggest that South African cities exhibit similar dynamics; yet, despite their economic significance, metropolitan areas remain largely absent in South Africa's industrial and economic policy design.

The tools of economic complexity also offer useful insights for industrial targeting by making explicit the trade-offs between risk and reward inherent in decisions about industrial targeting and diversification. The regular publication of granular economic data for municipalities in South Africa, through the Spatial Tax Panel, bodes well for evidence-informed policymaking more generally.

Building on these insights, an important next step is to deepen the application of economic complexity methods to South African data. This could include:

(i) an identification of development pathways identified through the risk-benefit industrial targeting framework and unpacking their impact on spatial inequality; and

(ii) to explore the occupation space and reflect on the skills underlying the various occupations and what it means for the various development pathways.

(iii) to explore the export product space by extending municipal tax data to include trade data which would also enable international benchmarking of South African cities.

Importantly, the insights generated by economic complexity are not intended to substitute for detailed local analysis. Although the approach infers capabilities from outcomes such as employment or exports, understanding how to act on these insights still requires attention to underlying skills, institutions, and infrastructure. Combining economic complexity tools with place-specific diagnostics can therefore better inform the prioritisation of local investments aimed at industrial upgrading.

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Chapter 6:

Deindustrialisation and Spatial Change in Gauteng: Insights from Spatial Tax Data (2014-2024)

Authors: Ebrahim-Khalil Hassen, Senior Researcher, Gauteng City-Region Observatory

Laven Naidoo, Senior Researcher, Gauteng City-Region Observatory

Jason F. Bell, Researcher, Gauteng City-Region Observatory

Henri Labuschagne, Deputy Director: Economic and Statistic Indicators, City of Tshwane

Anna Sango, Junior Researcher, Gauteng City-Region Observatory

Highlights

- Gauteng experienced deindustrialisation between 2014 and 2024, with formal manufacturing employment declining by 9.2% despite continued policy prioritisation of the sector.
- Manufacturing job losses were spatially uneven, with sharp declines concentrated in historic industrial cores such as parts of Ekurhuleni and Emfuleni.
- Former apartheid-era decentralised industrial areas, particularly Bronkhorstspruit, experienced heavy losses, continuing their long-term trajectory of industrial decline.
- In contrast, there were patches of modest manufacturing growth along corridors such as Centurion–Midrand–OR Tambo and parts of Tshwane linked to SEZs and automotive investment.
- Granular spatial tax data reveals that deindustrialisation in Gauteng is not uniform but is reshaping the province's industrial geography, with important implications for place-based industrial policy.

6.1 Introduction

Premature deindustrialisation refers to the decline in manufacturing's share of employment and/ or output occurring at an earlier stage of economic development than was the case in today's advanced economies and recent industrialising Asian economies (Rodrik, 2016). According to this definition, Gauteng is indeed experiencing such premature deindustrialisation.

For instance, the Quarterly Labour Force Survey (QLFS) shows that Gauteng has 282 000 fewer manufacturing jobs in quarter 3 of 2025 than it had in quarter 3 of 2008 (Statistics South Africa, 2025b). At the same time, manufacturing output has declined in real terms between 2013 and 2022 according to experimental estimates of provincial gross domestic product published by Statistics South Africa (Statistics South Africa, 2023).

Despite these declines, economic policy in Gauteng has continued to prioritise manufacturing. The justification is that manufacturing is 'special' because it is as an industry capable of creating good quality jobs and increasing investments. Yet a limitation to evaluating the outcomes of industrial policy in Gauteng – at least until recently – has been the lack of public data about the trends, basic features and spatial patterns of manufacturing jobs and outputs in the province.

This chapter uses the Spatial Tax Panel (STP) to explore spatial patterns of formal manufacturing employment growth and decline at sub-regional levels in the Gauteng province over the last decade (2014 to 2024). The chapter starts by discussing the policy and instruments aimed at re-industrialising Gauteng, using premature deindustrialisation as a conceptual framework. Next, the chapter discusses how the STP data has been spatialised to align with municipal boundaries and sub-municipal planning regions in metropolitan areas. The paper then discusses the core sectoral and spatial findings, including where and what types of manufacturing jobs have expanded or declined. Finally, the paper reflects on the importance of regional and sub-regional data and analysis to shape economic policies, especially as it relates to the manufacturing sector, in order to influence how the traditional cores and peripheries of Gauteng are being reshaped.

6.2 Background

6.2.1 International Debates

The manufacturing sector has been a primary driver of employment and investment growth for countries as they develop (Cantore et al., 2017). As part of this development process, the workforce gradually shifts away from low-productivity employment, previously within subsistence agriculture, towards higher-productivity blue-collar manufacturing jobs – in other words, from 'farm to factory'. This process can improve incomes and livelihoods because the number of good quality factory jobs expands – which then supports social mobility and a growing middle class – which in turns stimulates demand for manufacturing products. The process of industrialisation perpetuates a virtuous cycle of employment creation, income growth, and expanding demand for manufactured goods, thereby driving structural transformation (See Haraguchi, 2015 for discussion on types of structural change).

However, in many developing countries industrialisation has stalled in recent decades (Pike, 2022; Schindler et al., 2020). Among the challenges is that, either manufacturing does not absorb the majority of workers or that the jobs created cannot be described as good quality or decent jobs.

The reasons behind premature industrial decline is debated. Three broad points of emphasis arise in the literature. First, that there is a mismatch between skills needed today for manufacturing which requires higher skills, whilst developing countries have high numbers of lower skilled workers who are unemployed (United Nations Industrial Development Organisation, 2025). Second, there are arguments focused on the comparative

advantages on complexity of economies (Hidalgo & Hausmann, 2009). This approach explores how industrial capabilities and know-how influence the growth prospects of an area. Third, there are a broad range of articles focussed on place-based strategies. Liu and He (2024) for example argue that success in Chinese manufacturing is based in 'industrial synergistic agglomeration', which describes a context of upward and backward integration that creates efficient supply chains. In other contexts, the impact of international competition has focussed on the decline of manufacturing jobs, in areas described as 'left behind places' (MacKinnon et al., 2022) or 'rustbelts' (Armstrong, 2021).

In light of these challenges, Juhász, Lane and Rodrik (2024) argue that 'governments are likely to look beyond manufacturing as they consider productivity-enhancing industrial policies in the future' in a context of deindustrialisation. Yet South Africa's industrial policy has remained firmly anchored in explicit pursuit of manufacturing-led growth. Industrial policy continues to prioritise the manufacturing sector as a vehicle for good quality factory jobs including access to finance, subsidies and related instruments to secure private sector investment (Department of Trade and Industry, 2010).

Policy makers are, however, acutely aware that the manufacturing sector has been in decline. There is growing debate about the role of manufacturing in employment growth and acknowledgement that services might create the bulk of jobs (National Planning Commission, 2011).

There is much less attention on the role of provincial level policies and instruments to support manufacturing.

6.2.2 Apartheid and Manufacturing in Gauteng

Manufacturing played a critical role in the emergence of Gauteng as the dominant economic region in South Africa (Fine & Rustomjee, 1996). This occurred by building on demand and opportunities for beneficiation from the mining industry centred in Johannesburg. Investments by government parastatals, set up during apartheid, in steel and chemical industries located in the Vaal Triangle (with the three points being Vereeniging, Vanderbijlpark and Sasolburg) further strengthened the region and became key suppliers of inputs into other manufacturing industries. In the East Rand (now called Ekurhuleni) manufacturing was spurred on as mining towns sought to diversify, the proximity to firms in Johannesburg, and a lack of available land demarcated for industry. These factors all created a manufacturing sector spread across seven towns that was known as the 'workshop of South Africa' (Centre for Development & Enterprise, 1997).

However manufacturing in Gauteng's traditional core began to erode in the mid-to-late 1980s (Tregenna, 2015) for a variety of reasons but including a global economic downturn, a weak price of gold, the slowness of firms to respond to adopt new technologies and a change in policy towards industrial decentralisation. Apartheid industrial policy sought to create industrial nodes in peripheral areas, including in so-called homeland areas (Hart & Todes, 1997). As discussed later, these policies continue to have an imprint on the location of the industrial base within the Gauteng province.

6.2.3 Post 1994 Strategy

Since 1994, provincial economic data provides a picture of sustained deindustrialisation through the decline in the manufacturing sector's employment and activity (Statistics South Africa, 2025a). Bell et al (2018) describe this period as a hollowing out of manufacturing capabilities, due to a combination of external and internal factors. External factors include a potentially overvalued currency which can undermine export competitiveness, and increased foreign competition following a dramatic reduction in tariffs and reintegration into global markets after apartheid. Internal factors included the lack of skills, rising electricity costs and inefficiencies in the transport and logistic infrastructures.

Government at national, provincial and local levels have each engaged with the manufacturing sector in different ways. At the outset of democracy there were significant voices inside the labour movement, business and government arguing for a post-apartheid industrial strategy centred on manufacturing (Joffe et al., 1994). Yet, in practice, this period is characterised as a 'harsh climate' for manufacturers with severe reductions in tariffs and intense import substitution (Zalk, 2014). South Africa's approach to industrial policy changed in late 2000, with the adoption of the Industrial Policy Action Plan, providing resources to programmes and seeking to coordinate industrial support among public entities *(Department of Trade and Industry, 2010)*. Spatial aspects of industrial policy emerged more strongly with the adoption of legislation on Special Economic Zones in 2014.

A focus on the spatial implications of industrial policy emerged strongly within the Gauteng Provincial Government during this period. The central economic policy in the Gauteng Province, called Growing Gauteng Together 2030 (GGT2030) (2020) summarised its intent as "transformation, modernisation and industrialisation". Industrialisation was central to the development of five identified corridors. The intent of these interventions was two-fold.

First, regions would specialise in areas in a manner that would create synergies across the Gauteng city-region. Second, the economy would shift to higher-productivity industrial ones and through that creating multiplier effects across the economy and creating a stable middle class through a proliferation of good quality factory jobs. In other words, the manufacturing sector would drive a process of inclusive economic growth, primarily through creating jobs on the back of investments in factories by the private sector, and investments in infrastructure and provision of funding and incentives by the government.

Broadly speaking these follow the sectors identified in the GGT2030, which are listed below:

Box 1: Gauteng's Corridors

Corridor	Municipality	Key Sectors
Northern Corridor	City of Tshwane	Public services, Automotive Industry, Innovation, Aerospace and Defence
Central Corridor	City of Johannesburg	Finance and technology
Western Corridor	West Rand District	Mining and moving beyond mining to include mining, agri-business and agro-processing
Southern Corridor	Sedibeng District	Respond to deindustrialisation through creating a "new economy". Sectors identified are agro-processing, logistics, renewable energy, and a multi-sector Special Economic Zone (SEZ)
Eastern Corridor	City of Ekurhuleni	Aerotropolis centred around OR Tambo

Source: Summarised from GGT2030 (Gauteng Provincial Government, 2020)

In each of these corridors there were a range of interventions identified. This approach and key projects in each of these corridors continue to remain core to economic policy, as seen in the latest Gauteng Investment Booklet (Gauteng Provincial Government, 2025) and revised Economic Development Plan.

A related government policy, central to industrialisation within Gauteng, has been the establishment of Special Economic Zones (SEZs). These zones provide businesses with a range of tax and other concessions, as provided within the national SEZ policy. Two SEZ are operational in Gauteng:

1. The Tshwane Automotive Special Economic Zone (TASEZ) *(Home, 2018)* is marketed as "Africa's first automotive city, an industrial hub that provides investors with a wide range of offerings to help their business flourish".

2. The Gauteng IDZ (also called OR Tambo SEZ) uses proximity to the airport, rail and road networks " to create an enabling platform for manufacturing investment opportunities that support the positioning of OR Tambo International Airport SEZ and the Gauteng City region as globally competitive investment locations" *(The OR Tambo Sez, 2022).*

Both of these SEZ are fully subscribed in terms of tenancy. Two additional SEZ based in the Vaal and the West Rand are proposed, but are still going through the processes required for establishment.

Another important state-led intervention has been through the Industrial Parks Revitalisation Programme. The Cities Support Programme (housed in National Treasury) manages the programme and provides support to three industrial areas in Gauteng: 1. Babelegi (Tshwane), 2. Wadeville (Ekurhuleni) and 3. Develand (Johannesburg). These programmes have tackled a range of transport, logistics, crime and related challenges, and offer learnings for future developments. The challenges related to crime, logistics and transport and provision of infrastructure services however remain a significant challenge facing businesses.

Yet these interventions tend to be isolated projects, while broader implementation of GGT2030 and national industrial reforms by government has been patchy at best. For example, in a review of Gauteng's economic policies, Ebrahim and Everatt (2023) argue that there has been a lack of strategic vision and long-term planning for industrial growth. A decaying services infrastructure and logistics services has been a major contention from business. In Gauteng the delays in implementing logistics hubs for goods and service, and disruptions in water and electricity supplies have been significant. Manufacturing firms located in industrial nodes across Gauteng face a difficult set of operating conditions instead of an enabling environment.

The failures by the government have been compounded by external factors. This includes the emergence of China as a manufacturing behemoth which has saturated markets (Vogel, 2013) and the consolidation and slowdown of mining firms internationally which has weakened linkages with local suppliers. Declining demand in the gold industry might have been offset by growth in platinum mining, however this investment did not emerge (Harrison & Zack, 2012). Taken together the domestic and international context did not support industrial growth in South Africa.

6.3 Method and Limitations

Using the STP data, we are able to disaggregate manufacturing jobs in Gauteng at two levels. First, we compare the sectoral distribution of jobs at the municipal level.

Second, we look specifically at manufacturing jobs at a sub-regional level. In the metropolitan areas these are known as planning regions which are sub-city administrative boundaries. The table below (Table 1) summarises the planning regions and how these relate to municipalities.

The methodology involves transforming the STP data at its most granular form - the Uber hexagon level 7 data with an average 'pixel' area of 3km2. The Hex FTE data is filtered based on standard industrial classification (SIC) codes for tax years 2014 to 2024 and matched into sub-municipal and municipal boundaries[1].

1 All manufacturing establishments with an FTE value of <10 were set to the value of '0' and values summed up per each hexagon unique ID as individual establishments may have multiple records. The aggregated values per each hexagon unique ID were joined to the corresponding hex shapefile (with the same unique ID code per hexagon) in QGIS. Using the most recently available versions of Gauteng's municipal and planning region shapefile boundaries, the aggregated FTE values, per each tax year, were further aggregated to those scales using the spatial join function in QGIS.

Table 1: List of planning regions and major areas

Metro/Local Government	Region	Identifier	Major Areas
City of Johannesburg	Region A	JHB_A	Diepsloot, Midrand, and Ivory Park
	Region B	JHB_B	Northcliff, parts of Sandton, Randburg, and Rosebank
	Region C	JHB_C	Roodepoort and parts of Randburg
	Region D	JHB_D	Soweto
	Region E	JHB_E	Sandton, Alex, Norwood, Killarney
	Region F	JHB_F	JHB CBD
	Region G	JHB_G	Lenasia, Orange Farm
City of Tshwane	Region 1	TSH_1	Akasia, Rosslyn, Pretoria North, Ga-Rankuwa, Mabopane, Winterveld, and Soshanguve
	Region 2	TSH_2	Wonderboom, Sinoville, Montana, Temba, and Hammanskraal,
	Region 3	TSH_3	Pretoria CBD, Brooklyn, Hatfield, and Pretoria West
	Region 4	TSH_4	Centurion, Irene
	Region 5	TSH_5	Rayton, Roodeplaat, and Cullinan
	Region 6	TSH_6	Pretoria East, Eersterust, Mamelodi, and Shere
	Region 7	TSH_7	Bronkhorstspruit
City of Ekurhuleni	Region A	EKU_A	Germiston, Boksburg, Kempton Park and the suburb of Bedfordview
	Region B	EKU_B	Tembisa, Bedfordview
	Region C	EKU_C	Etwatwa/Daveyton
	Region D	EKU_D	Springs, Benoni, Brakpan
	Region E	EKU_E	Tsakane, Duduza and Kwa-Thema, as well as the town of Nigel
	Region F	EKU_F	Katlehong, Vosloorus, Alberton
Sedibeng District	Emfuleni	GT421	Vereeniging, Vanderbijlpark, Evaton, Sebokeng, Sharpeville, Boipatong, Bophelong and Tshepiso.
	Midvaal	GT422	Meyerton, Randvaal. Walkerville, De Deur
	Lesedi	GT423	Heidelberg, Devon, Impumelelo, Ratanda
West Rand District	Mogale City	GT481	Krugersdorp, Azaadville, Kagiso, Magaliesburg
	Merafong City	GT484	Carletonville, Fochville, Wedela, Khutsong, Kokosi
	Rand West City	GT485	Randfontein, Westonaria, Mohlakeng, Bekkersdal

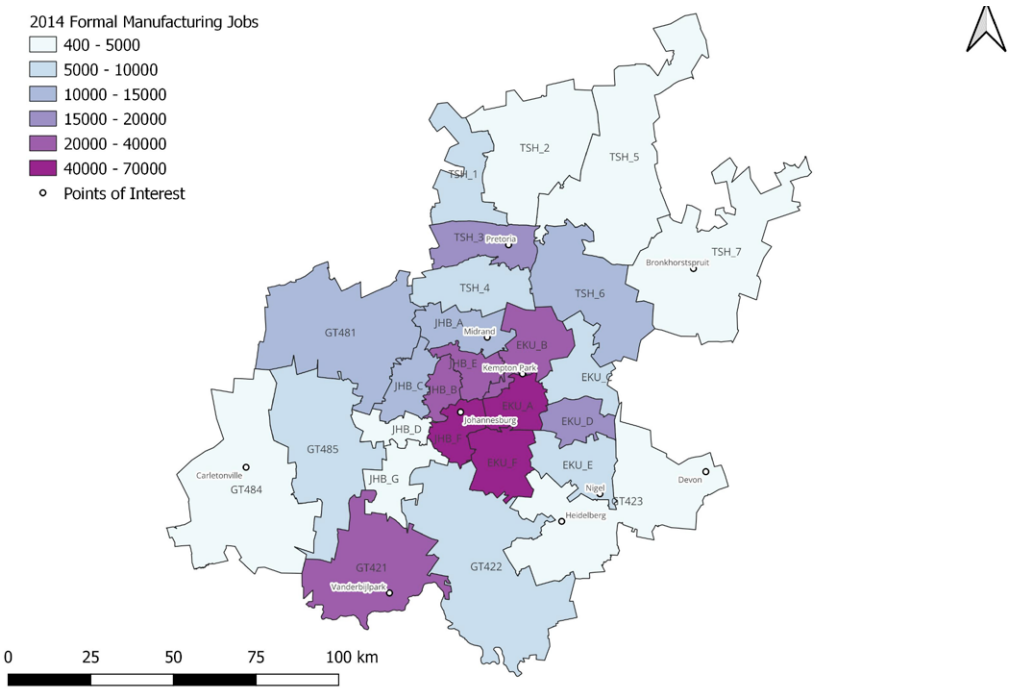
As the data is derived from tax records, some limitations in interpreting the data are important to note:

- The data does not include informal businesses. This lowers the total level of employment but "probably has less impact on its spatial distribution because informal jobs tend to be locally traded and align with the size of the population and demand from the formal economy" as Turok and Visagie (2025) argue.
- The head office effect is particularly important in Gauteng which is the economic hub of South Africa. However the STP (version 5.1) does apply adjustments through a comparison of work and home addresses of employees (Nell & Visagie, 2025).
- Several hex areas are recorded simply as less than 10 (<10), due to the need to prevent disclosure in case of low numbers. In this paper, we allocate a zero value to these hexes, as per advice by authors of the STP data.
- An important consideration is cases where firms are reclassified or misclassified from manufacturing into other sectors. This means that manufacturing jobs may not have actually been actually lost, but rather transferred into other categories. For example, this could occur where cleaners or security guards working in factories are outsourced to labour brokers. While their work-location has not shifted, these workers are no longer captured as employed in manufacturing but rather in business services.
- Analysis of deindustrialisation should ideally include jobs and output. However there is no publicly available data about gross value added at the local government levels in South Africa.

6.4 Changes in formal manufacturing jobs

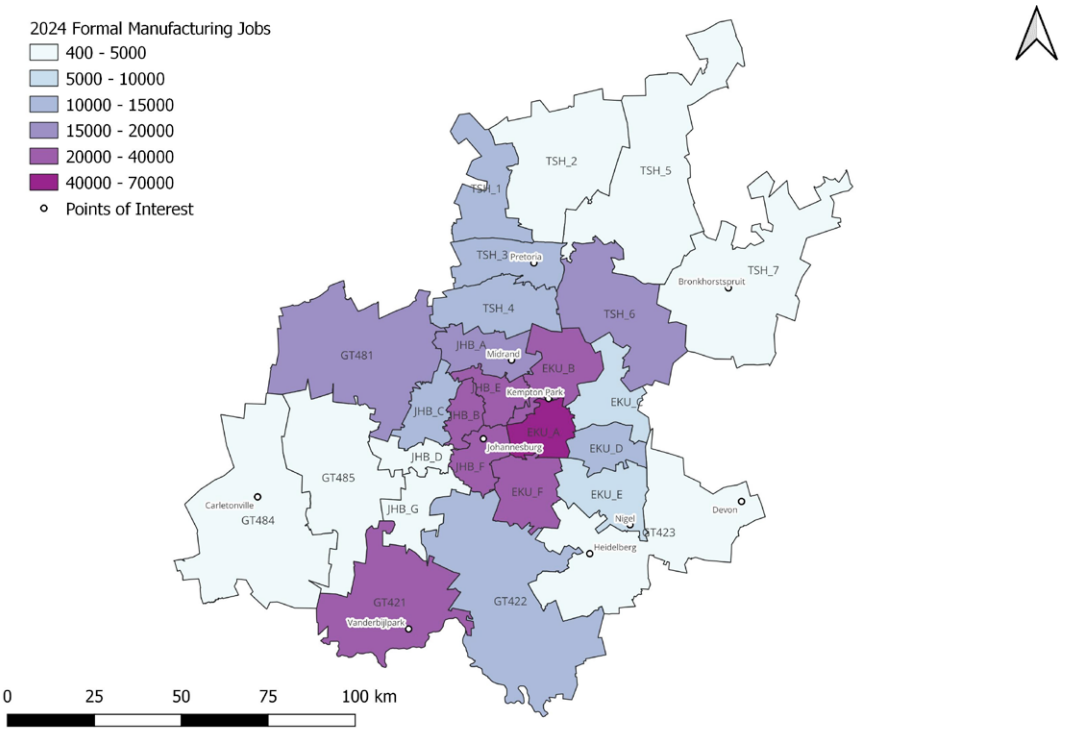
This section describes changes in employment and maps these changes. Overall in the Gauteng province, manufacturing jobs declined from 415 006 jobs in 2014 to 376 690 in 2024 – a decline of 9.2%. However industrial activity is not equally shared across regions while not all regions experienced industrial decline (see figures 1 and 2). In fact we find that in 12 regions there has been an increase (albeit moderate) in jobs, while in 14 regions there has been a decline in manufacturing jobs.

Figure 1: Number of formal manufacturing jobs in 2014



Source: Spatial Tax Panel, Version 5.1

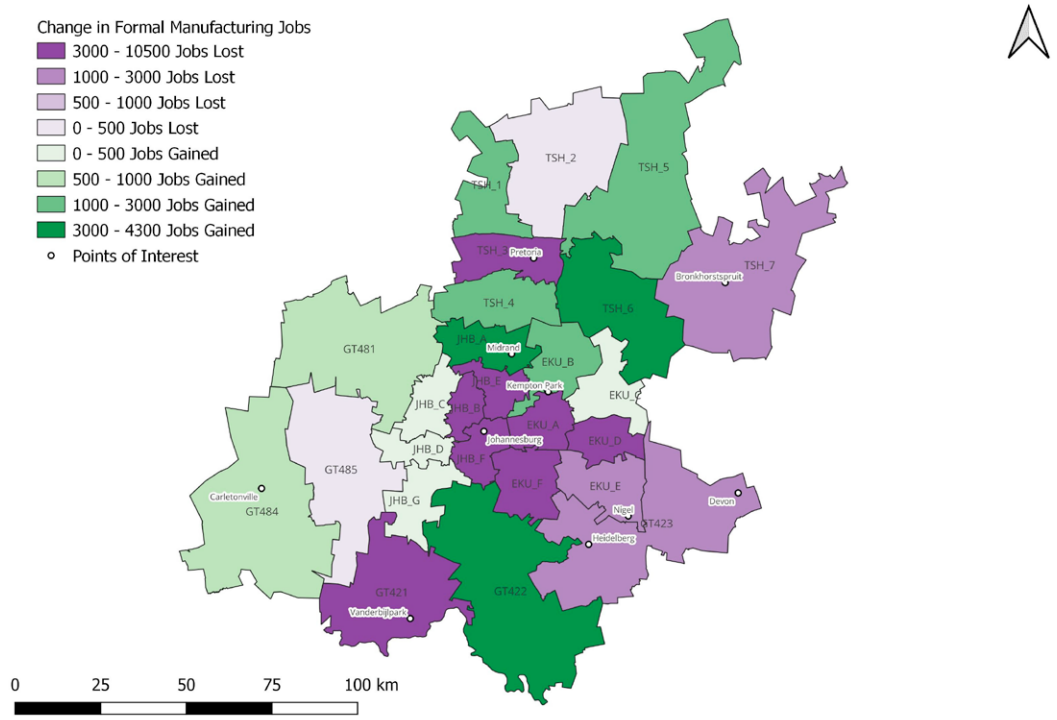
Figure 2: Number of formal manufacturing jobs in 2024



Source: Spatial Tax Panel, Version 5.1

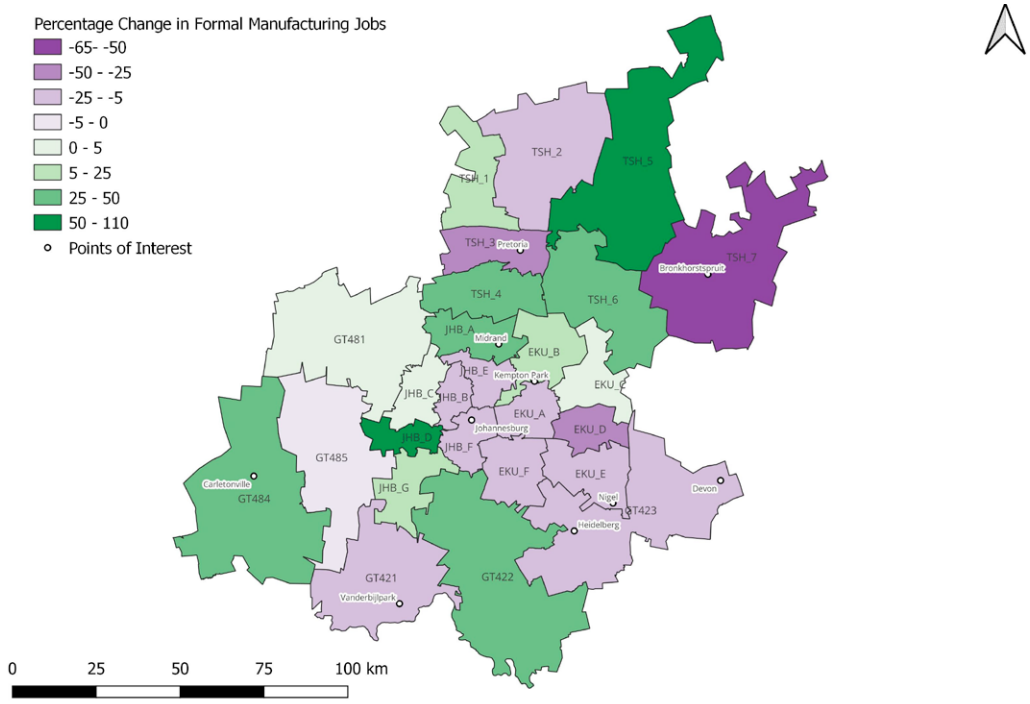
The next two maps explicitly show the change in jobs over the period, expressed in absolute terms (figure 3) and as a percentage change (figure 4). The absolute difference shows the scale of manufacturing change, whilst the maps on percentage change show it's relative change.

Figure 3: Change in the number of formal manufacturing jobs between 2014 and 2024



Source: Spatial Tax Panel, Version 5.1

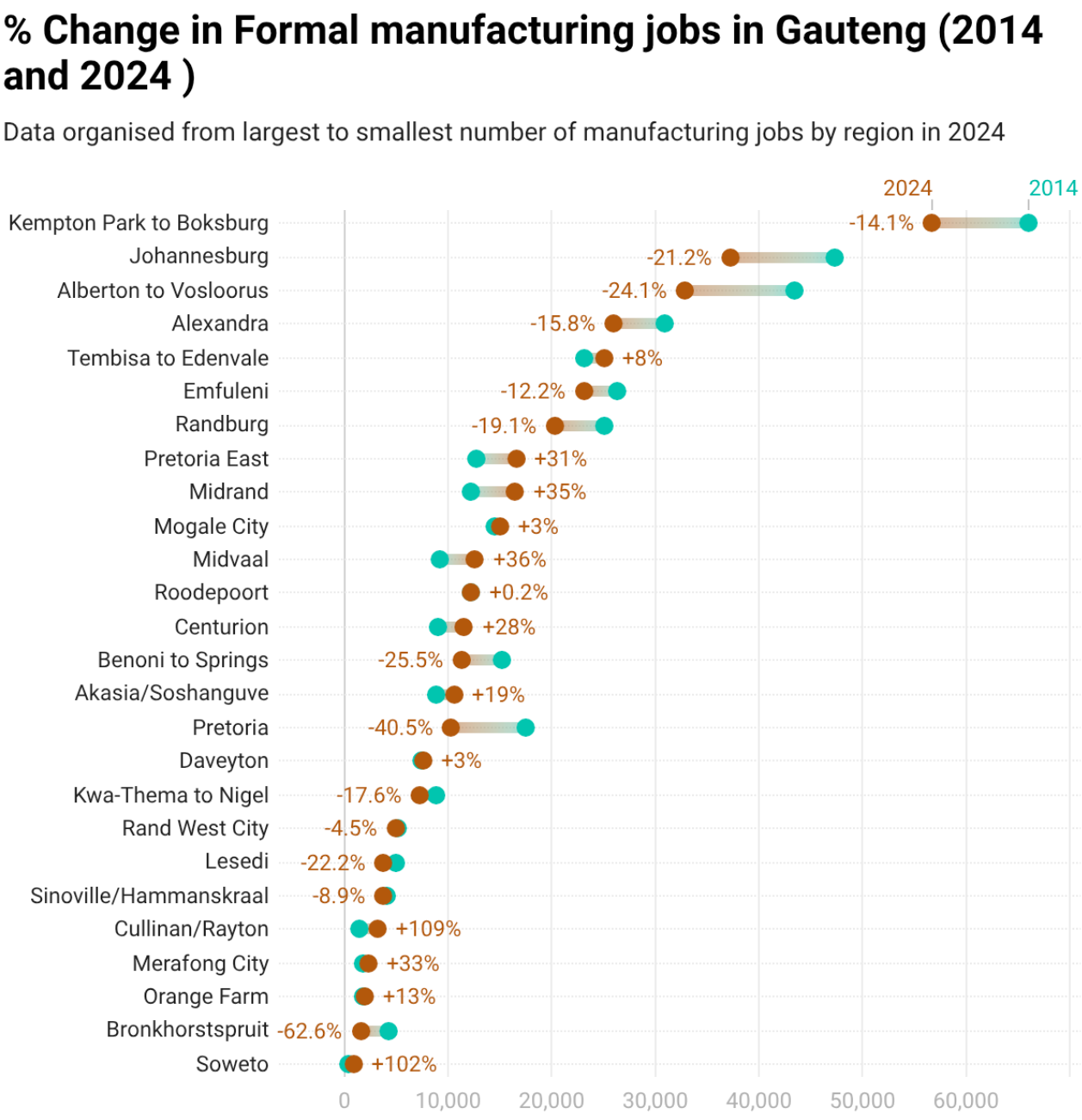
Figure 4: Percentage change in the number of formal manufacturing jobs between 2014 and 2024



Source: Spatial Tax Panel, Version 5.1

Figure 5 summarises the change in manufacturing jobs at the planning region level ordered by the size of the manufacturing workforce. It provides an accessible way to see both the size of the manufacturing sector and its total growth (or decline) over the period.

Figure 5: Change in the number of formal manufacturing jobs per Gauteng planning region between 2014 and 2024



Source: Spatial Tax Panel, Version 5.1

Figure 6: Formal jobs by sector composition per Gauteng municipality in 2024

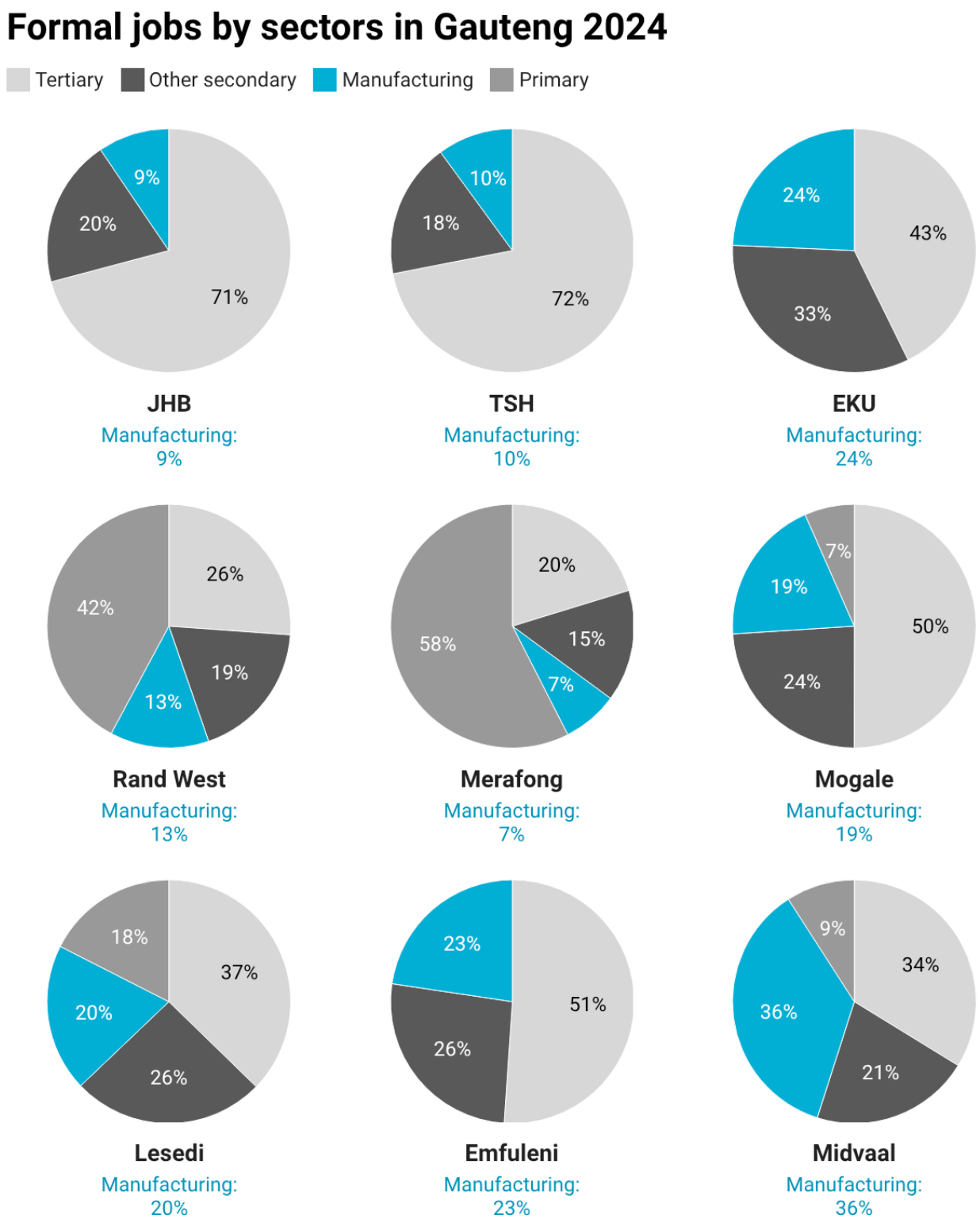


Chart: Gauteng City-Region Observatory • Source: SEADSA • Created with Datawrapper

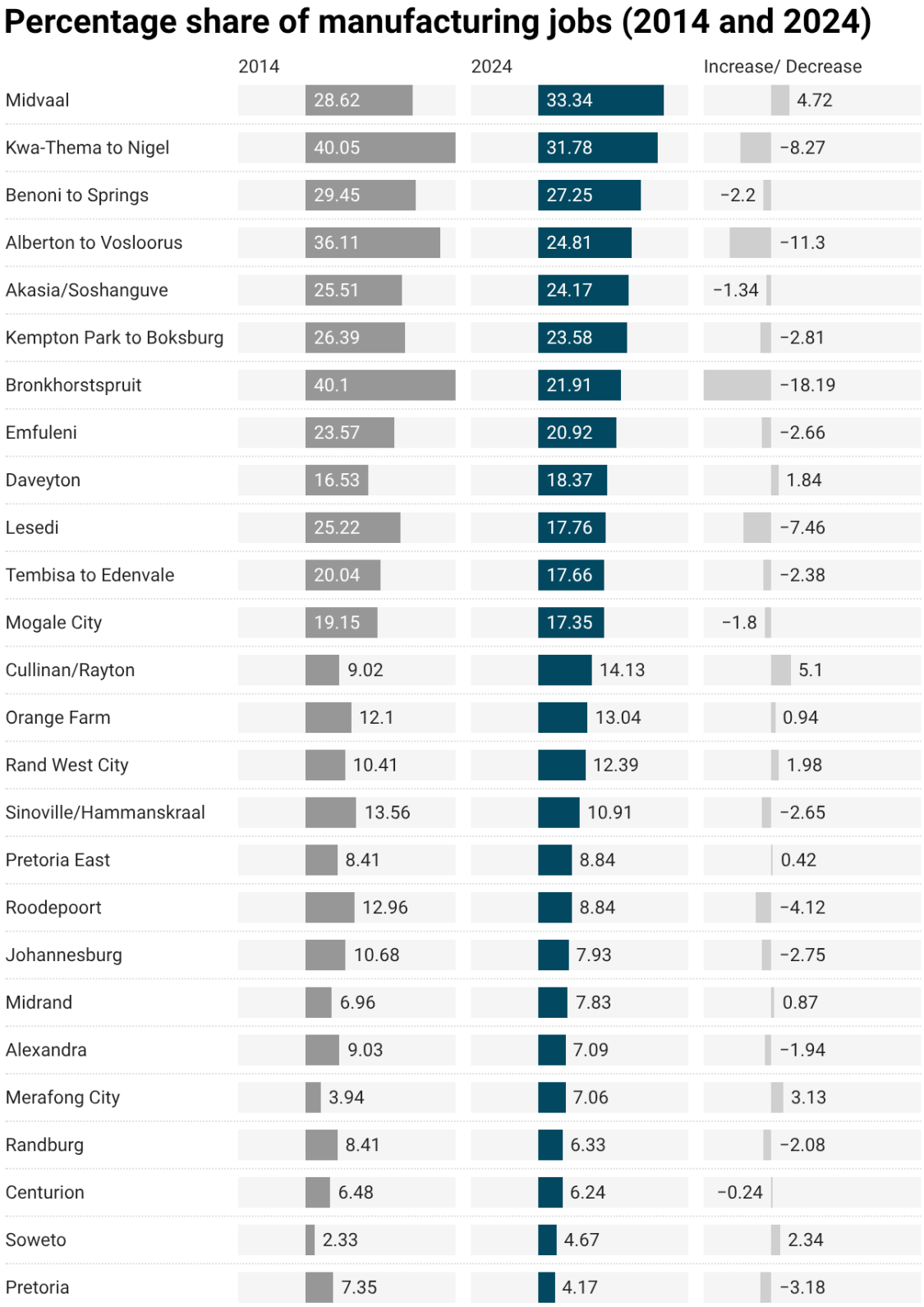
Source: Spatial Tax Panel, Version 5.1

The relative importance of manufacturing, expressed as a share of the workforce, is summarised in Figure 6. The figure shows that there is a fair degree of differentiation between regions in their dependence upon manufacturing jobs. The figure also reports on the share of the workforce within primary (agriculture and mining), other secondary (utilities and construction) and tertiary (or service) sectors:

- Tertiary sector jobs have increased: Since 2014, there has been an increase in the service economy – especially in Johannesburg and Tshwane. In each of these municipal economies, services now account for just over 70% of all jobs, compared to a range of 60-65% in 2014.
- Services jobs are the minority even in manufacturing heartlands: In historic manufacturing hubs such as Ekurhuleni, services jobs account for a higher percentage of employment than manufacturing jobs. The same trend (more services jobs than manufacturing jobs) is observable in Emfuleni, which is home to a major steel production industry.
- Mining is geographically concentrated: In Merafong (55%) and Rand West(39%) mining contributes the largest share of jobs whereas primary industries are small or absent in many other places.
- Smaller economies are susceptible to fluctuations: The low base in smaller economies means that these municipalities are vulnerable to the performance, including closures or openings, of a handful of large firms.

The Gauteng economy thus has a diverse sectoral composition in each of its municipal areas. The final graph (Figure 7) homes in on the percentage shares of manufacturing jobs in 2014 and 2024 at a planning region and local municipality level.

Figure 7: Percentage share of change in formal manufacturing jobs, per Gauteng planning region, between 2014 and 2024



Source: Spatial Tax Panel, Version 5.1

6.5 Sub-regional patterns of manufacturing employment

This section examines and discusses spatial patterns of industrial change in Gauteng taking advantage of the ability to disaggregate employment changes in the STP down to a sub-regional level. It focuses on 'where' and 'to what extent' manufacturing decline (or growth) has taken place over the last decade (2014 – 2024) organised into different categories.

6.5.1 Inner City Declines

The inner cities of both Johannesburg and Pretoria (see JHB F and TSH 3) are predominantly commercial rather than manufacturing hubs, yet manufacturing continues to have a presence. That said, the inner city's of Johannesburg and Tshwane have experienced significant formal manufacturing job losses. The decline in jobs in Johannesburg Region F (which incorporates the manufacturing belt immediately east and south of the Johannesburg CBD) lost more than 10 000 jobs between 2014 and 2024, while Pretoria Region 3 lost over 7 000 jobs in the same period.

Understanding the motivations of firms here is important. In the areas adjacent to the Johannesburg and Pretoria CBDs, many manufacturing businesses have moved due to the ageing infrastructure, the collapse in rail transportation reliability and efficiency, and the growth of road-based container transport services. This leads some businesses to favour newer industrial areas closer to arterial roads.

Yet declines in manufacturing jobs are inevitably not only due to relocations; many businesses have closed, such as in heavy industry, which have been susceptible to rising electricity costs and inconsistency in supply. The inability to provide reliable energy can result in a loss of raw materials, equipment damage and inefficient production, thus making the operations unprofitable and ultimately forces businesses to relocate or close.

6.5.2 Decline and Stagnation in Former Bantustan areas

Gauteng includes previous Bantustan areas such as Bronkhorstspruit (TSH 7) and Sinoville/Hammanskraal (TSH 2). During the last decade of apartheid, manufacturing in these areas was heavily subsidized but many firms relocated or shutdown once these incentives were withdrawn. Today, the experience of these two former Bantustan areas continue to reflect struggle:

- Bronkhorstspruit (TSH 7): Manufacturing completely collapsed in Bronkhorstspruit between 2014 and 2024 showing a loss of more than 2 672 jobs or a 62.6% decline. These losses in Bronkhorstspruit have a historical context. The Ekangala area was historically part of the KwaNdebele homeland, where manufacturing was supported by subsidies provided by the apartheid government as part of its decentralisation strategy. Ekandustria went into decline as soon as subsidies were withdrawn. Efforts to re-establish new industries in the area have not reversed this broad trend.
- Sinoville/Hammanskraal (TSH 2): The manufacturing base in the region declined, but at a fairly slow rate, losing only 373 manufacturing jobs or 8.9% of the sector. This might be due to extensive government support for the Babeleghi Industrial Park – which has seen manufacturing businesses continue to survive, although not enough to grow and thrive.

6.5.3 Uncertainty in the Rust Belt

Vereeniging and Vanderbijlpark (Emfuleni) are the region's most established industrial nodes and home to some of the country's largest steel plants operated by ArcelorMittal South Africa. The decline in manufacturing jobs in the Vereeniging and Vanderbijlpark areas is associated with slow adoption of technology and limited growth in markets (Hlatshwayo, 2014).

Yet the decline in manufacturing jobs was particularly steep in certain parts of Ekurhuleni. For instance, manufacturing declined sharply towards the edges of Ekurhuleni in towns such as Devon, Nigel and Heidelberg (EKU E). There have been efforts to diversify manufacturing in these regions, such as the railway manufacturing facility in Nigel (EKU E) (James, 2018), yet the region remains in decline (see in and around Springs (EKU D)).

This pattern of decline over the period 2014 to 2024 is not new, as there have been concerns over the manufacturing base in Ekurhuleni for more than three decades (See Centre for Development & Enterprise, 1997 for one of the first analyses of policy options in the East Rand (now called Ekurhuleni).

6.5.4 Emerging secondary manufacturing nodes

The maps presented here suggest that jobs traditionally located in the old manufacturing belts and around the inner cities may be shifting spatially to secondary nodes. The maps suggest that an agglomeration of manufacturing jobs along the Centurion and Midrand corridor has developed (see Centurion (TSH 4) / Midrand (JHB A) / OR Tambo (EKU B) agglomeration), with moderate increases in these areas.

An important government intervention here is the OR Tambo Special Economic Zone (SEZ) (also called Gauteng IDZ). There has also been a concentration of investments in the automotive sector by multinational corporations in the Rosslyn (TSH 1) and Silverton (TSH 3) areas in Tshwane. The government has established the Tshwane Automotive Special Economic Zone (TASEZ) to strengthen investment in these areas.

There has also been some growth in manufacturing jobs on the peripheries out towards Mogale City and Midvaal (along the R59 corridor) – which show moderate increases in manufacturing. The increases are important to note (even if from a small base) as they may represent areas of potential growth in to the future.

While growth is only modest in these emerging secondary nodes, these places stand out against the backdrop of industrial decay in most other parts of the province.

6.6 Conclusion

The STP is an important tool for supporting economic policy making in government and seeking new investments by the private sector.

Mapping the changes in the number of manufacturing jobs over time, in conjunction with additional economic sector analysis, can help identify areas facing premature deindustrialization. In turn, it allows for the identification of areas of potential growth.

Importantly, such granular spatial data provides a way to go beyond the headline of industrial decay in Gauteng, to explore questions of why and where has this happened. In turn, analysis based on this data can contribute to strategies that support efforts to arrest job losses through appropriate interventions, and foster re-investment and employment creation.

Future research in this area should consider whether newer growth nodes, such as out on the peripheries, does hold potential for scaling in light of infrastructure demands and distance from larger metropolitan areas. Researchers should also be encouraged to go beyond economic orthodoxies to find alternatives which can achieve equitable and inclusive growth. This has important implications for policymakers, who must make evidence-based economic choices about which spaces and industries to prioritise and support.

6.6.1 Acknowledgements

The data has been provided through the Spatial Economic Activity Data -South Africa web portal. Valuable comments and suggestions were received from presentations at the Cities as Potential Drivers of Economic Growth and Prosperity Conferences hosted by Economic Research Southern Africa in 2024 and at GCRO Brownbag Seminar in 2025. Graeme Götz, Mamokete Modiba, Richard Ballard and Darlington Mushongera comments and participation on this report and on previous presentations are appreciated.

6.6.2 Declaration of interest statement

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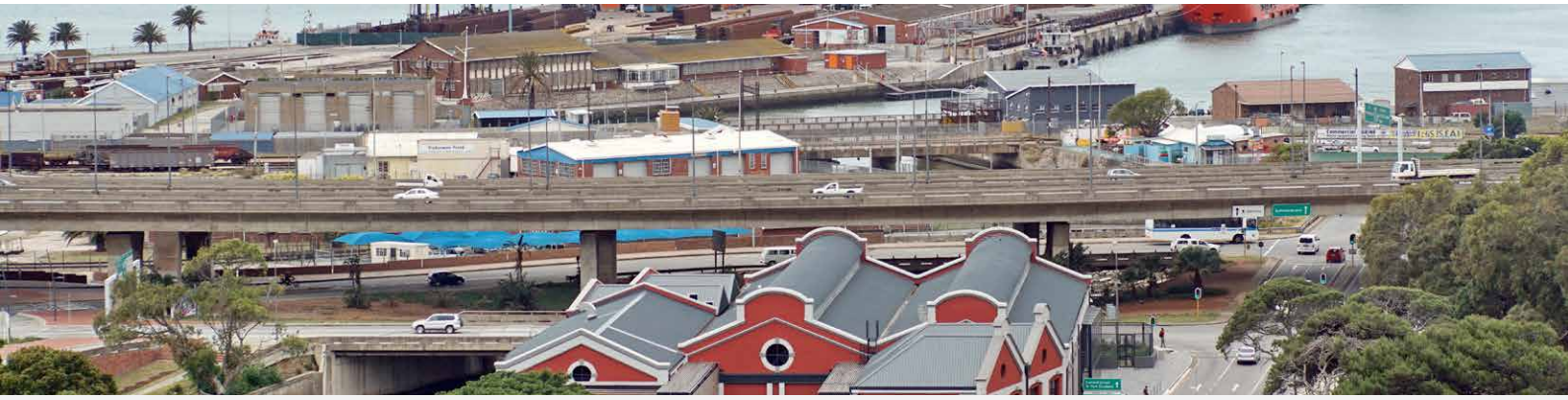
Chapter 7:

Still Far from Work: Spatial Mismatch in Gauteng Cities

Author: Talent N. Ndlovu, PhD Candidate, Department of Economics and Finance, University of the Free State



Highlights

- South Africa's cities exhibit extreme spatial divides, with low-income households concentrated in peripheral townships and informal settlements far from major employment centres.
- Job accessibility varies sharply across Gauteng cities, with the highest access in Johannesburg's inner-city and affluent northern suburbs and steep declines in peripheral townships and informal settlements.
- Residents of major townships such as Soweto and Mamelodi can access only a fraction of the jobs reachable from core neighbourhoods. For example, accessibility in Sandton exceeds 120 000 jobs, compared to around 3 500 in Soweto.
- Townships are not equally disadvantaged. Townships near the northern corridor, such as Alexandra and Tembisa, have better access than the rest. The CBDs also offer important entry-points for low-income households.
- Informal settlements such as Diepsloot and Orange Farm often face worse mismatch than historic townships, despite residents moving there in search of work.
- New housing developments frequently fall short of resolving mismatch, rather reinforcing it. Integrated projects like Cosmo City, for instance, have only slightly better jobs accessibility than townships, and far below those along Johannesburg's northern development corridor.
- Addressing spatial mismatch requires prioritising well-located housing in job-rich corridors and substantially improving transport connections to residents in low-access areas.

7.1 Introduction

South Africa ranks among the world's most unequal countries, and this inequality is starkly visible in its cities. One of the clearest expressions of urban inequality is the problem of 'spatial mismatch' – the physical separation of individuals, particularly low-income and historically disadvantaged groups, from areas where most formal employment opportunities are concentrated (Banerjee and Sequeira, 2023; Hausmann et al., 2023).

Spatial mismatch has its roots in apartheid urban planning, which deliberately designed and located Black townships out on the urban peripheries, far from major economic hubs. Despite more than 30 years of democracy, historic patterns of race-based and class-based segregation persist. Path dependency is locked-in by contemporary market forces including high land prices, restrictive zoning, and the construction of state-subsidised housing on cheap peripheral land (Turok, 2021; Hausmann et al., 2023).

The problem of spatial mismatch imposes both individual and social costs. South Africans are forced to undertake long and costly commutes. For example, metropolitan workers in South Africa endure average one-way commutes of 50 or more minutes, substantially higher than the international benchmark of 30 minutes (Kgwedi, 2022; Vanderschuren and Lane-Visser, 2025). Such lengthy commutes are expensive, consuming nearly a third of household income on average and more than half for many low-income households, far above the 10 percent national policy target or the 10 percent incurred by similar workers spend in other cities such as Vietnam (Kerr, 2017; Beukes et al., 2025; Bickford and Naidoo, 2025).

Beyond the direct financial and time burdens imposed daily on individuals, there are wider social costs of lower productivity, reduced employment and stunted growth. The jobs market cannot operate efficiently which reduces the quality of employer-employee matching. Levels of worker discouragement, underemployment, and unemployment are arguably higher than what they would be if the labour market was tightly integrated and connected (Banerjee and Sequeira, 2023; Shah and Sturzenegger, 2024). Workforce productivity is also undermined due to higher chances of lateness and absenteeism.

Yet, despite being well-recognised, spatial mismatch in South African cities has historically been difficult to measure and monitor. Earlier South African studies (see Budlender & Royston, 2016; Machebele and Weir-Smith, 2024) relied heavily on modelled data sources because of the absence of fine-grained spatial jobs data[1]. The recent availability of workplace information through the Spatial Tax Panel (STP) provides a major opportunity to improve on this. By generating estimates at the ward level, this study not only enhances precision but also aligns with the key administrative unit used by planners and policy makers, making the results concrete and actionable for targeted urban and transport interventions.

The chapter is guided by three main questions: i) How does the spatial distribution of jobs and workers compare across Gauteng's three metros? ii) Which wards have the highest and lowest levels of spatial mismatch? iii) What are the implications for urban planning and investments into housing, services and transport infrastructure?

7.2 Data and methods

To explore these questions, the study requires information on the number of jobs in each ward, the number of residents or workers living in each ward, and the distances between wards that determine how easily residents can reach jobs in other locations. This information is obtained from two key datasets:

1 While the Census collects sub-municipal (i.e. neighbourhood-level) data on the local workforce, it does not include information about where these jobs are located. In addition, the most recent labour market information is published in the Census 2011 as labour market data from the Community Survey 2016 and Census 2022 were never released due to concerns over quality.

- Job data: Spatial Tax Panel (STP): The number of formal jobs in each ward is measured using version 5.1 of the STP. The STP provides spatially detailed, annual, verified counts of full-time equivalent employees for all PAYE-registered firms earning more than R2 000 per year. Each establishment is geocoded from its actual workplace postal code which is converted and published as Uber H3 hexagons (a raster grid of hexagons each with ~1.2 km edge lengths). The STP-hexagon database has been further transformed into a ward-based spatial layer to be compatible with official administrative boundaries. Despite some inherent limitations to the precision of sub-municipal STP data[2], the STP represents an exciting and valuable source of real-world information about the distribution of formal employment across Gauteng.
- Residential data: Quality of Life Survey (QOL 2023/24): The number of working-age residents in each ward is obtained from the Gauteng City-Region Observatory's Quality of Life Survey (QoL 2023/24). The QoL is a large, representative household survey of conducted by the Gauteng City-region Observatory every 2-3 years starting in 2009 until 2023/24. 13 795 adults were surveyed in 2023/24. The survey uses a stratified, multistage sampling design with population weights that permit inference to the provincial population and – with appropriate caution due to smaller samples – down to the ward level.

The study employs a sophisticated 'gravity-based' job accessibility indicator which captures the number of jobs which residents of each ward can effectively reach. The technical details of the indicator are contained in box 1.

Box 1: Measuring spatial mismatch using a gravity-based job accessibility indicator

A gravity-based job accessibility indicator measures the number of jobs that residents of each ward can effectively reach. This is based upon straight-line distances between every residential Wward centroid and every other ward centroid[3].

For each ward i, accessibility is calculated by summing the number of jobs in all destination wards j, weighted by a negative exponential decay function based on the straight-line distance $\mathrm{d}ij$. The weighting function applies a friction parameter $\beta=0.81$, calibrated to reflect how the likelihood of commuting declines with distance. This decay specification follows earlier South African urban studies, including Sebetlela (2022). As a result, nearby jobs are weighted heavily, while more distant jobs contribute progressively less to overall accessibility.

In formula terms, the accessibility score A_i, for ward i is calculated as:

$$\mathrm{A}_i = \sum_j \mathrm{Jje}\text{-}\beta\mathrm{d}ij$$

The result, A_i, represents the number of jobs accessible to residents of ward i, once spatial frictions are taken into account. Higher scores indicate wards that are well located relative to major job centres, with many jobs accessible within a short distance. Lower scores indicate wards that are far from job-rich areas and have limited effective access to employment.

2 The spatial quality of the STP hexagon-level data is still under investigation. A key challenge is the absence of an independent benchmark against which to validate its accuracy. Spatial imprecision may arise because workplace locations are ultimately derived from postal codes, which lack official boundaries and vary considerably in size and shape. Some degree of misreporting is also likely; for example, employers may report generic postal codes (such as "2000" for Johannesburg), potentially inflating employment counts in the corresponding hexagons. Notwithstanding these concerns, the intra-city pattern of spatial mismatch is probably fairly robust to boundary issues as it based on employment counts over wide areas.

The jobs accessibility indicator provides a way of consistently comparing access to jobs across every ward. Hence, we are able to capture variation by neighbourhood types, including inner-city areas, affluent northern suburbs, older townships, new housing developments, and informal settlements. These differences help show where spatial mismatch is most severe and where policy interventions are likely to have the greatest impact.

7.3 Findings

7.3.1 Job and worker distributions across Gauteng, 2023/24

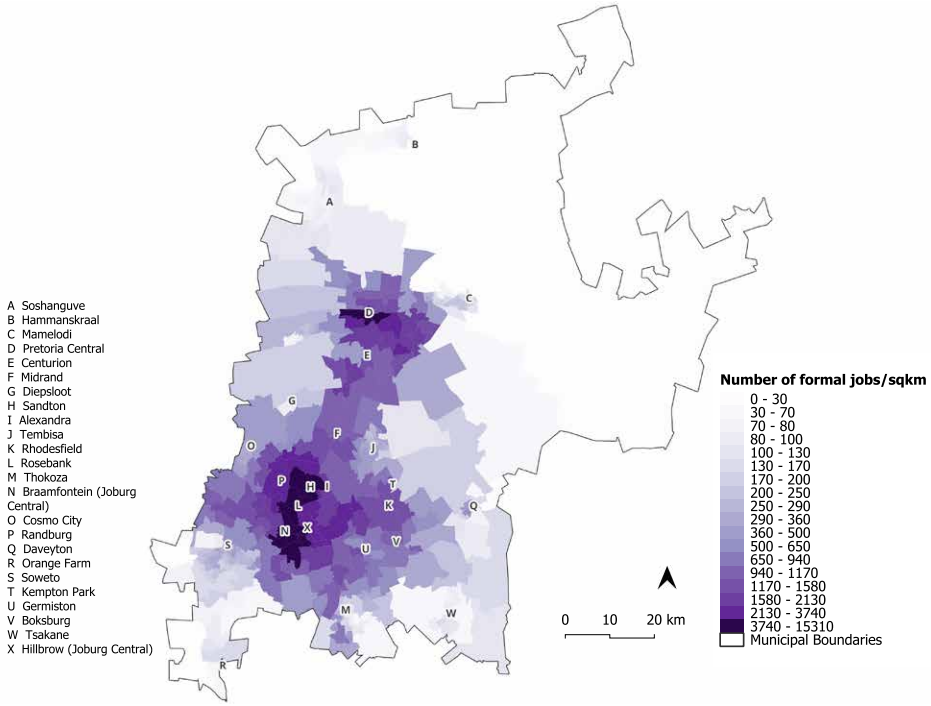
We begin with a descriptive exploration of where jobs are located and how this contrasts with where people live. The count of jobs and population (among the working age) are converted into densities (i.e. number per square kilometre) to standardise for differences in ward sizes. The results are presented in Figure 1 (formal jobs) and Figure 2 (working-age population). The maps are presented side-by-side to help with a visual comparison of each.

There is a glaring misalignment between the concentration of formal employment opportunities and that of the working population. Gauteng's urban economic landscape is polycentric but strongly hierarchical, with formal employment clustered in a small number of hubs located primarily in northern Johannesburg, and in the central business districts of Johannesburg and Pretoria. In direct contrast, the working-age population is heavily concentrated in townships and peripheral settlements situated on the metropolitan edges, where formal job densities are low. This spatial arrangement is consistent with earlier findings using alternative datasets, which show a persistent misalignment between employment hubs and worker-dense townships in Gauteng's cities (Budlender & Royston, 2016; Sebetlela, 2022; Machebele and Weir-Smith, 2024).

Job densities in Gauteng's cities display an exceptionally sharp gradient across space and neighbourhood type. The highest concentrations are observed in the affluent northern hubs and the inner-city cores, where densities reach up to 15 000 jobs per square kilometre. This reflects the intense clustering of high-value economic activity in the Sandton–Rosebank corridor and in the central business districts of Johannesburg and Pretoria. By comparison, surrounding emerging hubs such as Midrand and Rhodesfield record significantly lower densities, typically ranging from 1 300 to 1 500 jobs per square kilometre, consistent with their more logistics-oriented economic base. Beyond these centres, job densities decline steeply. Most large townships, including Soweto, Tembisa and Mamelodi, rarely exceed 250 to 500 jobs per square kilometre, and peripheral settlements consistently record fewer than 100 jobs per square kilometre. This severe drop-off reflects the absence of structural conditions necessary to support formal business activity in residential areas.

3 An alternative to straight-line distance would be to incorporate additional information about transport connectivity between wards (i.e. effective distance) which could be important in cases of major highways and road corridors. While network-based or travel-time measures of distance could, in principle, provide a richer representation of transport connectivity, developing such measures in a way that accurately reflects congestion, mode choice, and informal transport remains an important area for future research.

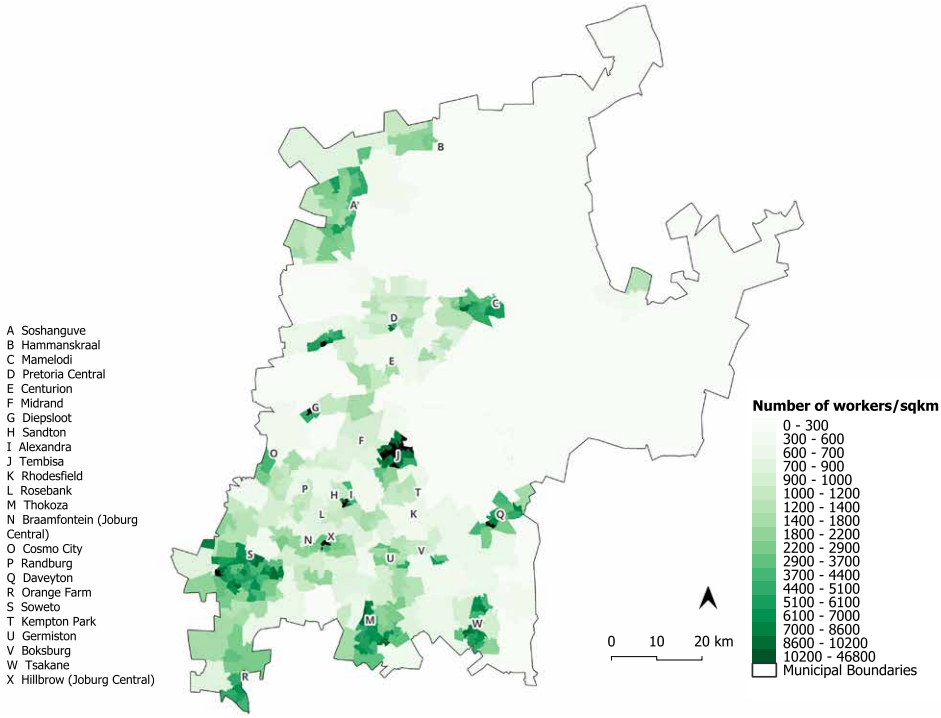
Figure 1: Spatial distribution of formal jobs across Gauteng's cities, 2024



Data Source: Spatial Tax Dataset, Version 5.1 (2024)

Note: This map illustrates the density and concentration of formal-sector employment opportunities across Gauteng's cities: Ekurhuleni, Johannesburg, and Tshwane. Jobs are aggregated spatially to highlight key economic hubs and corridors.

Figure 2:Spatial distribution of workers residential location in Ekurhuleni, Tshwane, and Johannesburg, 2023/2024



Data Source: Quality of Life Survey (QoL) 2023/2024

Note: This map depicts the residential density of the working-age population across Ekurhuleni, Tshwane, and Johannesburg, higlighting dense and sparsely populated neighbourhoods.

Population densities are almost a complete reversal of job densities, resulting in a clear misalignment and physical separation between people's residences and employment opportunities. The highest worker densities are found in townships such as Soweto, Tembisa, Mamelodi and Alexandra, where densities range from 1 000 to more than 40 000 workers per square kilometre, yet these areas seldom exceed 250–500 jobs per square kilometres. By contrast, affluent neighbourhoods such as Sandton and Rosebank have the lowest residential densities, accommodating fewer than 1 000 workers per square kilometre despite hosting some of the highest job densities in the urban landscape. Only a small number of areas, most notably Midrand, Centurion and the inner cities, exhibit a closer alignment between where people live and where jobs are located.

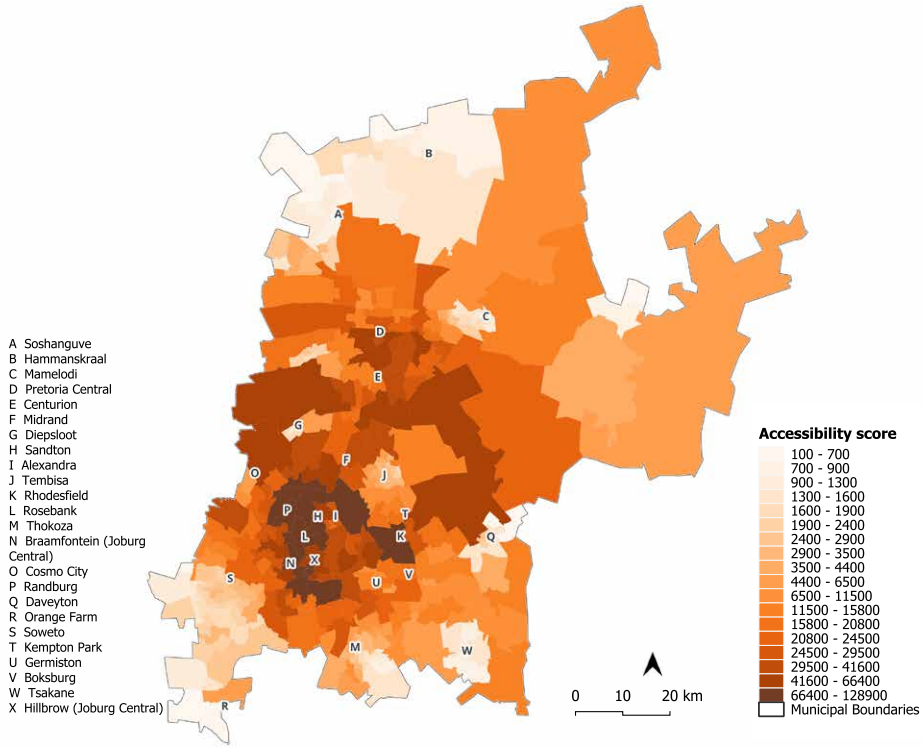
The descriptive evidence on job and worker densities suggests a clear separation of people and formal jobs: most residents live far from major employment centres, while job-rich nodes accommodate relatively few workers. This misalignment appears especially pronounced for low-income households living in townships and settlements out on the peripheries.

7.3.2 Spatial mismatch: Gravity-based accessibility scores

Visual comparisons of job and resident locations are informative but do not account for the fact that residents can access employment beyond their own ward. A jobs accessibility indicator therefore strengthens the analysis by incorporating job opportunities in surrounding wards, weighted by distance.

The results of the accessibility analysis are presented in Figure 3. Darker shades indicate wards with higher accessibility scores (and lower levels of spatial mismatch), while lighter shades reflect lower jobs accessibility (and higher levels of spatial mismatch). Accessibility scores range from as high as 128 900 (the most connected neighbourhoods), to fewer than 1 000 (the most isolated neighbourhoods), indicating an extremely uneven spatial distribution of access to employment opportunities across the metropolitan region.

Figure 3: Spatial distribution of gravity-based job accessibility across Johannesburg, Ekurhuleni, and Tshwane



Data Source: Spatial Tax Dataset, Version 5.1 (2024)

Note: The map shows ward-level variation in job access to formal employment opportunities. Accessibility is highest near Johannesburg's core economic hubs such as the Johannesburg CBD and the Sandton–Rosebank, Randburg, and OR-Tambo-Rhodesfield and declines sharply in peripheral areas, particularly townships and informal settlements on the urban edge. Values reflect the number of jobs accessible from each ward, weighted by Euclidean distance, giving a gravity-based accessibility measure.

7.3.3 Highest accessibility is in the Johannesburg CBD, Sandton-Rosebank corridor and OR Tambo- Rhodesfield

The highest accessibility scores are recorded in Randburg, Sandton, Rosebank, Johannesburg CBD, and Rhodesfield, where wards can access between 66 400 and 128 900 jobs each. This places these neighbourhoods within the most accessible part of Gauteng's cities. These neighbourhoods form a continuous corridor of strong accessibility, located within and around major employment hubs in central and northern Johannesburg and extending to the OR Tambo employment hub. Because these neighbourhoods lie within a dense network of employment nodes, its residents can reach very large numbers of jobs in multiple directions with relatively low distances. For example, from Sandton, a worker can reach, Sandton itself, Rosebank, Randburg, Johannesburg CBD, Midrand, and OR Tambo / Rhodesfield all within relatively short distances.

Parts of the Pretoria CBD record the next highest level of gravity-based accessibility, with values between 41 600 and 66 400, despite having one of the largest job concentrations in Gauteng's cities. Although Pretoria Central contains among the highest concentration of jobs, its weaker integration into Johannesburg's broader labour markets limits the number of jobs that can be reached from Pretoria CBD within reasonable travel distances, resulting in lower gravity-based accessibility than in the Johannesburg core.

These patterns of high jobs-accessibility are correlated with affluence, leaving many low-income households with limited options. For example, Sandton and Rosebank are among the wealthiest neighbourhoods in the province. That said, parts of Pretoria and Johannesburg inner cities do provide some more affordable entry points, yet this often comes at the cost of overcrowding, informality, and unreliable service provision. Low-income households are likely to trade housing quality for proximity to employment in order to remain connected to job opportunities.

7.3.4 Limited accessibility in peripheral townships

Accessibility declines sharply on the urban periphery, particularly in large townships such as Soweto, Mamelodi, and Tembisa compared to the inner cities and affluent northern Johannesburg. Figure 3 shows that a typical ward in Soweto provides access to only around 2 400 to 3 500 formal jobs, compared with up to 128 900 in Johannesburg CBD or Sandton. Similarly low values are observed in Mamelodi, Daveyton, and Tsakane, while Soshanguve and Hammanskraal record some of the lowest levels of accessibility recording scores less than 1,000 in some wards.

These low access areas also coincide with high population densities and low household incomes, meaning that very large numbers of workers are affected by limited access to employment, and therefore, experience high levels of mismatch. Wards with low accessibility are also those where residents face the highest commuting burdens. Soweto, Tembisa, and Mamelodi are consistently identified as areas with long and costly journeys to work (Bickford and Naidoo, 2025; Beukes et al., 2025), weak local labour markets, low car ownership, and limited access to formal public transport. This compounds the problem so that the combined effects of distance, time, and transport constraints can significantly raise the costs of job search and lower the returns to work in central areas (Shah and Sturzenegger, 2024).

7.3.5 Some townships near northern Johannesburg hubs perform better than others

Although townships generally have much lower job accessibility than the inner cities and affluent neighbourhoods of northern Johannesburg, there are some exceptions. For instance, parts of Tembisa – located near the intersection of Johannesburg, Ekurhuleni, and Tshwane and close to the Johannesburg north employment corridor – provide slightly better access to jobs in the range of 3 500 to 4 400 formal jobs. Alexandra has impressive levels of jobs access of between 20 800 to 24 500 – which is better than many middle-class suburbs.

However, these are isolated cases. In fact, some townships have among the worst job accessibility scores in the region. For example, parts of Daveyton in eastern Ekurhuleni and Mamelodi in eastern Pretoria, have scores of 1 900 to 2 400 jobs, while Soshanguve records extremely low values between 700 to 900 jobs.

7.3.6 Some newer townships such as Cosmo City reinforce rather than resolve this mismatch.

Newer townships and mixed-income developments continue to reproduce patterns of spatial mismatch. Cosmo City, one of Gauteng's major post-apartheid integrated developments, illustrates this challenge. Residents in Cosmo City can only access between 4 400 and 6 500 formal jobs, which is only slightly better than most townships, and still far below high-access neighbourhoods along Johannesburg's northern development corridor.

This limited improvement reflects a broader weakness identified in earlier studies: newer developments frequently reinforce spatial mismatch by being located on the urban periphery, far from job-rich cores (Hofer et al., 2021). Although often labelled as mixed-use or integrated, these projects remain largely residential in function, with minimal local employment and weak connections to the wider urban economy. As a result, newer townships such as Cosmo City reduce extreme exclusion without resolving the underlying spatial mismatch between low-income housing and Gauteng's core job markets.

7.3.7 Some informal settlements still have poor access to jobs

Many informal settlements in Gauteng exhibit very low levels of job accessibility. For example, Diepsloot provides access to around 1 900 jobs – lower than in townships such as Tembisa or Soweto – while Orange Farm, located in southern Johannesburg, offers access to just 700 jobs – the lowest job accessibility score in the region. This extreme disconnection from job opportunities is very problematic considering that informal dwellers cite employment opportunities as a primary reason for settling in these areas. Yet for many newcomers, securing shelter inevitably means settling far away from jobs. As a result, peripheral informal settlements, despite offering the lowest job accessibility, are a popular entry point for low-income migrants. This effectively traps workers in low-access locations from the moment they arrive.

7.4 Implication of findings

The Gauteng metros are characterised by a striking mismatch between where people work and live. The sheer magnitude of these disparities helps explain why South African cities record among the highest rate of unemployment in the world. It also clarifies why long and unpredictable commutes remain a defining feature of low-income urban life in Gauteng.

Importantly, the results show that spatial mismatch is not a purely historical phenomenon. Even post-apartheid "integrated" housing developments such as Cosmo City are frequently located far from major employment hubs and provide only partial accessibility gains, reinforcing rather than resolving spatial inequalities. This reflects a broader policy failure in which housing delivery has proceeded without sufficient attention to urban economic geography, transport connectivity, and metropolitan labour market dynamics.

The Johannesburg north corridor – extending from Sandton through Midrand, Centurion, and into Pretoria and Rhodesfield – emerges as Gauteng's most strategic zone. Yet this economic corridor is poorly aligned with most South African townships where the bulk of the population currently reside. The main implication is clear – that addressing spatial inequality requires far more than increasing the supply of formal housing. Without coordinated planning that aligns residential development with employment nodes and transport infrastructure, Gauteng's current urban form will continue to reproduce structural economic exclusion, trapping large populations in low-access, high-cost environments and deepening the cycle of unemployment and poverty.

Addressing spatial mismatch requires policy action along two strategic fronts:

First, housing policy should prioritise location over sheer quantity. Future developments need to be located within, or be fundamentally linked to, existing job-rich corridors. The Johannesburg northern corridor presents the strongest potential for delivering well-located, mixed-income housing, given its combination of existing job density and relative transport connectivity. Furthermore, ensuring affordability and density within these high-access spaces will require urgently challenging exclusionary zoning and land use regulations that prevent the poor from living close to opportunity.

Second, public transport and mobility systems should be urgently improved to connect low-access areas to employment hubs. The high commuting burdens observed in peripheral neighbourhoods dramatically reduce feasible job search areas and undermine labour force participation. Strategic intervention could include subsidizing low-income commutes, significantly improving transport reliability, and strengthening the network of feeder routes connecting townships to the core axes.

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Chapter 8:

The Geography of Employment, Earnings and Industry in Ethekwini

Author: Takudzwa Mutize, Post-Doctoral Researcher, Chair in City-Region Economies, University of the Free State

Highlights

- eThekwini is developing as a multi-nodal city. Durban Central is still the largest formal employment hub, particularly for the public sector, while many business services jobs are concentrated around Umhlanga.
- Median wage levels (among formal workers) are evenly spread across the city. Most hexes fall in a mid-earnings range of R7,500 - R12,499, with some notable exceptions towards the peripheries and around industrial precincts.
- Low-wage work is common but a minority in most places. Many hexes have between 20 - 45 % low-wage workers (<R6,500), which also includes the CBD.
- High-wage work (>R51,200) is by comparison rare and clustered. A few southern industrial hexes show much higher shares of top earners. This also highlights the economic significance of eThekwini's manufacturing capabilities.
- Industrial specialisation helps explain these wage patterns. Manufacturing & Logistics dominates much of the southern corridor and aligns with higher-wage shares, while Trade & Support Services and Public & Social Services dominate central, northern, and peripheral areas where low-wage shares are more common.

8.1 Introduction

The eight South African metros account for over 60% of the country's formal employment but less than 3% of South Africa's total land area (Turok & Visagie, 2023). Despite their economic dominance, the internal spatial organisation of metro economies is poorly understood. Yet the organisation of economic activity within cities is crucial to their connectivity, productivity and economic function. Until recently, a key challenge for policymakers and urban planners has been the lack of fine-grained data on how economic activity, jobs and wages are distributed within cities. The emergence of hex-cell tax-data at firm and employment levels, available within the Spatial Tax Panel (STP), opens up new opportunities for analysis of industry clusters, wage-tiers, and spatial inequality down to neighbourhood scale.

Established theories in economic geography and urban economics predict that firms, industries and jobs will organise unevenly across urban space, rather than being uniformly distributed. Agglomeration economies suggest that clustering of firms and workers can lead to increased productivity through labour-market pooling, supplier linkages and knowledge spill-overs, although this process may also contribute to spatial inequalities (Puga, 2010; Duranton & Puga, 2015). The core-periphery model from regional development theory proposes that economic activity and higher-value employment are likely to be concentrated in "core" metropolitan zones, while peripheral regions may have fewer high-skill job opportunities and lower wages (Klimczuk & Klimczuk-Kochańska, 2019). Location or bid-rent theory indicates that firms select sites based on factors such as market accessibility, infrastructure and labour availability, which affects the distribution of employment across urban space (Jordaan et al., 2004). Urban labour-market theory also examines how workers choose their residential locations based on affordability, accessibility, and the proximity of suitable job opportunities (Glaeser & Maré, 2001). Property markets operate through price-based sorting where households and workers are separated into locations based on their ability to pay. In short, market forces can lead to spatial inequalities such as class-based segregation, as well as unequal access to services, jobs, and amenities.

This paper focuses on the internal spatial composition of employment, earnings and industry within the eThekwini metropolitan municipality. eThekwini is South Africa's largest and busiest port and serves as both the primary economic centre for the region of KwaZulu-Natal as well as an important trade route and entry-point into Gauteng. The metropolitan area exemplifies how historical industrial structures, infrastructure systems and locational advantages collectively influence present-day spatial patterns in employment and income. eThekwini remains essential to the national economy, contributing roughly 60 % of KwaZulu-Natal's gross domestic product (COGTA, 2020). Its economic base is broad, featuring robust manufacturing and logistics sectors, an expanding business-services industry, and a dynamic tourism sector (KZN EDTEA, 2021).

The chapter draws on hex-cell tax data from the STP to explore the internal structure of employment within eThekwini. It investigates three key questions: i) how are industries and employment spatially distributed across the metro? ii) how are high- and low-wage jobs organised across neighbourhoods within the city? iii) to what extent do these spatial patterns reflect eThekwini's underlying industrial structure? Understanding the locations of industries and wage levels can help in identifying areas where job creation may be required, where connectivity and skills interventions should be directed, and how the city's growth corresponds with its industrial and service sectors.

In the STP, all spatial information relates to a worker's place of work rather than their place of residence. The results therefore reflect spatial inequalities in the location of jobs and earnings, not where workers live or how they commute. Residential and workplace inequalities are closely related, but to be clear, the findings are limited to employees (not households) and their office locations (not personal residences).

The quality of the hex-level spatial data in the STP is also relatively coarse, as the underlying methodology converts workplace postal codes into Uber H3 hexagons (with ~1.2 km edge lengths) – and this conversion process will inevitably introduce some inaccuracies. In addition, there is potential for measurement error where large firms misreport the activities of their branches[1]. Last, in order to minimise noise from small or potentially unreliable cells, hexagons with fewer than 100 full-time equivalent employees are excluded from the analysis.

The findings should therefore be treated as suggestive and exploratory rather than definitive.

8.2 Sectoral composition of formal employment in eThekwini

Table 1 summarises the distribution of full-time equivalent (FTE) employment across eight broad industry groups in eThekwini for the 2023/24 tax year. Trade & Support Services (28 percent) form the largest share of formal employment, followed by Public & Social Services (25 percent) and Manufacturing & Logistics (22 percent). Together, these three sectors account for three-quarters of all jobs, underscoring eThekwini's dual economic base of commerce, services, and port-linked industry.

Finance & Business Services contribute 11 percent, reflecting a growing tertiary component within the metro's economy. Construction & Utilities (5 percent) and Private Households (4 percent) play supporting roles, while Accommodation & Food Services (3 percent) and Agriculture & Resource Activities (1 percent) make up the smallest shares.

While the table provides an overview of the city's industrial structure, it does not reveal where these activities occur. The maps that follow use hex-cell data to visualise the spatial concentration of jobs and wages across eThekwini, beginning with the distribution of total employment (Map 1).

Table 1: Sectoral Composition of Employment in eThekwini, 2024[2]

Sector Group	Full-Time Equivalent (FTE) Employment	Share of Total Employment (%)
Trade & Support Services	248,465	28.0
Public & Social Services	219,748	25.0
Manufacturing & Logistics	197,342	22.0

1 This problem is known as 'head office bias', and as a consequence of such branch-level misreporting, employment in the head office is often falsely inflated. It is estimated that approximately ~13.5% of full-time equivalent could suffer from a head office bias in the STP which is particularly prevalent in retail and utilities sectors. The STP uses an algorithm to identify these cases which are assigned to 'missing' in the hex-level database (Nell & Visagie, 2025b).

2 Sectoral composition (and the dominant employing sector in Map 5) is derived from aggregations of the sic7_1d variable in the Spatial Tax Panel (Nell & Visagie, 2025, version 5.1), which recodes the 21 sections of Statistics South Africa's Standard Industrial Classification of all Economic Activities (SIC) Seventh Edition. The groupings applied are as follows: Agriculture & Resource Activities (sic7_1d = 1: Agriculture, forestry and fishing; and 2: Mining and quarrying where applicable), Manufacturing & Logistics (sic7_1d = 3: Manufacturing; plus 8: Transportation and storage), Construction & Utilities (sic7_1d = 4: Electricity, gas, steam & air conditioning supply; 5: Water supply, sewerage, waste management; 6: Construction), Trade & Support Services (sic7_1d = 7: Wholesale & retail trade; repair of vehicles; plus 14: Administrative and support service activities), Accommodation & Food Services (sic7_1d = 9: Accommodation and food service activities), Finance & Business Services (sic7_1d = 10: Information and communication; 11: Financial and insurance; 12: Real estate; 13: Professional, scientific, technical; 14: Administrative and support), Public & Social Services (sic7_1d = 15: Public admin & defence; compulsory social security; 16: Education; 17: Human health and social work; 18: Arts, entertainment and recreation), Private Households (sic7_1d = 20: Activities of households as employers), and Other/ Unclassified (sic7_1d = 19: Other service activities; and 21: Activities of extraterritorial organizations and bodies, plus any minor unclassified formal cases).

Sector Group	Full-Time Equivalent (FTE) Employment	Share of Total Employment (%)
Finance & Business Services	95,928	11.0
Construction & Utilities	45,381	5.0
Private Households / Other	30,891	4.0
Accommodation & Food Services	29,696	3.0
Agriculture & Resource Activities	12,409	1.0
Total	**879,860**	**100.0**

Source: Nell, A. & Visagie, J. 2025a. Spatial Tax Panel 2014 - 2024: version 5.1 See endnotes for more information on sectoral grouping.

8.3 Concentration of employment across eThekwini

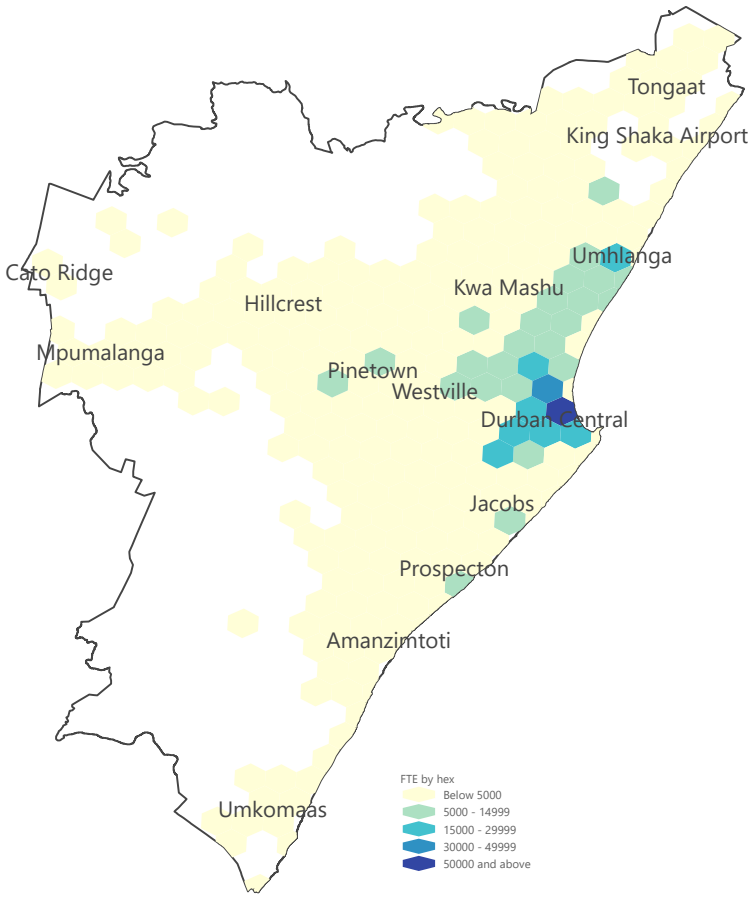
Map 1 below depicts the spatial distribution of full-time equivalent (FTE) employment across eThekwini Municipality in 2024, utilising hexagonal cells to highlight a pronounced core-periphery pattern. Vast areas of the metro consist of neighbourhoods with fewer than 5,000 employees per hex. This highlights the reality of economic agglomeration and therefore the importance of efficient transport infrastructure to connect the city together.

Employment is clearly concentrated in Durban Central, where several hexes surpass 15,000 FTEs, with peaks exceeding 30,000, establishing it as the metro's dominant economic hub. Moderate densities (5,000 - 14,999 FTEs) appear in secondary nodes like Umhlanga in the north and Pinetown-Westville in the west, while the southern areas around Prospecton and Jacobs also show pockets of moderate employment density. Therefore Durban appears as a multi-nodal city, with employment concentrated in the CBD.

However, the reported level of employment concentration in Durban Central may well be overstated in the STP and warrants caution. Disinvestment and decay in the city's CBD is well documented (Dawood, 2025). For instance, recent analyses indicate ongoing economic challenges in the CBD, with Durban's Business Confidence Index declining for four consecutive quarters in 2025, dropping to 52.12 points in Q3 from 52.40 in Q2 amid service delivery issues and national economic uncertainties (MRU, 2025). Potential data artifacts in the Spatial Tax Panel may contribute to this discrepancy; for instance, employers might inaccurately report generic postal codes like '4000' for Durban, inflating central hexes. Further improvements to the quality of the spatial data in the STP are in the pipeline (including the integration of address-level fields) which would help confirm these preliminary estimates.

Despite these caveats, the concentration of employment in the CBD likely reflects enduring structural advantages, such as the immovable presence of Durban's port and related infrastructure, which sustain formal employment even amid broader decline. That said, Umhlanga is clearly identifiable in the map as a secondary node and is likely to grow in importance over time.

Map 1: Total Full-Time Equivalent (FTE) Employment by Hex, 2024



Source: Nell, A. & Visagie, J. 2025a. Spatial Tax Panel 2014 - 2024: version 5.1

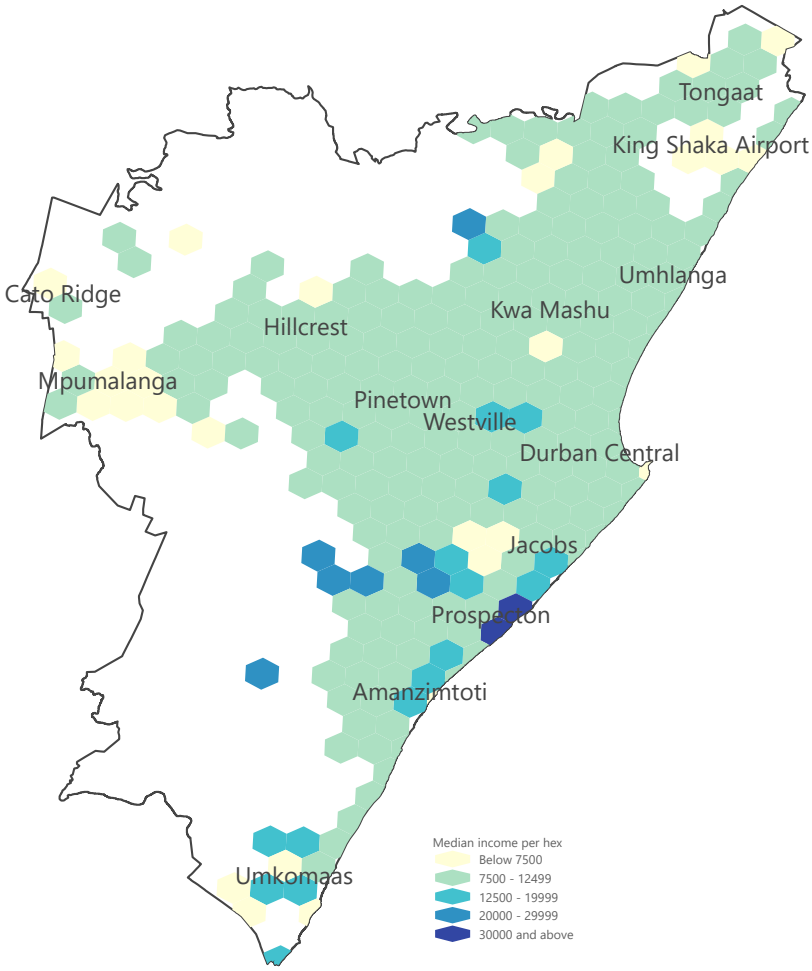
8.4 Spatial distribution of median monthly income

Understanding employment concentration, however, tells only part of the story. The distribution of job quantity does not necessarily reflect the distribution of job quality. Map 2 examines median monthly income per hex, shifting focus from employment density to wage levels and exposing a more nuanced geography of labour market inequality across the metro.

Map 2 below illustrates the spatial variation in median monthly income across eThekwini Municipality in 2024. The vast majority of hexes fall in the R7,500 - 12,499 band, indicating a predominantly moderate-wage formal labour market. Higher medians (R20,000 - 29,999 and R30,000) are limited to a small number of hexes, concentrated almost exclusively in the southern corridor around Prospecton and extending westward. Scattered pockets appear in areas like Westville. In contrast, a few peripheral and inland zones such as Mpumalanga and northern areas Like King Shaka Airport remain in lower bands, but these are fairly isolated cases. Interestingly, most townships areas are not associated for paying the lowest wages (with the exception of KwaMashu) while large employment hubs such as the CBD and Umhlanga fall into the moderate-wage categories.

Overall, while differences in median incomes are visible across space, the pattern suggests a relatively muted distribution of workplace wages rather than very sharp spatial segmentation. This might be because we are looking only at formal businesses where workers are offered certain protections. Modelling from postal codes to hex might also average out some of the disparities. Last, we are only evaluating median incomes in the map which might hide differences in the tails. Therefore, we move on to examine other measures of income inequality.

Map 2: Median Monthly Income by Hex, 2024



Source: Nell, A. & Visagie, J. 2025a. Spatial Tax Panel 2014 - 2024: version 5.1

8.5 Spatial distribution of low-wage employment

The median income map provides a single, central measure of typical earnings per hexagonal cell, showing the midpoint of the income distribution within each spatial unit (i.e., half of formal employees in that hex earn more, and half earn less). This gives a high-level view of the overall wage level in each location, emphasising that most areas cluster in the moderate range with selective highs and lows.

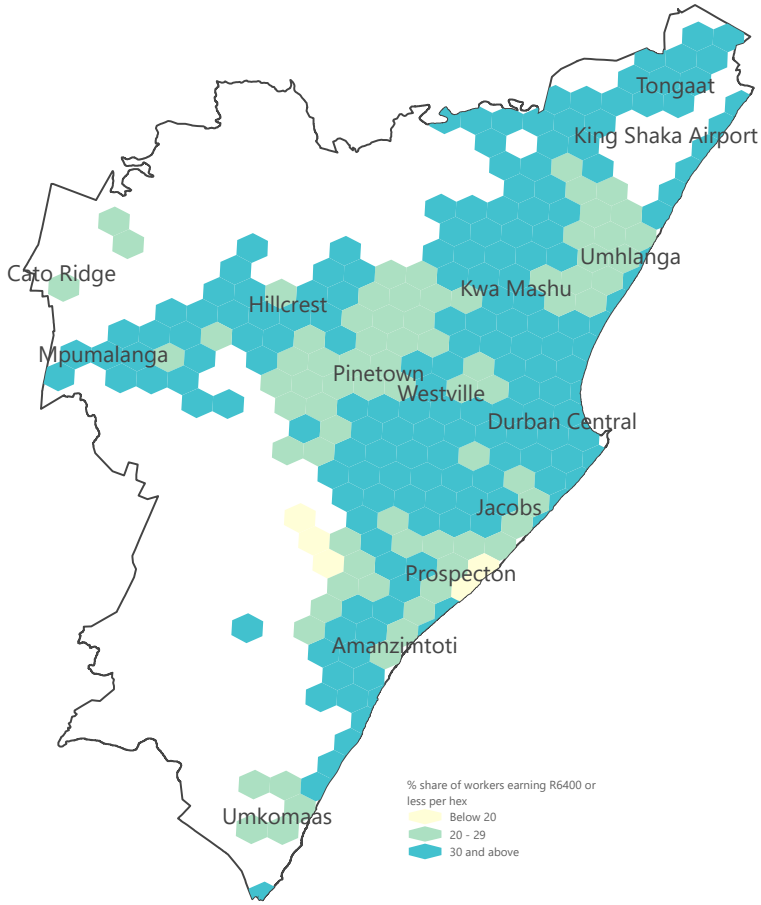
To further validate and deepen these median insights which capture the typical (central) wage experience per hex, the next two maps will explore the shares (proportions) of low-wage (≤ R6 400) and high-wage (≥ R51 200) employment, respectively. These share maps will reveal the extent of the lower and upper tails of the income distribution within each location, exposing intra-hex polarisation and the breadth of low- or high-earnings prevalence that the median alone may smooth over.

Map 3 illustrates the spatial distribution of the share of workers earning R6,400 or less per month across eThekwini Municipality in 2024. Hexes that contain a high share of low-wage workers are widespread with many hexes show 30%+ of workers in this low-earnings category3. Even in more central and secondary nodes including Durban Central (CBD), KwaMashu, Pinetown, Westville, and Umhlanga, low-wage employment often accounts for 20-30% or more of formal workers, with only limited pockets of lower shares.

Prospecton and a few isolated areas to its west are among the only locations where the percentage share of workers earning R6,400 or less per hex falls below 20 percent, likely reflecting the presence of more established industrial and logistics operations with stronger wage floors. This extensive prevalence of low-wage shares (≤ R6,400, a threshold just above the national minimum wage of R28.79 per hour effective from 1 March 2025, equivalent to roughly R5,000 - R5,500 monthly for full-time work) indicates that many of eThekwini's formal workforce is in entry-level or low-paid positions. Yet, at the same time, the threshold of 30% still puts very low workers in the minority.

High shares of low wage workers are especially notable in dispersed township and semi-rural hexes but also in and around the CBD, suggesting that moderate overall medians (as shown in the prior map) frequently coexist with significant low-earnings presence. The fact that the CBD has a high concentration of low-wage workers compared with most other secondary nodes, such as in Umhlanga or Pinetown, reinforces its loss of status as eThekwini's main commercial hub.

Map 3: Share of Low-Wage Employment by Hex, 2024



Source: Nell, A. & Visagie, J. 2025a. Spatial Tax Panel 2014 - 2024: version 5.1

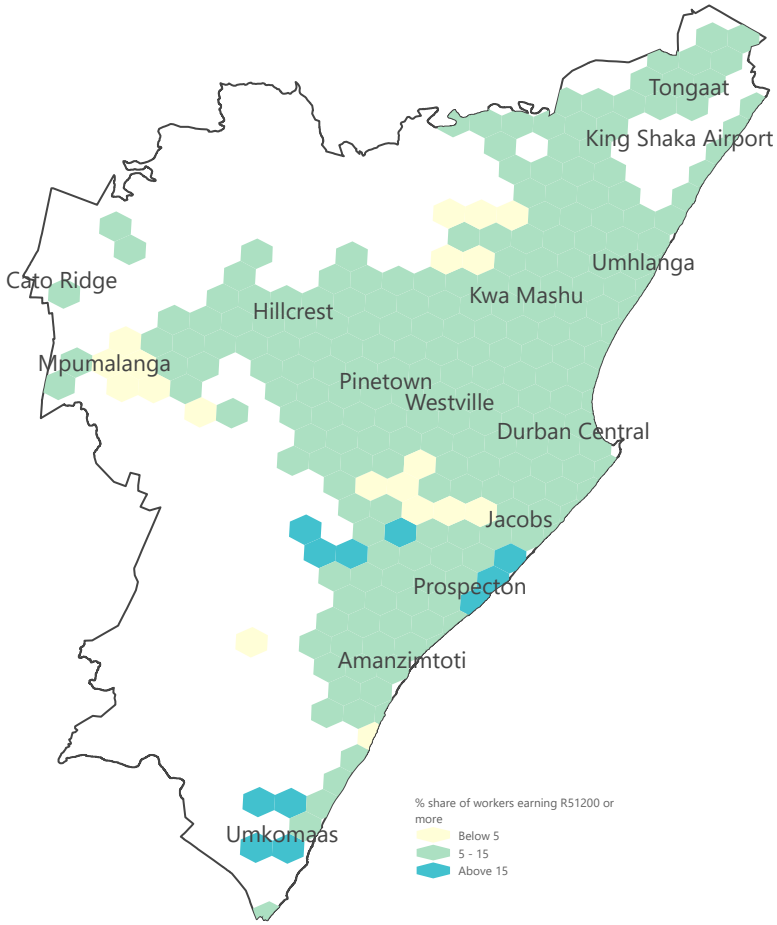
3 Encouragingly, no hex in the metro had a majority of low-wage workers: the highest recorded share was just 46%, confirming that more than half of workers in every spatial unit earned above the lowest wage range.

8.6 Spatial distribution of high-wage employment

Map 4 below illustrates the spatial distribution of the share of workers earning R51,200 or more per month across eThekwini Municipality in 2024. Most of the neighbourhoods in the metro have companies where the share of workers earning R51,200 or more is below 5%. Neighbourhoods with a high share of high-wage workers are rare and highly concentrated, primarily in the southern industrial area around Prospecton and southward toward Umkomaas, where a few pockets of hexes reach above 15% of workers earning R51,200 or more per month. Peripheral areas like Mpumalanga show negligible high-wage shares (below 5%), underscoring their isolation.

This limited and clustered presence of high-wage shares (≥ R51,200, a threshold well above the national formal sector average of R29,490 monthly in Q3 2025) (Stats SA, 2025), reflects the metro's reliance on specific economic anchors for premium earnings, where only a small fraction of formal workers in select locations benefit from top-tier pay. The high shares in Prospecton and Umkomaas are likely driven by large-scale, specialised manufacturing operations that require skilled technical, engineering, and supervisory roles. Prospecton hosts Toyota South Africa Motors' (TSAM) main assembly plant, the largest vehicle manufacturer and exporter in South Africa. Similarly, Umkomaas is anchored by the Sappi Saiccor mill, the world's largest producer of dissolving wood pulp employing workers in sophisticated chemical processing and export-oriented roles, reflecting the technical expertise required. Higher wages in these sites clearly reflect the skills, expertise and productivity of the workforce of these manufacturing firms.

Map 4: Share of High-Wage Employment b Hex, 2024



Source: Nell, A. & Visagie, J. 2025a. Spatial Tax Panel 2014 - 2024: version 5.1

8.7 Spatial distribution of the dominant employing sector

To better understand the underlying drivers of these wage patterns where low-wage shares dominate much of the metro while high-wage shares are confined to select southern hexes, we examine the dominant employing sector per hex. This analysis can reveal how local industry composition influences earnings outcomes, explaining why certain areas sustain premium wages through high-value manufacturing and logistics, while others are characterized by sectors prone to lower pay, thus shedding light on the observed distributions of low- and high-wage workers.

Map 5 below shows the dominant employing sector per hex in eThekwini Municipality in 2024. The dominant sector is defined as the one with the largest number of full-time equivalent (FTE) jobs within each hex, reflecting relative concentration of employment in that specific area rather than contribution to city-wide totals (as reported in Table 1)[4].

Manufacturing & Logistics emerges as the most spatially extensive dominant sector, covering much of eThekwini's central and southern areas, including Jacobs, Prospecton, Amanzimtoti, and stretching inland toward Pinetown and Hillcrest. This widespread dominance reflects the metro's historical development as KwaZulu-Natal's industrial heartland, anchored by automotive assembly, petrochemicals, food processing, and port-related logistics operations benefiting from proximity to the Durban Port and major transport corridors.

Trade & Support Services is another important sector group, concentrated in northern areas around KwaMashu, parts of the Umhlanga-King Shaka Airport corridor, and scattered peripheral hexes like Mpumalanga and Amanzimtoti. This reflects the ubiquity of retail and wholesale activities serving dispersed residential populations in township and peri-urban settings.

Public & Social Services appears as the dominant sector in notable clusters, particularly around Durban Central and Hillcrest. The concentration in Durban Central reflects the CBD's historical role as the administrative heart of the metro, hosting provincial government departments, the eThekwini Municipality headquarters, major public hospitals such as Addington hospital and court complexes that anchor public sector employment. Hillcrest's public services dominance likely stems from the presence of private healthcare facilities, independent schools, and social service organisations catering to the surrounding upper-middle-income residential areas of the Outer West. KwaMashu's cluster, by contrast, reflects a different dynamic: as a large township with limited private sector penetration, public employment through schools, clinics, community health centres, and government service points constitutes a disproportionately large share of formal employment, underscoring the state's role as employer of last resort in areas where market-driven job creation remains weak. This spatial distribution of public services dominance thus reveals both the administrative centralisation of state functions in the CBD and the dependence on public employment in township economies where private sector opportunities are scarce.

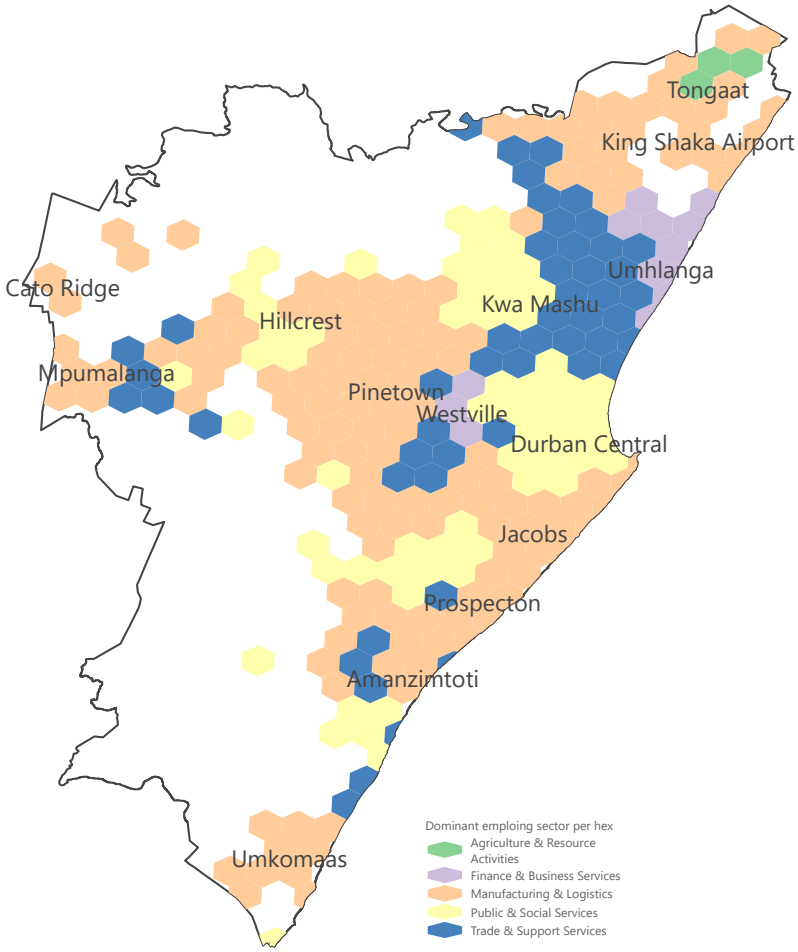
4 Sector dominance in a hex shows the relative concentration of jobs in that area, not the sector's overall share of total city employment. A sector can dominate many hexes through spatial clustering even when its metro-wide share is modest (e.g. Manufacturing & Logistics), while more diffuse sectors (e.g. Trade & Support Services) may lead city-wide but appear dominant in fewer places.

Finance & Business Services concentrates in select nodes, most notably Umhlanga and Westville. Umhlanga has emerged as eThekwini's premier corporate node, hosting the headquarters of major financial institutions like PSG Wealth and FNB, professional services firms, and corporate offices that have progressively relocated from the traditional CBD (Durban Edge, 2023).This northward migration reflects a combination of push and pull factors: perceived CBD decline, concerns over safety and congestion, and the appeal of Umhlanga's planned urban environment offering modern office parks, proximity to King Shaka International Airport, high-end retail amenities at Gateway Theatre of Shopping, and access to affluent residential suburbs along the North Coast. Agriculture & Resource Activities dominates only in Tongaat and the far northern periphery, consistent with the historical presence of sugarcane farming and the legacy of Tongaat Hulett's operations in the region.

Linking back to the wage maps, this sectoral geography helps explain the observed patterns of low- and high-wage workers. The southern corridor dominated by Manufacturing & Logistics shows more hexes with higher shares of high-wage workers (≥ R51,200), driven by skilled, technical, and supervisory roles in large-scale automotive (Toyota South Africa Motors in Prospecton) and chemical cellulose production (Sappi Saiccor near Umkomaas), which command wage premiums through unionized structures, export orientation, and specialized expertise. In contrast, areas dominated by Trade & Support Services, and to some extent in Public & Social Services, which cover much of the central, northern, and peripheral hexes - exhibit widespread moderate-to-high shares of low-wage workers (≤ R6,400), reflecting the prevalence of entry-level retail, administrative, clerical, and social service positions that are more labour-intensive and lower-paid on average.

In summary, this sectoral alignment illustrates how functional specialisation shapes local wage outcomes, with industrial enclaves in the south generating the metro's main concentrations of premium earnings, while more ubiquitous service-based sectors underpin the broad low-wage vulnerability seen across many hexes.

Map 5: Dominant Employing Sector by Hex



Source: Nell, A. & Visagie, J. 2025a. Spatial Tax Panel 2014 - 2024: version 5.1

8.8 Conclusion

The table and maps together provide important insights into the spatial distribution of eThekwini's formal economy. Employment intensity is still clustered in Durban Central, but tends to be lower paying and driven by government services, in contrast to secondary nodes such as in Umhlanga which is a hub for business services. Median monthly incomes are moderate (R7,500–12,499) across most hexes, although higher medians (R20,000+) and high-wage shares (≥ R51,200) are clearly noticeable along the southern industrial belt. Conversely, areas with low-wage shares (≤ R6,400) are widespread, penetrating even central and secondary nodes, but these shares still make up the minority of workers within each hexagon. The dominant sector map provides a crucial explanatory link. The southern corridor's dominance by Manufacturing & Logistics directly accounts for the elevated high-wage shares there, anchored by large-scale, export-oriented operations such as Toyota South Africa Motors' assembly plant in Prospecton and Sappi Saiccor's world-leading chemical cellulose mill near Umkomaas. These facilities generate skilled, technical, supervisory, and management roles that command wage premiums through unionized structures and global supply-chain integration. In contrast, the broad coverage of Trade & Support Services and Public & Social Services across central, northern, and peripheral hexes aligns with the extensive low-wage shares, as these sectors tend to include more entry-level retail, administrative, clerical, and community-service positions that are labour-intensive and lower-paid on average.

These maps offer rich descriptive insights into the geography of jobs, wages, and sectoral specialisation in eThekwini, but further research is required to dig deeper into the underlying mechanics. For instance, establishing causality, quantifying how proximity to employment cores, sectoral composition, import/export status of firms, truly influence wage levels, employment probabilities, and spatial inequality, would need more rigorous econometric and spatial-statistical analysis. Improving the quality of hex-level data available in the STP – such as address level rather than postal code data – should also be prioritised in future work. Such analysis, building on the foundation laid here, could help guide municipal planning and investment to ensure balanced economic growth and better job opportunities across eThekwini.

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Chapter 9:

The Impact of Covid-19 on Employment in South African Cities

Author: Andrew Nell, Consultant/Data Scientist, Independent

Highlights

- The COVID-19 pandemic triggered an unprecedented decline in formal employment, with metros accounting for 78% of national job losses at the height of the crisis. Although national employment recovered to 4% above pre-pandemic levels by February 2024, metro growth has lagged behind the rest of the country.
- Non-metropolitan municipalities were less effected and recovered more quickly, reaching pre-Covid levels by late 2020. This resilience was largely driven by Agriculture, Mining and Government-related employment.
- Job losses were widespread across industries, with 65% of 5-digit sectors contracting during the shock. Manufacturing and Construction have shown little sign of recovery and remain below pre-pandemic levels.
- Public administration and Other Services were the only sectors to show consistent growth throughout the period, highlighting the countercyclical role of government. Several consumer-facing sectors such as Retail and Accommodation recovered, but often unevenly across metros.
- Youth employment (15–25 years) contracted sharply by 17% and has yet to fully recover. Foreign nationals and workers in outsourced or temporary employment were also disproportionately affected.
- Within cities, historic CBDs and industrial nodes suffered deep losses although some CBDs have managed to recover. The impact on townships was muted probably because of the role of government related services in these areas

9.1 Introduction

The COVID-19 pandemic was a major economic shock to an already stagnating South African economy (OECD, 2022; World Bank, 2023). As with any shock, the outcomes vary in severity, whether assessed across space, industry, or demography. Now almost 5-years since the last official national restrictions were lifted, the immediate economic shock has largely dissipated with businesses operating under 'new normal' conditions. However, many segments of the economy have yet to fully recover and continue to require targeted intervention, while others have exceeded expectations and warrant deeper study to identify lessons that can be replicated elsewhere.

The Spatial Tax Panel (STP) provides evidence about the impact of the pandemic and subsequent recovery for people, places and firms at an unprecedented level of detail over time. While tax data has its limitations – such as excluding informal workers and informal enterprises and administrative errors in reporting – exploring trends in formal employment provides a good starting point. We hope to identify and learn from segments of the economy and population that have struggled as well as demonstrated resilience or growth since the impact of Covid.

This chapter enhances our understanding of the impact of the COVID-19 pandemic by focusing on changes in formal employment based on the latest tax data available[1]. We focus on the year preceding the shock (i.e. 2019/20 tax year which conveniently ended in February 2020) up until February 2024 (i.e. 2023/24 tax year). We show that the South African economy – driven mostly by the metro economies – has been severely impacted by the onset of COVID-19. While national employment has recovered and surpassed pre-pandemic levels there are still places and sectors of the economy which are lagging. The fairly limp recovery of the economy is also related to subsequent negative economic shocks since the pandemic, and the general global economic downturn which is forecast to continue (IMF, 2023). The uneven trajectory of the economy highlights the importance of granular, place-based analysis to identify where vulnerabilities persist and where resilience can be reinforced.

9.2 National Impacts

South Africa has been struggling to attract investment, expand production and create new jobs long before the onset of the COVID-19 pandemic (OECD, 2022). The COVID-19 pandemic brought about an unprecedented decline in employment and economic activity within an already stagnant economy.

Figure 1 shows the seasonally adjusted impact of COVID-19 on the total number of employees in South Africa relative to the 2019/2020 tax year. These are overlaid with data related to both COVID-19 waves[2] and lockdowns[3] to provide details related to specific key milestones.

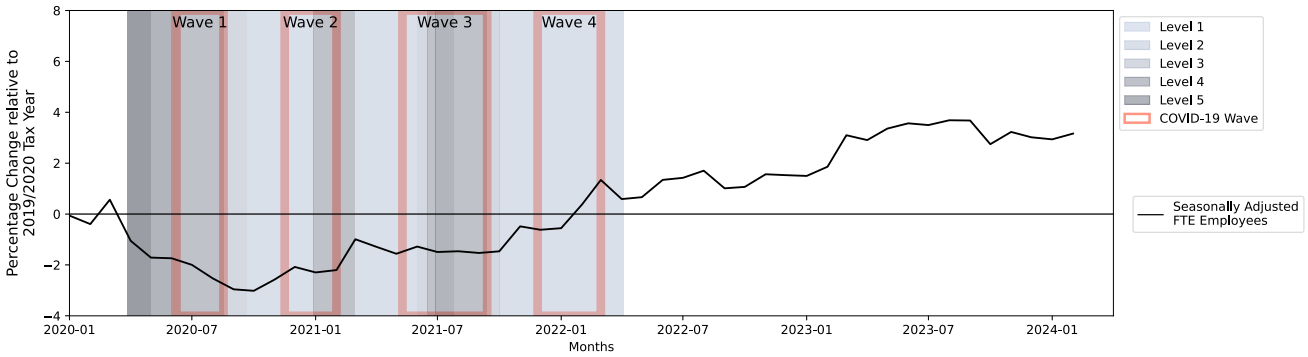
1 A previous version of this chapter was included in the 2023 City Economic Outlook report but with a much shorter time horizon in assessing economic recovery.

2 Defined by the National Institute of Communicable Diseases (NICD) as a period where the incidence of Covid-19 is above 30 cases per 100 000 persons NICD (2021).

3 As noted by the South African Government (South African Government, 2023).

Just before the pandemic, in the 2019/20 tax year, employment figures had actually recorded their largest annual increase since the start of the series in 2013/14 at roughly 3% suggesting the economic dial may have been starting to turn. However, unfortunately, the onset of the pandemic in March 2020 saw total employment numbers contract by roughly 3.0% (+-320k FTE employees) by October 2020 (after the first wave). The easing of restrictions after the first wave corresponded with a marginal recovery in employment, only to be hit by the second and third waves of the pandemic, which clearly stunted and even temporarily reversed progress. Yet the fourth wave, which included only light restrictions on movement and work, did not hinder the recovery with employment reaching pre-pandemic levels by the end of the fourth wave in February 2022. Employment continued to climb thereafter, albeit slowly and unevenly, with a peak of 4% above pre-pandemic levels some 4 years after the initial shock.

Figure 1: National Impact of COVID-19 Pandemic for FTE Employees and Establishments



Source: Nell, A. and Visagie, J. 2025. Spatial Tax Panel 2014–2025: version 6

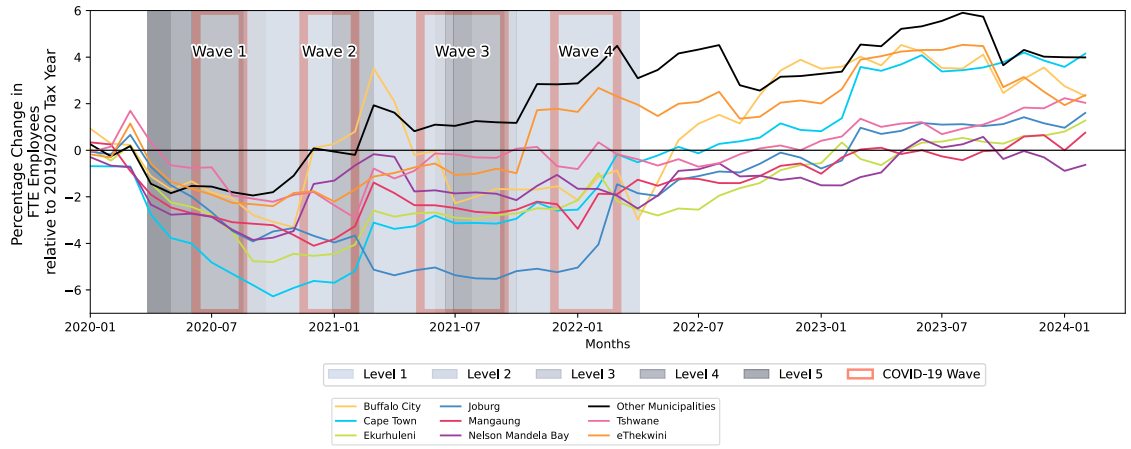
9.3 Metropolitan Municipality Impacts

While national employment recovered to pre-pandemic levels by February 2022, the uneven impact of the shock meant that some locations, sectors or socio-economic groups had barely recovered from losses experienced during the pandemic while others faired relatively better. This is the case for the metropolitan municipalities.

Overall, metros have been significantly harder hit than other municipalities across the country with employment losses exceeding 250,000 jobs (or 4% of pre-pandemic employment levels and 78% of the national losses) at the height of the pandemic. Non-metropolitan municipalities only lost 80,000 jobs (or just under 2% of pre-pandemic levels). Non-metropolitan municipalities had recovered to pre-COVID levels by December 2020 (in the middle of the second wave) and have continued to grow to over 4% of pre-COVID levels by the end of the 2023/24 tax year. However, in aggregate the metros only surpassed pre-COVID levels in October 2022 and have only grown to +-2% of pre-pandemic levels in the 4 years since the shock of the pandemic. Growth of the non-metropolitan municipalities appears to be driven by the Agriculture, Mining and Government (see section 9.4).

Figure 2 shows the seasonally adjusted percentage change in employment in each metropolitan municipality and all other municipalities combined, compared with the 2019/20 tax year employment levels. All of the metros were affected by the pandemic with employment losses at the height of the pandemic varying between 2% (for Tshwane, eThekwini and all other non-metropolitan municipalities) and 6% (for Cape Town and Joburg – the two largest economies). Most metros experienced some recovery between the first 3 waves and lockdowns, except for Joburg which seemed to experience the highest losses in the second year of the pandemic. However, recoveries varied between each municipality significantly. For instance, Nelson Mandela Bay still has fewer employment opportunities than before the pandemic, and Ekurhuleni and Mangaung have only just surpassed pre-pandemic employment levels in the 2023/24 tax year. These trends may not be solely attributable to the COVID-19 pandemic, however, the economic shock was a clear catalyst in their demise.

Figure 2: Metro-level Impact of COVID-19 Pandemic for FTE Employees



Source: Nell, A. and Visagie, J. 2025. Spatial Tax Panel 2014–2025: version 6

As noted, Tshwane and eThekwini were the least affected by the pandemic, with maximum losses of +-2% of employment and both recovered sooner than other metros. Tshwane was likely shielded due to the concentration of national government workers who enjoy greater job security. Similarly, the recovery of eThekwini was almost exclusively driven by spikes in government-related employment (split between local and provincial government employment). Many traditional sectors struggled, particularly Manufacturing, Arts, Entertainment & Recreation, Construction, as well as Administrative & Support services (see section 9.4)

Joburg was hardest hit in the second year of COVID with this loss largely driven by the Administrative & Support Activities sector – accounting for nearly 40% of the employment losses. The recovery in Joburg was driven predominantly by growth in Other Service Activities, Government, Education, and Finance & Insurance Activities (particularly in the 2023/24 tax year). However, several industries still employed less employees than they did in 2019/20 baseline including: Construction, Manufacturing, Administrative & Support Activities, and Retail.

While Cape Town suffered from Covid the most of any metro, with the largest fall in employment levels, it also registered the strongest recovery, reaching pre-pandemic levels of employment by March 2022. Employment growth in Cape Town has continued to impress reaching a high of 4% (relative to the 2019/20 baseline) in March 2023 – the highest growth of any metro. This growth is attributed to several sectors including: Finance & Insurance, Government, Other Services, Administrative & Support Activities, and Education. Interestingly, the construction and manufacturing sectors have shown little sign of recovery in Cape Town.

9.4 Impact by Industry

A key question is how the pandemic impacted different sectors within metro economies? The economic shock of Covid in 2020/21 led to a contraction in employment numbers in almost two thirds (65.2%) of all 5-digit industries – among 520 industry categories – and a severe contraction of more than 5% in employment levels in 43% of industries. Hence employment losses were widespread across most sectors, notwithstanding some exceptions such as government-related services. Looking beyond the shock into the post-Covid period, we still find that by the end of the period in February 2024 only half (48.3%) of all 5-digit sectors had recovered to pre-pandemic employment levels or above.

Figure 3 shows how job losses and gains played out across broad industries (1-digit level) in the metros compared with their pre-Covid baseline. The initial losses totalled more than 300,000 FTE opportunities compared with only a few industries that registered any net job growth, which added up to approximately 50 000 FTE opportunities in the 2020/21 tax year.

Some of the big losers included the 'Manufacturing', 'Construction', 'Wholesale and retail trade', 'Administrative and support activities' and 'Accommodation and food service' sectors. Many of these industries were forced to cease, or scale down, their operations due to greater dependence on interpersonal contact or on-site work, as in the case of retail, restaurants, hotels, factories or building sites.

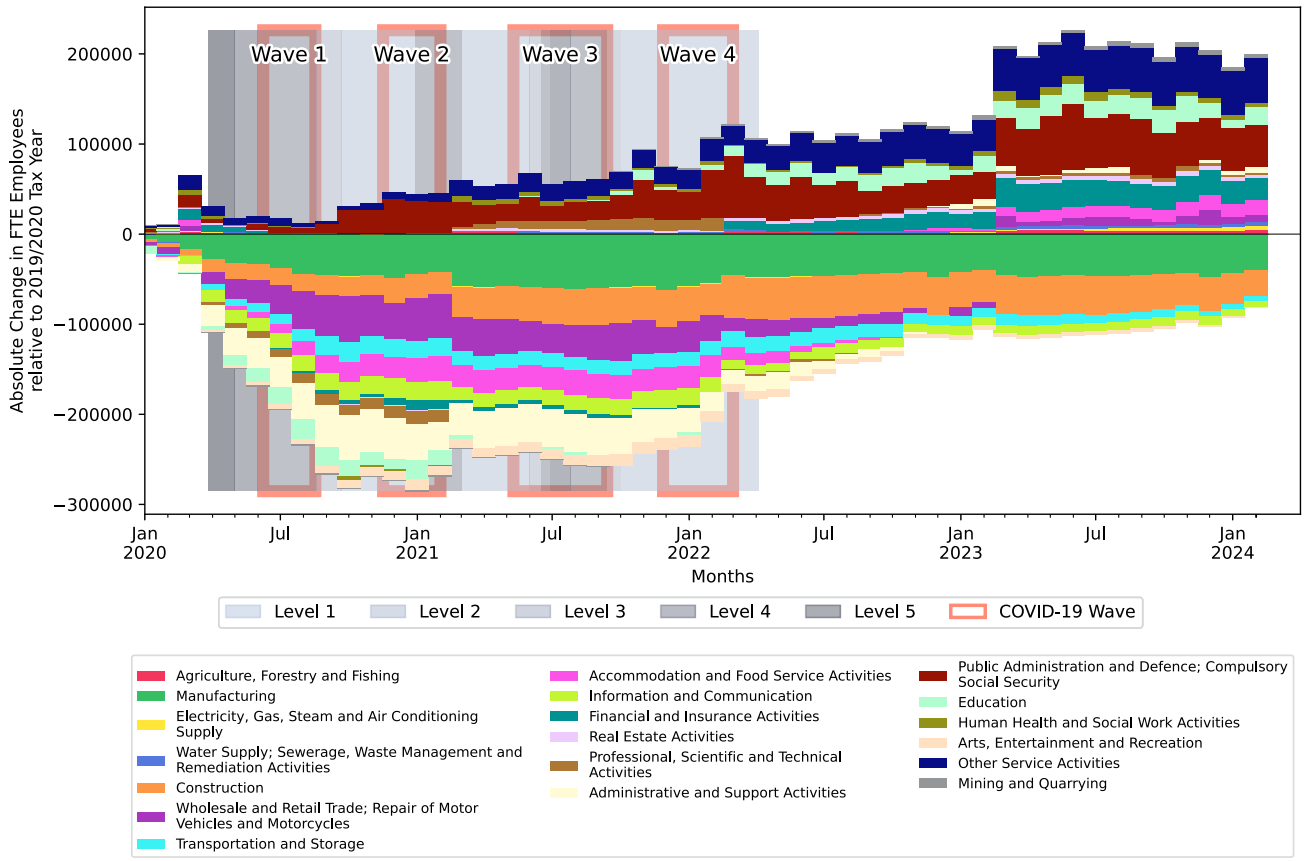
However, among the industries that lost jobs during the pandemic, several have shown little to no sign of recovery in the subsequent years – which is of greatest concern. These include 'Manufacturing', 'Construction' and to a lesser extent 'Information & Communication' and 'Transportation & Storage'. This stand in contrast to other 'big losers' such as 'Wholesale and retail trade', 'Administrative and support activities' and 'Accommodation and food service' sectors which have managed to build back and surpass pre-pandemic levels.

It is worth noting that industries like 'Manufacturing' and 'Construction' are key drivers of development in a healthy economy. The malaise experienced by these industries is symptomatic of a deeper stagnation in the South Africa economy, which has been exacerbated by the Covid economic shock.

'Professional, scientific and technical services', 'Mining & quarrying' and 'Financial & insurance activities' also experienced declines with the onset of COVID-19, but have since recovered fully and moved back to positive net growth as early as February 2021 (directly after the second wave and lockdown). The early recovery suggests that these industries may have greater resilience and/or more adaptability or capability to adhere to safety protocols and regulations such as the ability for workers to work remotely or similar.

The only two industries to consistently show growth over the period relative to 2019/20 levels were the 'Public administration' sector (which includes all government agencies and departments) and 'Other Services Activities' (which includes a diffuse set of general services from repairs, hair dressing to religious or political organisations). The growth in 'Public administration' is indicative of the countercyclical role of government.

Figure 3: Absolute Changes in FTE Employee by Industry (1-digit level) across all Metropolitan Municipalities

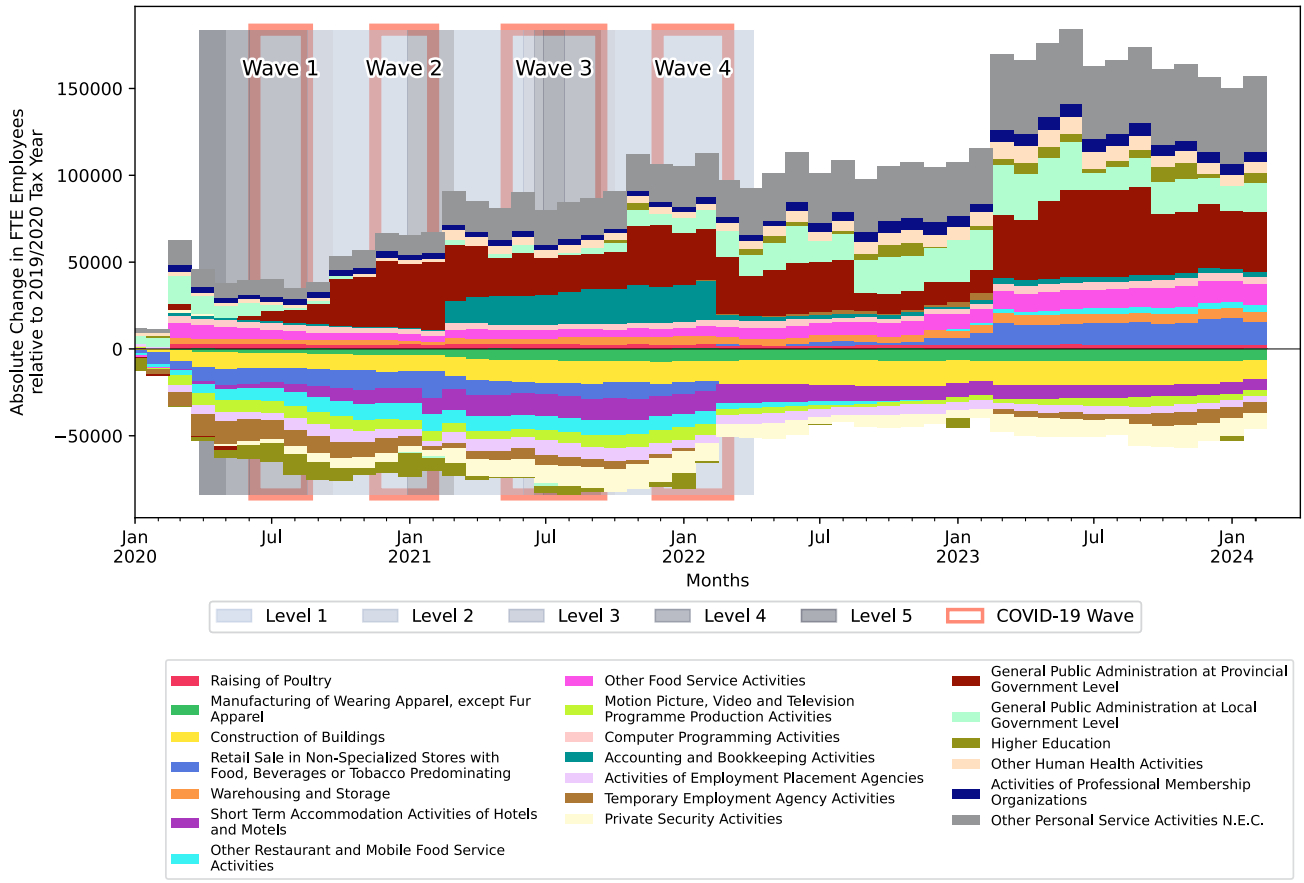


Source: Nell, A. and Visagie, J. 2025. Spatial Tax Panel 2014–2025: version 6

Figure 4 repeats this exercise but at the 5-digit industry level in order to uncover changes within comprehensive sector categories[4] (i.e. looking at extremely detailed sub-industry groups). Only the 10 top and 10 bottom sectors at a 5-digit level for net jobs in metros over the 2020/21 and 2021/22 tax year period are included. Corresponding table 1 in Supplementary Figures provides more information about the best and worst performing sectors for each metro, and in grouped non-metropolitan municipalities.

4 Please refer to Stats SA's SIC7 classification for detailed descriptions of each of the categories shown.

Figure 4: Absolute Changes in FTE Employee by Industry (5-digit level) across all Metropolitan Municipalities



Source: Nell, A. and Visagie, J. 2025. Spatial Tax Panel 2014–2025: version 6

The results generally align with the trends at a 1-digit level. The biggest losers include sub-sector activities within 'Manufacturing' (such as 'Manufacture of wearing apparel'), 'Construction' (such as 'Construction of buildings'), 'Administrative and support activities' (such as losses in 'Temporary employment agency services', 'Activities of employment placement agencies' and 'Private security'), as well as 'Accommodation and food services' (such as 'Short term accommodation' and 'Other restaurant and mobile food service activities')[5]. All of these sub-sectors, except for those within the 'Administrative and support activities' sector, declined in all metros and non-metropolitan municipalities.

9.5 Impact on Earnings

We have shown that Covid-19 had an uneven impact on employment outcomes for different sectors and sub-sectors in different parts of the country. What did this mean for low, medium and high earners along the wage distribution?

5 Interestingly, 'Other food service activities' experienced consistent growth over the period which might reflect some switching in modes of consumption as conventional food services were disrupted.

Figures 5 and 6 show the seasonally adjusted absolute and percentage changes in FTE employees per wage band relative to the 2019/20 tax year respectively. There was a massive, but temporary, spike during the first year of COVID in opportunities for employees at the very bottom of the earnings ladder who earned less than R3.2k a month. The number of bottom tier earners had already returned back to 2019/20 levels in the 2021/22 tax year.

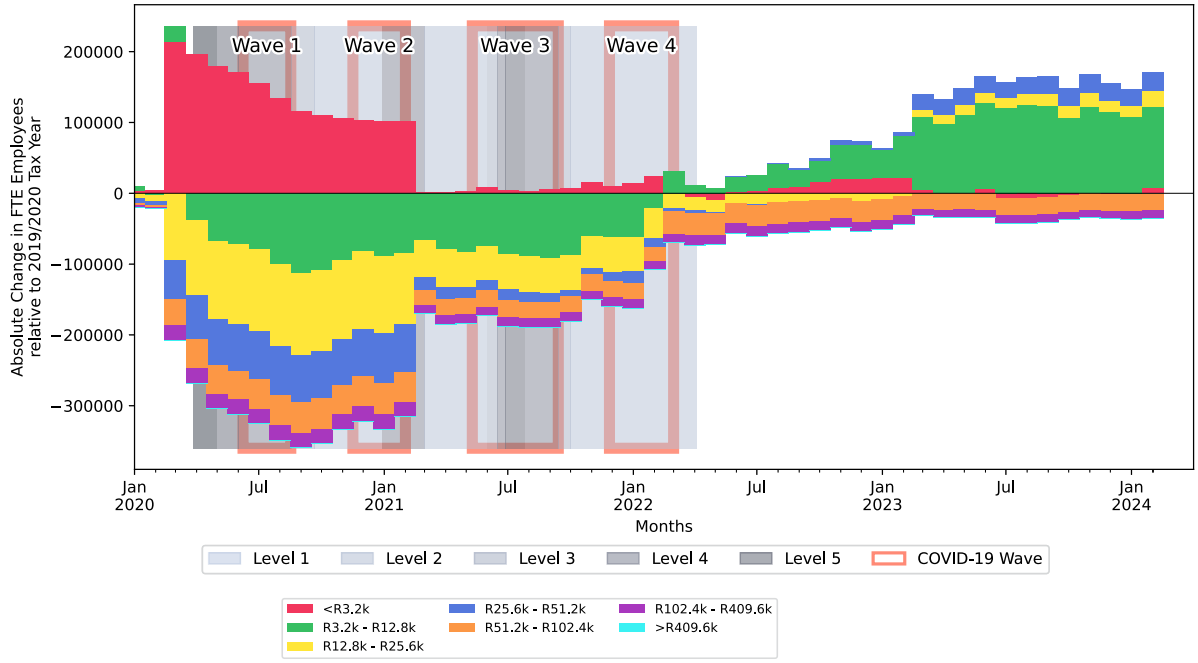
We think that this obvious spike in very low wage earners probably represents some temporary reallocation of workers into low wage bands for a limited period, such as in salary reductions or furlough schemes, in the hope of retaining jobs in the longer term. The fact that this low-wage group disappears in the second year of the pandemic, means that these workers were either laid off permanently or else returned back to their former wage employment. This warrants further investigation by using longitudinal tax data at a worker-level in order to track individuals and their movements over time.

Beyond the temporary surge in very low-wage workers, the pandemic brought about a decline in the number of workers across all other income groups, with peak losses of roughly 350 000 FTE opportunities in September 2020 (at the end of the first wave and lockdown). Figure 5 shows that workers in the R12.8k – R25.6k band were hardest hit in absolute number. Yet employment losses were fairly consistent at between 4% and 13% of workers across each of the earnings bands. Interestingly, the two highest income groups – salaries of more than R102.4k and R409.6k per month respectively – did show higher relative losses compared to other groups but these numbers were insignificant in absolute terms due to the low base of very high earners. It is possible that losses across income groups, particularly the middle income groups, are cushioned by reduced wages or furlough schemes that drop the calculated monthly earnings of many individuals. This may also explain the proportionally higher percentage losses as the wage bands are increased.

Employment levels began to recover in the 2021/22 tax year but had yet to return to pre-pandemic levels in many of the earnings bands by the end of the period in February 2024. Once again, this is most noticeable in the highest earning wage categories starting at R51.2k and above. This is particularly concerning as it suggests losses for employees who tend to pay a larger proportion of income taxes. Further work would be required to understand whether these workers are no longer tax residents or still in the system, but earning less.

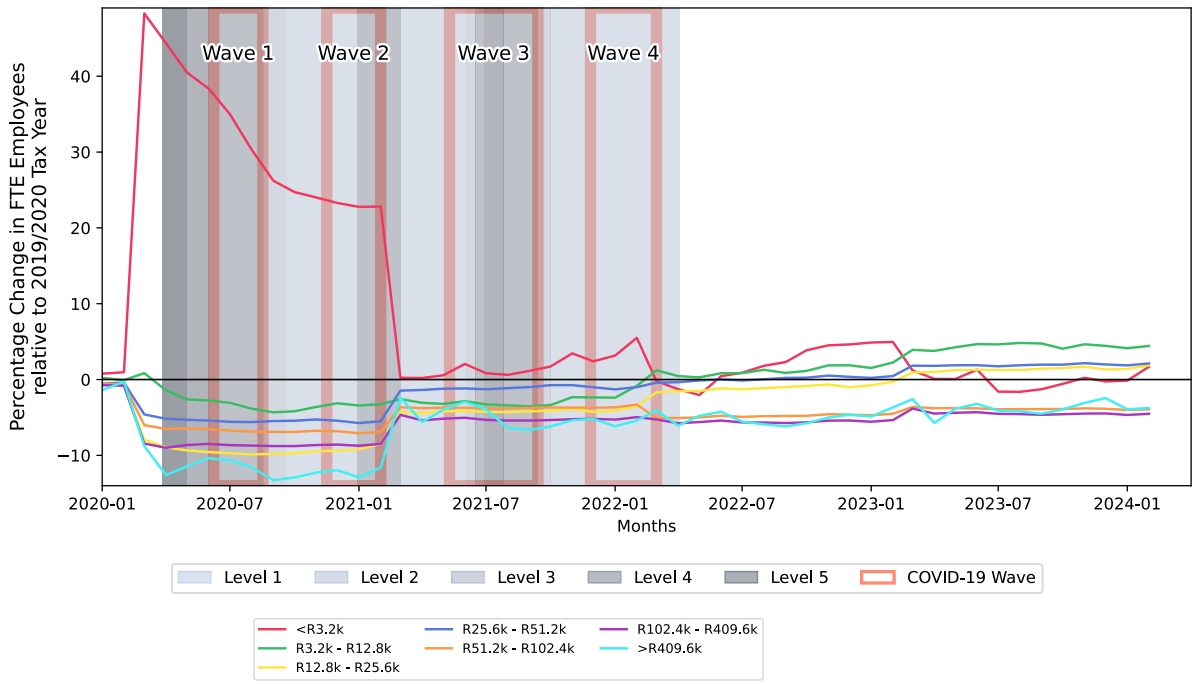
The lower earning R3.2k to R12.8k wage group also shows an interesting pattern. These lower wage earners experienced consistent losses during both Covid years (roughly 100k lost opportunities) only recovering in February 2022 once all Covid restrictions were removed. Yet, these were also the first wage group to surpass pre-pandemic employment levels suggesting greater sensitivity to external conditions. Further work should focus on whether these workers tend to have multiple jobs, the extent of job churn as well as the odds of finding new employment. Further work could also focus on identifying specific industries which might support job creation for lower income workers.

Figure 5: Absolute changes in FTE employee by wage band across all metropolitan municipalities



Source: Nell, A. and Visagie, J. 2025. Spatial Tax Panel 2014–2025: version 6

Figure 6: Percentage changes in FTE employee by wage band across all metropolitan municipalities



Source: Nell, A. and Visagie, J. 2025. Spatial Tax Panel 2014–2025: version 6

A complementary approach to exploring changes in earnings is to look at median income levels. We estimate that national median income dropped from +-R12 500 in the 2019/20 tax year to +-R11 400 during the pandemic. Unfortunately, median income has yet to recover to pre-pandemic levels and is currently sitting at +-R11 700 in the 2023/24 tax year.

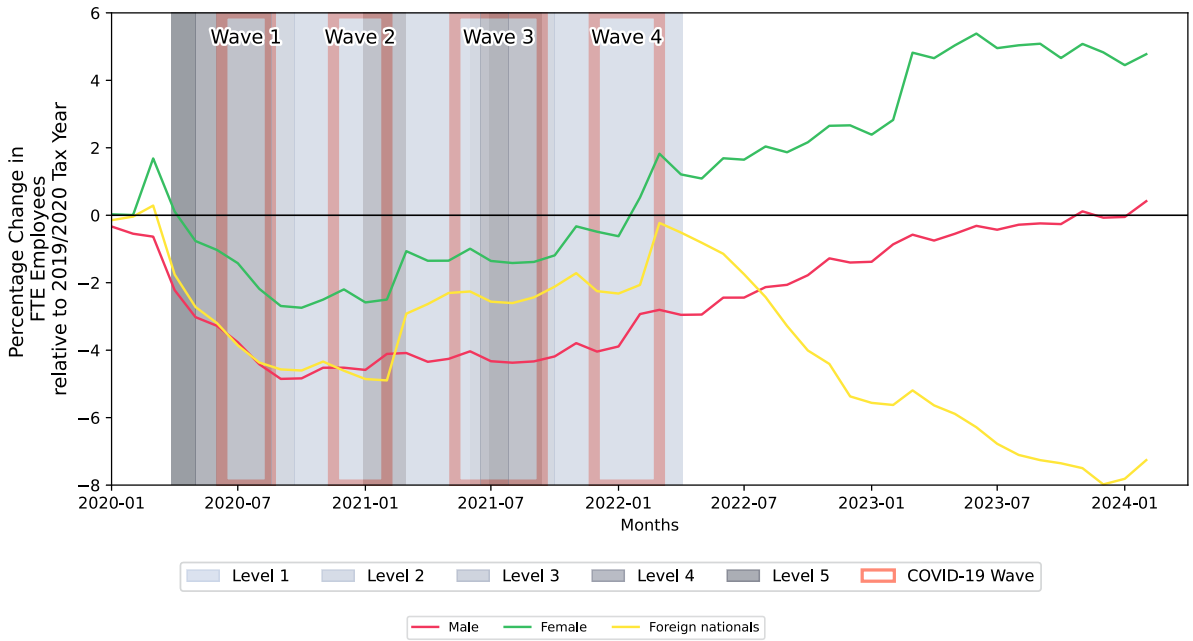
A similar pattern is observed when examining median earnings across each of the metros, with the following key observations emerging:

- Job opportunities where employees earned between R12 800 and R51 200 recovered to above 2019/20 levels in Tshwane and Mangaung in 2022. This resurgence was related to the increase in provincial and local government jobs, as well as the prominence of health care and education sectors.
- All wage bands in Cape Town had surpassed pre-pandemic levels by the start of the 2023/24 tax year. Future research could explore how differences in wage levels between metros and with the rest of the country impacts on the degree of migration and workforce sorting over time.
- The recovery in eThekwini from October 2021 (after the third wave) is dominated by opportunities for workers earning below R12 800 per month, while higher wage bands experienced fairly consistent losses. New employment appears to be driven by opportunities in provincial and local government, which had replaced workers in other sectors.
- The spike in employment in the summer of 2020/21 in Buffalo City and Nelson Mandela Bay is almost exclusively driven by employment in wage bands below R12 800 per month. Upon further inspection of the raw data, this is again attributable to both local and provincial government activities.

9.6 Impact by Sex and Nationality

Did the COVID-19 shock affect male and female employees differently? The tax data allows us to identify individual employees' sex (as assigned at birth) based on their ID number along with a residual category for foreign nationals[6]. The seasonally adjusted percentage changes in FTE employees by sex relative to the 2019/20 tax year are shown in figure 7.

Figure 7: Percentage change in FTE employee by sex across all metropolitan municipalities



Source: Nell, A. and Visagie, J. 2025. Spatial Tax Panel 2014–2025: version 6

6 Who do not have South African ID numbers and therefore do not have their sex classified in the data.

Female employees were the least impacted by the economic shock of Covid-19 with a maximum loss of +-80k FTE opportunities (2.5%). They also showed strong signs of recovery and subsequent growth – bouncing back to pre-pandemic levels in February 2022 and ending the period 4% stronger at the end of February 2024.

By contrast, male employment reduced by +-160k FTE opportunities (5%) during the first wave of Covid, with losses stabilising from September 2020 onwards (after the first wave and lockdown) and the recovery starting in January 2022 after the second wave and lockdown. Male employment had only recently recovered to pre-pandemic levels in November 2023 such that the female workforce had grown while male employment had stagnated. As a consequence, the ratio of male-to-female employees nationally had shifted from 55% male dominant in 2014 to 52% male dominant in 2024. Looking more carefully at the data, we find that heavy losses in male-dominated industries such as construction and manufacturing – many of which have not yet recovered – are part of the reason behind this trend.

Curiously, parity in wage levels by sex deteriorated over the period with men now earning on aggregate 22% more than woman in 2024 compared with 14% in 2014. Deeper analysis is needed to better understand what drives these dynamics as well as to unpack the implications for vulnerable groups such as single- income, female-headed households.

Foreign nationals followed a distinct trajectory although were a much smaller group. They experienced a heavy dip in employment in response to Covid – similar to males during the pandemic – with losses totalling 5% or just over 10k FTE opportunities. Despite a resurgence and near full recovery in the 2021/22 tax year, employment of foreign nationals had significantly reduced in the post-Covid period. We estimate that employment had dropped to a maximum 8% below pre-pandemic levels in December 2023. It is not immediately clear what might be behind this depression in employment for foreign nationals but it is important to note how these trends in formal jobs stand in sharp contrast to popular opinion in the media.

These trends by sex and foreign employment are relatively consistent across each of the metros with slight differences in the extent of losses between male and female employees and foreign nationals and in the timeframes of recovery. For instance, we find that male employment had not recovered at all in Nelson Mandela Bay.

Altogether, these demographic features start to provide a clearer picture of who has been most severely impacted and who has yet to recovery which is critical in monitoring and targeting of gender equality and social inclusion.

9.7 Impact by Age Group

Were the youth disproportionately affected by the COVID-19 shock relative to other age groups? South Africa has among the highest levels of youth unemployment in the world and, as a consequence, many youth were already discouraged from actively seeking employment (Statistics South Africa, 2022).

Figure 8 shows the seasonally adjusted percentage change in employment relative to the 2019/20 tax year for different age groups in all eight metros. The figure clearly shows how the youth (aged 15 to 25 years) faced the worst of employment crisis from Covid and never recovered. The level of youth employment dropped by as much as 17% with the onset of Covid which was far more severe than other age groups. By the end of the last wave and removal of most restrictions in April 2022, youth unemployment had showed little recovery and was still 15% below pre-pandemic levels. In the post-Covid period, youth employment began to slowly rise but only reached up to 7% below pre-pandemic levels which translates into 40k less employment opportunities than in 2019/20. This is still severe when compared to other age groups who had only experienced losses between 1% and 6% of employment at the height of the pandemic.

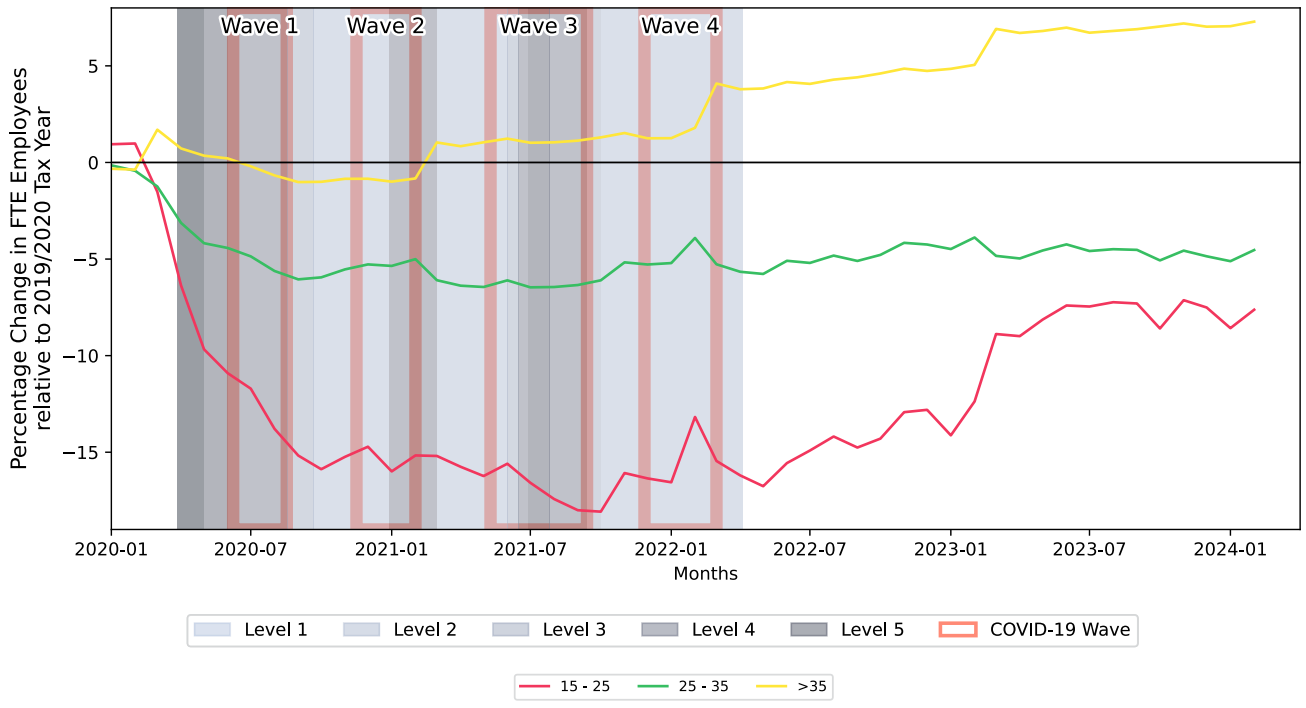
Moving up an age band to consider individuals aged 25-35 years is also fairly bleak. This age group experienced a 6% loss in FTE opportunities and had shown almost no recovery since ending the period at 5% below pre-pandemic levels (100k FTE opportunities lower) in February 2024.

By contrast, employees aged over 35 years experienced hardly any losses in employment relative to the 2019/20 tax year in the first year of the pandemic. Employment levels had surpassed pre-pandemic employment levels by the start of the 2021/22 tax year with relatively solid growth year after year thereafter.

It is important to note the absolute number of FTE employees are concentrated in the over 35 age group (60% in the 2019/20 tax year) with proportionally lower numbers in the 25-35 and 15-25 age groups (32% and 8% respectively in the 2019/20 tax year). The pandemic has begun to shift these proportions ending in a split of 63%-30%-7% for >35, 25-35 and 15-25 age groups respectively. These trends are mirrored when looking at trends by age group in each of the metros. The only exception is in Cape Town and Buffalo City where younger 15–25 and 25–35 age groups had at least returned to 2019/20 levels by 2024 which warrants further research.

These job losses among younger workers exacerbate an already pressing crisis of exclusion of younger people in the economy. Covid-19 is a worrying setback in breaking cycles of exclusion that prevent younger workers from entering employment and gaining invaluable experience. An avenue for further research would be to use tax data to explicitly identify the types of companies and sectors that have created the greatest number of opportunities for younger workers.

Figure 8: Percentage Change in FTE Employee by age group across all Metropolitan Municipalities



Source: Nell, A. and Visagie, J. 2025. Spatial Tax Panel 2014–2025: version 6

9.8 Impact on Neighbourhoods

A big advantage of the Spatial Tax Panel is the ability to track spatial patterns in employment within metros at the neighbourhood (hexagon) level. The tax panel identifies changes in employment based on where people work rather than where they live. We make use of a bivariate choropleth map for seven metros[7] showing the percentage change in employment between pre-pandemic levels in the 2019/20 tax year and both the height of the pandemic (average between 2020/21 and 2021/22 tax years) and the latest tax year (2023/24 tax year) to illustrate the impact and recovery (or lack thereof) from the pandemic.

Figure 9 shows the results for each metro. The colouring of the maps is organised into a matrix with two dimensions:

- The size of the shock (average between 2020/21 and 2021/22 tax years) split into three classes:
  - Lighter shades: 'Unaffected' – where change in employment is above 0%,
  - Medium shades: 'Affected' – where change in employment is between 0% and -10%; and
  - Darkest shades: 'Severely affected' – where change in employment is less than -10%.
- The extent of the recovery (by the end of the 2023/24 tax year) split into three classes:
  - Purples: 'Surpassed' – where change in employment is above 5%,
  - Greys: 'Recovered/Stable' – where change in employment is between -1% and 5%; and
  - Reds: 'Lagging' – where change in employment is below -1%.

Additional information is provided in figure 10 and figure 11 of the Supplementary Figures, which shows absolute rather than percentage changes.

Unsurprisingly, approximately 55% of all hexagons located in metros registered job losses during the pandemic, rising to 63% if we focus only on hexagons with more than 1000 FTE employees. 41% of these hexagons with losses recovered to above pre-pandemic levels, rising to 46% if we again focus on hexagons with more than 1000 FTE employees. Yet there were still some exceptions where areas were unaffected or recorded growth despite the economic shock. Key points identified in the analysis include:

- CBDs generally experienced heavy declines in employment during the pandemic but some showed resilience. For example, Joburg, Ekurhuleni (focusing on Germiston CBD) and Cape Town's CBDs had all recovered or even surpassed pre-pandemic levels. However the CBDs of the remaining metros continue to lag behind pre-pandemic formal employment levels.
- Other economic nodes and industrial hubs lagged behind pre-pandemic levels including: Johannesburg: Sunninghill; Cape Town: the Atlantic Seaboard, Parow and Somerset West; eThekwini: Jacobs and Pinetown; Ekurhuleni: Boksburg CBD, Bedfordview, and Isando; Tshwane: Menlo Park; Nelson Mandela Bay: Kariega; Buffalo City: Berlin/Ntabozuko and Gonubie.
- Newer economic nodes that are often service-related centres fared better than other places and were less affected by Covid which might be attributed to their adaptability for remote work. These include: Johannesburg: Rosebank, Sandton and Midrand; Cape Town: Brackenfell and Durbanville; eThekwini: Umhlanga, Durban North, and Westville; Ekurhuleni: Edenvale and Wadeville; Tshwane: Garsfontein.

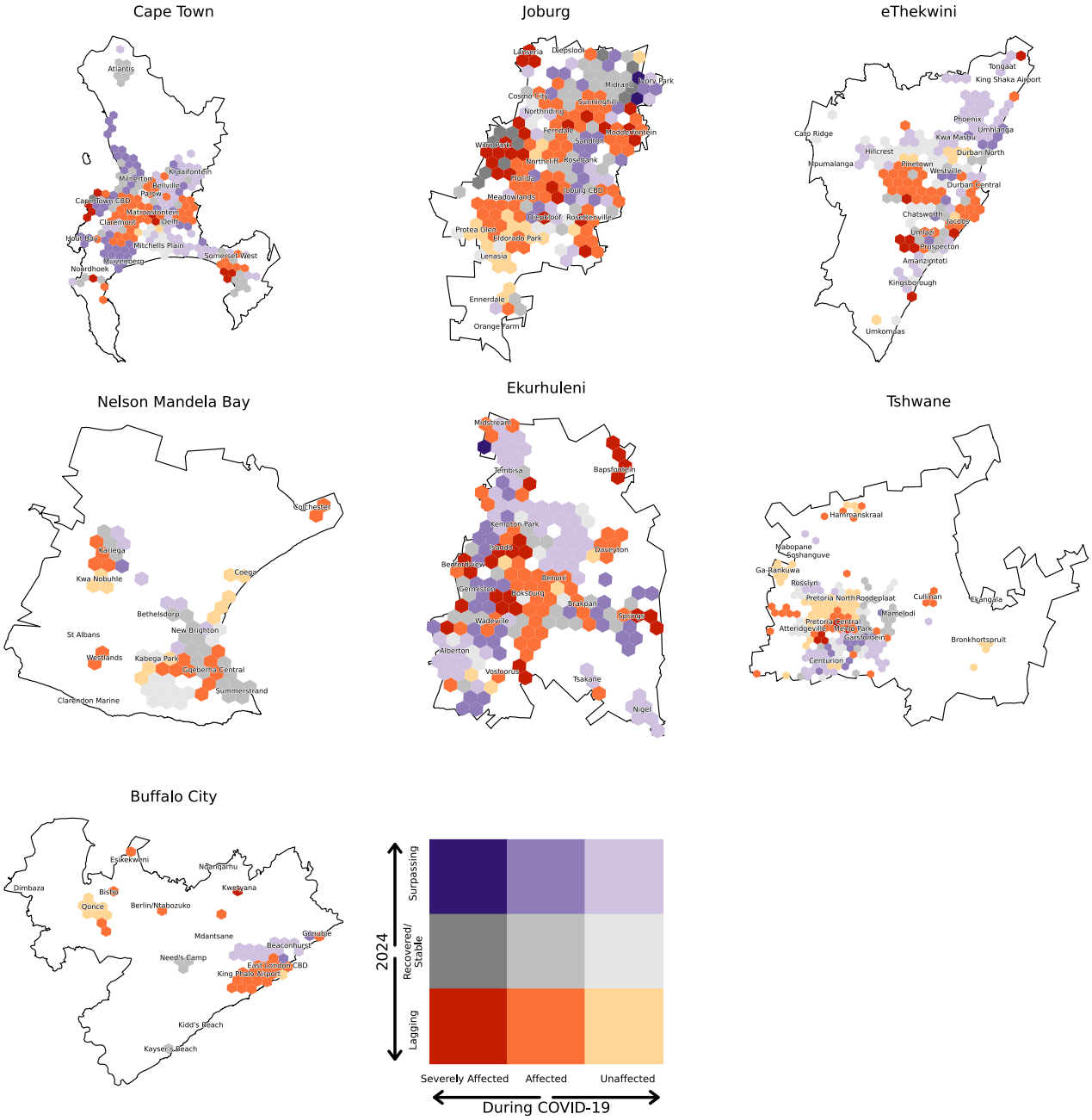
7 Mangaung was excluded as currently spatial data is disaggregated to hexagons from postal codes, and there are several postal codes that cover large areas of Mangaung that prevent any meaningful analysis from being conducted. The data is currently being geocoded at SARS, which will allow this analysis to be undertaken in the future.

- A few areas were surprisingly unaffected by the pandemic. These cases were probably shielded by the type of work and their ability to operate during lockdowns. Notable areas include: Cape Town: Claremont and Bellville; Tshwane: Centurion and Rosslyn; Nelson Mandela Bay: Coega; Buffalo City: Qonce. Further research is required to better understand how different factors influence the resilience of different places.
- Many townships appeared to be unaffected by the pandemic.[8] This is probably because of a higher concentration of formal employment in government-related employment activities such as in health care facilities, schools or similar. Township areas that were largely unaffected include: Johannesburg: Ivory Park, Lenasia, and Protea Glen; Cape Town: Mitchell's Plain, Delft and Khayelitsha; eThekwini: KwaMashu, Pheonix and Cato Ridge; Ekurhuleni: Tembisa, Tsakane/KwaTema; Tshwane: Ga-Rankuwa and Atteridgeville; Nelson Mandela Bay: KwaNobuhle.
- However there were a minority of townships which were more severely impacted by the pandemic. These include: Johannesburg: Diepkloof, Eldorado Park, and Meadowlands; Ekurhuleni: Vosloorus; Tshwane: Mamelodi, and Hammanskraal; Nelson Mandela Bay: New Brighton and Bethelsdorp; Buffalo City: Kwetyana.

Further research could attempt to evaluate the factors behind the resilience of certain places in order to understand how interventions might be targeted towards vulnerable communities and lessons replicated for these areas.

8 It is important to reiterate that this analysis does not include informal economic activities, many of which were severely impacted by the pandemic and lockdowns. This is problematic in assessing trends for townships and other areas with higher numbers of informal workers.

Figure 9: Analysis of change relative to pre-pandemic levels in FTE employees in seven metropolitan municipalities



Source: Nell, A. and Visagie, J. 2025. Spatial Tax Panel 2014–2025: version 6; Note: Hex's filtered for employment in 2020 of more than 500 fte

9.9 Conclusions

This chapter has investigated both the severity of the economic impact of Covid-19 and subsequent recovery of employment in South African metros.

A few key facts are worth highlighting:

- Formal employment losses were skewed towards metropolitan municipalities. While the rest of the country also struggled with the economic consequences of the pandemic, the workforce outside of the metros was propped up by a greater dependence on recession-proof government services, as well as resilience in agricultural and mining sectors.
- Yet even within and between metros, economic recovery was often driven in places where government-related activities played a larger role.
- The pandemic had a severe impact on youth employment which persists. During the onset of Covid, employment of workers aged 15-25 years declined sharply by as much as 17% and remained 7% below pre-pandemic employment levels by the end of the period in February 2024.
- There was a major temporary spike in employees within the lowest earnings bracket of less than R3 200 per month in the first year of the pandemic, which might suggest temporary pay reductions or a shift to lower-paying temporary work in some cases. Further research is needed to assess whether such low-wage earners managed to return back to higher wage bands or else were permanently laid off.
- High wage workers were also impacted by the pandemic with stronger relative rates of decline for earners falling above R51.2k per month suggesting some longer term erosion of the tax base.
- There were heavier losses among male employees compared with female employees, probably because of the shrinkage in male-dominated construction and manufacturing sectors.
- Employment of foreign nationals contracted and recovered during the waves of the pandemic but has subsequently declined to levels even below the lockdowns.
- Across metros, traditional CBDs and key industrial areas were among the hardest hit, with several still lagging behind pre-pandemic employment levels. In contrast, many township economies proved more resilient, likely due to their stronger reliance on government-linked services such as health, education and public administration.

This analysis offers a useful starting point in building up a more granular understanding of the economic impact of Covid-19 and subsequent recovery. It helps showcase how municipalities can use administrative data, like the Spatial Tax Panel, to identify and engage directly with business communities to identify qualitative constraints and issues that are affecting their recovery or performance. This information can be combined with other supplementary data to start identifying specific communities of people that may be more severely impacted and require other types of assistance.

The geographic consequences of the pandemic are especially important to consider given South Africa's history of spatial inequalities. This is made clearer by the distinct spatial trends that are identifiable in the data and reiterate how detrimental the spatial legacy of apartheid is to our cities and why space should almost always be included as a dimension when developing policies or plans, especially in order to build back better.

In summary, this chapter has demonstrated how the Spatial Tax Panel is a useful tool for evidence-based decision-making. The fine-grained spatial data provide much needed insights about the economic impact and continued recovery from the Covid-19 pandemic. More detailed analysis is required to uncover specific trends across different local municipalities and regions.

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Supplementary Figures

Metro-Specific Industry Trends

Table 1: Changes in FTE employees for top 10 and bottom 10 sectors at a 5-digit level across all metros (compared with the 2019/20 pre-Covid baseline)

		BCM		CPT		EKU		ETH		JHB		MAN		NMB		TSH		Other Municipalities	
		COVID	2024	COVID	2024	COVID	2024	COVID	2024	COVID	2024	COVID	2024	COVID	2024	COVID	2024	COVID	2024
Top Performing Sectors	General Public Administration at Provincial Government Level	365 (1.5)	-394 (-1.6)	1288 (1.7)	5954 (7.7)	1973 (8.1)	3127 (12.9)	4778 (7.4)	10100 (15.7)	9526 (9.1)	20189 (19.2)	616 (2.2)	318 (1.1)	1408 (7.5)	424 (2.3)	1508 (3.6)	1432 (3.4)	-25851 (-3.8)	65557 (9.6)
	Other Personal Service Activities N.E.C.	397 (42.3)	409 (43.5)	4116 (15.5)	12214 (46.1)	814 (3.5)	3166 (13.7)	-573 (-3.9)	6427 (43.9)	3350 (9.4)	9304 (26.2)	-347 (-10.0)	-178 (-5.1)	274 (5.2)	668 (12.5)	7141 (38.1)	10948 (58.4)	6047 (13.9)	10876 (24.9)
	Accounting and Bookkeeping Activities	14 (3.2)	17 (3.7)	695 (16.7)	1532 (36.8)	745 (28.2)	529 (20.0)	667 (27.0)	236 (9.5)	5782 (96.9)	-65 (-1.1)	134 (14.6)	74 (8.1)	188 (22.9)	238 (28.9)	1585 (32.4)	456 (9.3)	5887 (56.4)	1045 (10.0)
	Other Food Service Activities	215 (56.2)	538 (140.6)	3702 (36.8)	5975 (59.3)	1135 (19.5)	1252 (21.5)	-164 (-2.3)	-863 (-12.1)	1392 (16.1)	2354 (27.2)	-15 (-3.8)	251 (63.7)	-153 (-16.2)	-266 (-28.2)	-1099 (-7.3)	2044 (13.5)	-534 (-3.5)	1400 (9.1)
	General Public Administration at Local Government Level	-103 (-1.0)	22 (0.2)	941 (2.5)	4452 (11.8)	-1677 (-7.3)	-2336 (-10.2)	6787 (22.5)	15911 (52.9)	2057 (6.0)	2800 (8.1)	-735 (-13.0)	-577 (-10.2)	44 (0.5)	562 (6.5)	-3101 (-11.7)	-1734 (-6.5)	1719 (1.0)	8435 (4.8)
	Computer Programming Activities	16 (31.0)	12 (23.8)	608 (11.9)	1056 (20.7)	58 (5.5)	99 (9.4)	-43 (-1.5)	-153 (-5.4)	2340 (21.4)	2206 (20.1)	-59 (-34.4)	-25 (-14.9)	263 (61.3)	296 (69.1)	268 (6.2)	894 (20.5)	260 (23.7)	417 (38.0)

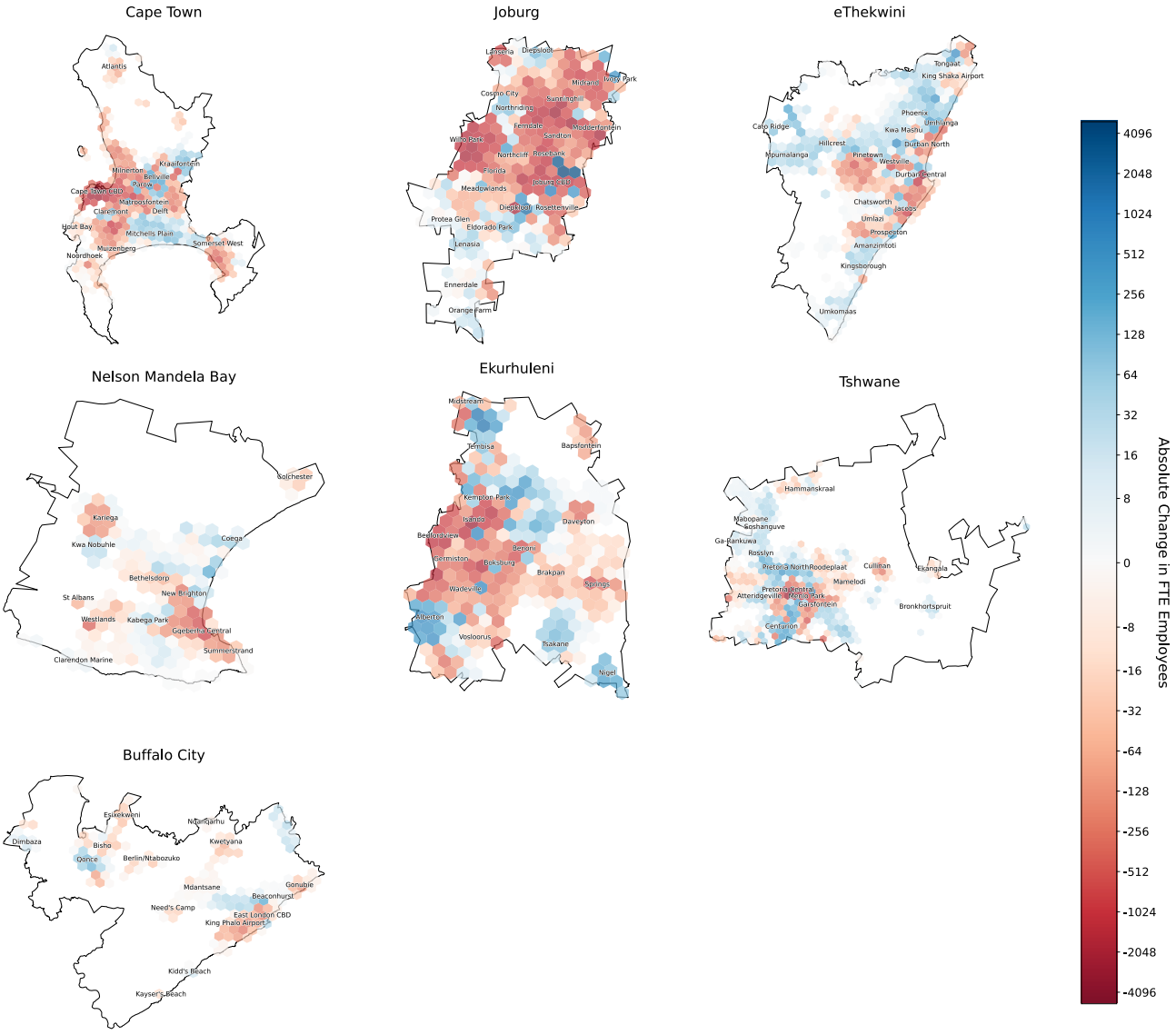
		BCM		CPT		EKU		ETH		JHB		MAN		NMB		TSH		Other Municipalities	
		COVID	2024	COVID	2024	COVID	2024	COVID	2024	COVID	2024	COVID	2024	COVID	2024	COVID	2024	COVID	2024
	Warehousing and Storage	-138 (-40.5)	-92 (-27.1)	-709 (-15.6)	-749 (-16.4)	2443 (70.9)	3415 (99.0)	354 (5.5)	382 (6.0)	658 (19.3)	766 (22.5)	-28 (-10.7)	-1 (-0.2)	-133 (-15.4)	414 (47.6)	835 (63.3)	1411 (107.1)	537 (17.8)	1768 (58.5)
	Activities of Professional Membership Organizations	11 (27.0)	-7 (-17.0)	694 (68.7)	1144 (113.4)	509 (41.6)	466 (38.1)	89 (31.1)	1391 (489.5)	1322 (27.6)	3602 (75.3)	-13 (-6.7)	16 (8.6)	99 (235.0)	157 (373.2)	525 (23.3)	58 (2.6)	568 (25.5)	1808 (81.3)
	Other Human Health Activities	164 (16.8)	1960 (200.4)	943 (9.1)	3611 (34.7)	36 (0.7)	-1086 (-20.0)	706 (17.6)	785 (19.6)	643 (4.3)	444 (3.0)	137 (28.5)	726 (151.1)	12 (1.2)	108 (11.0)	452 (7.1)	1463 (22.9)	279 (2.3)	1911 (15.9)
	Raising of Poultry	56 (57.9)	68 (69.8)	217 (8.3)	-1085 (-41.4)	2938 (319.3)	3705 (402.6)	176 (84.5)	81 (39.1)	337 (111.2)	384 (126.7)	-155 (-23.6)	-347 (-52.6)	114 (12.4)	224 (24.3)	-865 (-31.9)	-636 (-23.5)	-90 (-0.7)	430 (3.3)
Bottom Performing Sectors	Higher Education	-188 (-6.3)	-291 (-9.7)	-1276 (-4.8)	1608 (6.1)	65 (2.0)	31 (1.0)	-993 (-5.7)	-1031 (-5.9)	-1860 (-6.7)	146 (0.5)	-1058 (-10.1)	974 (9.3)	-319 (-5.1)	370 (5.9)	1019 (2.9)	2850 (8.1)	-6186 (-11.0)	-3824 (-6.8)
	Manufacturing of Wearing Apparel, except Fur Apparel	-127 (-13.9)	-136 (-14.8)	-2181 (-20.8)	-2500 (-23.8)	-121 (-29.6)	-293 (-71.5)	-1634 (-17.5)	-3062 (-32.8)	-375 (-13.6)	-700 (-25.4)			-9 (-3.6)	-37 (-15.4)	-245 (-22.5)	-318 (-29.3)	-625 (-8.4)	-1129 (-15.2)
	Activities of Employment Placement Agencies	344 (114.6)	689 (229.7)	-246 (-3.7)	766 (11.4)	965 (18.8)	2339 (45.5)	57 (0.7)	-2905 (-32.9)	-7049 (-49.1)	-5187 (-36.2)	194 (9.6)	1545 (76.6)	-48 (-2.0)	8 (0.4)	-68 (-1.6)	-1364 (-32.6)	-876 (-10.0)	839 (9.5)
	Motion Picture, Video and Television Programme Production Activities			-5902 (-33.1)	-4228 (-23.7)	101 (99.9)	145 (142.9)	94 (31.0)	100 (33.1)	-846 (-13.6)	-263 (-4.2)			16 (35.0)	23 (50.0)	127 (77.5)	83 (50.6)	186 (78.8)	268 (113.4)
	Temporary Employment Agency Activities	-308 (-13.1)	2828 (120.5)	-150 (-0.9)	3103 (18.7)	1867 (4.9)	1844 (4.8)	-4821 (-19.4)	-9954 (-40.1)	-3459 (-14.6)	-2756 (-11.7)	-219 (-21.9)	-263 (-26.2)	-224 (-7.8)	-417 (-14.4)	709 (6.0)	471 (4.0)	-5183 (-13.6)	-3213 (-8.4)
	Private Security Activities	1265 (25.5)	551 (11.1)	488 (1.8)	577 (2.2)	4466 (22.8)	2642 (13.5)	3526 (12.1)	1507 (5.2)	-15528 (-15.5)	-3656 (-3.7)	-378 (-10.8)	-803 (-22.9)	42 (0.8)	-53 (-1.0)	-1074 (-2.1)	-11304 (-22.0)	-738 (-1.0)	521 (0.7)

	BCM		CPT		EKU		ETH		JHB		MAN		NMB		TSH		Other Municipalities	
	COVID	2024	COVID	2024	COVID	2024	COVID	2024	COVID	2024	COVID	2024	COVID	2024	COVID	2024	COVID	2024
Other Restaurant and Mobile Food Service Activities	-14 (-2.0)	-124 (-17.8)	-3259 (-16.9)	2426 (12.6)	-74 (-1.8)	945 (23.2)	-1145 (-15.7)	101 (1.4)	-2246 (-17.8)	276 (2.2)	-232 (-17.1)	-137 (-10.1)	-336 (-19.7)	-22 (-1.3)	-569 (-6.6)	-333 (-3.9)	-1334 (-5.8)	2096 (9.2)
Retail Sale in Non-Specialized Stores with Food, Beverages or Tobacco Predominating	-442 (-11.7)	2082 (55.2)	-865 (-2.5)	2436 (7.2)	-602 (-3.3)	91 (0.5)	-4039 (-17.1)	728 (3.1)	-2138 (-7.1)	6466 (21.6)	-272 (-6.9)	-70 (-1.8)	-383 (-5.1)	561 (7.4)	211 (1.2)	606 (3.3)	-9360 (-7.9)	-751 (-0.6)
Short Term Accommodation Activities of Hotels and Motels	-105 (-13.7)	-179 (-23.5)	-3508 (-28.9)	-2957 (-24.3)	-785 (-24.1)	-693 (-21.3)	-1134 (-25.0)	-998 (-22.0)	-1814 (-18.7)	-883 (-9.1)	-126 (-20.5)	-111 (-18.2)	-266 (-29.4)	-227 (-25.1)	-988 (-28.7)	-1138 (-33.1)	-6048 (-19.8)	-1849 (-6.1)
Construction of Buildings	-366 (-14.6)	-226 (-9.0)	-3395 (-20.8)	-3428 (-21.0)	-2076 (-27.5)	-2362 (-31.3)	-811 (-9.3)	-1420 (-16.2)	-2478 (-16.2)	-3051 (-20.0)	-159 (-8.4)	-286 (-15.1)	-239 (-7.9)	-710 (-23.3)	-1049 (-9.5)	-1870 (-17.0)	-1426 (-3.9)	-1211 (-3.3)

Net Growth > 25%	Net Growth >= 0%	Net Decline < 0%	Net Decline < -25%

Impact of pand 4emic relative to pre-pandemic levels

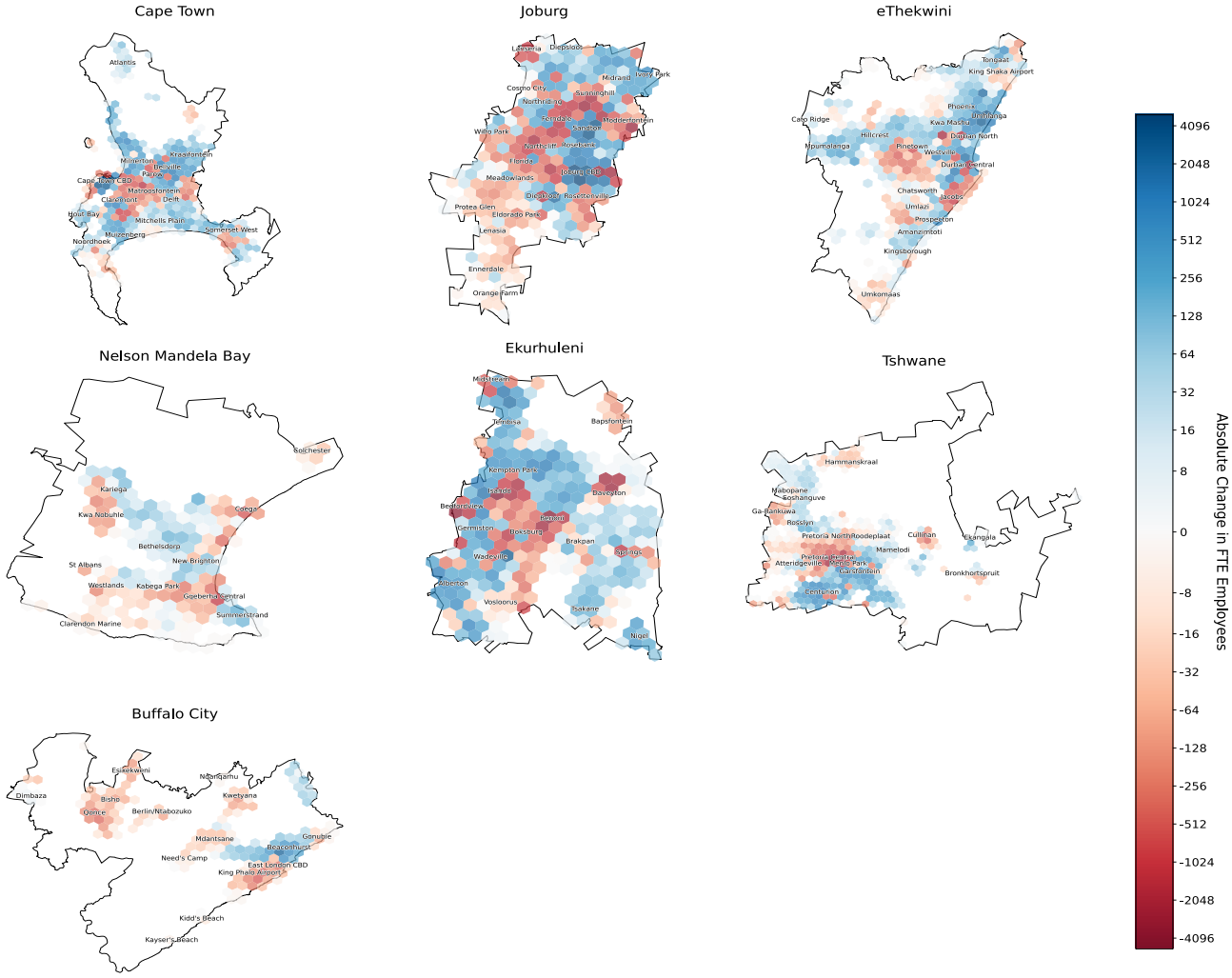
Figure 10: Absolute changes in FTE employees in seven metropolitan municipalities between 2019/20 tax year and the average of 2020/21 and 2021/22 tax years



Source: Nell, A. and Visagie, J. 2025. Spatial Tax Panel 2014–2025: version 6

Recovery relative to pre-pandemic levels

Figure 11: Absolute changes in FTE employees in seven metropolitan municipalities between 2019/20 and 2023/24 tax years



Source: Nell, A. and Visagie, J. 2025. Spatial Tax Panel 2014–2025: version 6

Annexure:

Metro and Secondary City Fact Sheets

List of metros and secondary cities

Nelson Mandela Bay

Eastern Cape

Ranked #7 by size of formal jobs in South Africa.

Shows relative specialization in 'VEHICLES', 'CHEMICALS' and 'METALS & MINERALS

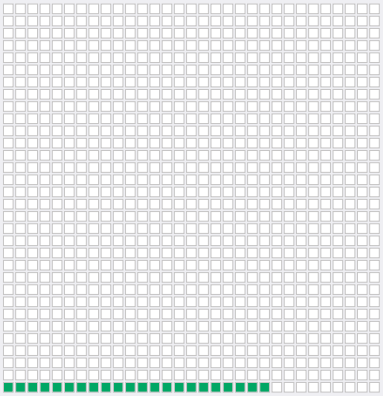
Employment in Nelson Mandela Bay grew by 3.4% (8,086 jobs) between 2014 and 2024

'EDUC' sector added the most jobs: 27,681 jobs (growing by 52.8%).

'CONSTRUCTION' sector lost the most jobs: 23,882 jobs (declining by 29.0%).

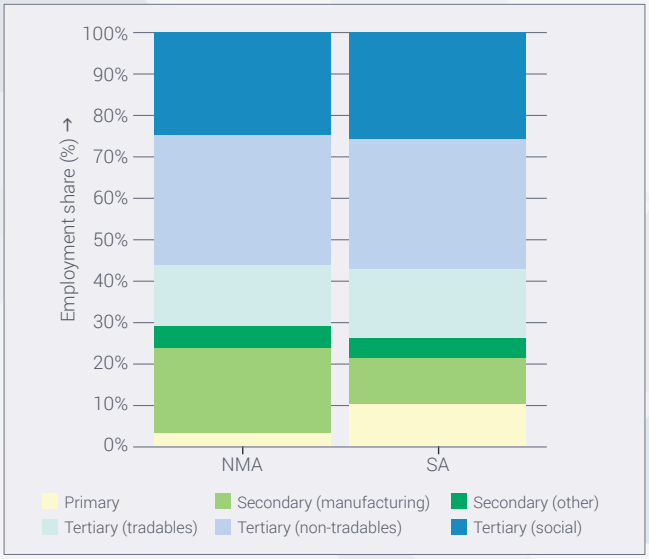
Economic Profile

Economic contribution

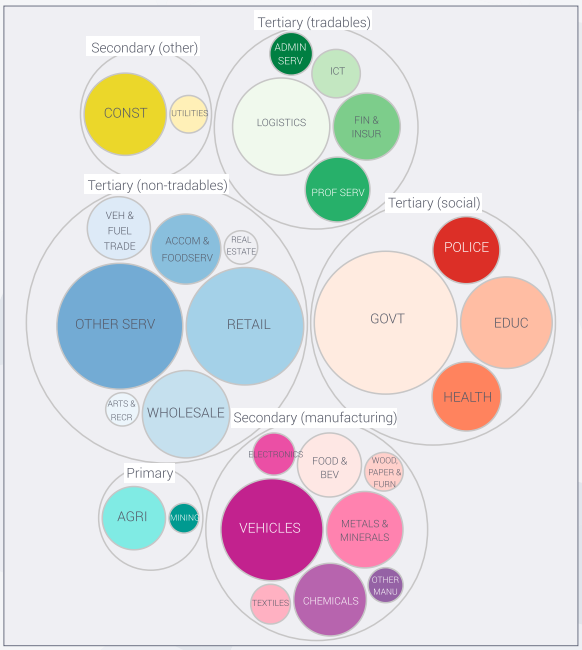


Nelson Mandela Bay contributed 243,389 or 2.2% formal jobs to the national economy

Structure of the Economy



Circle map of economic sectors

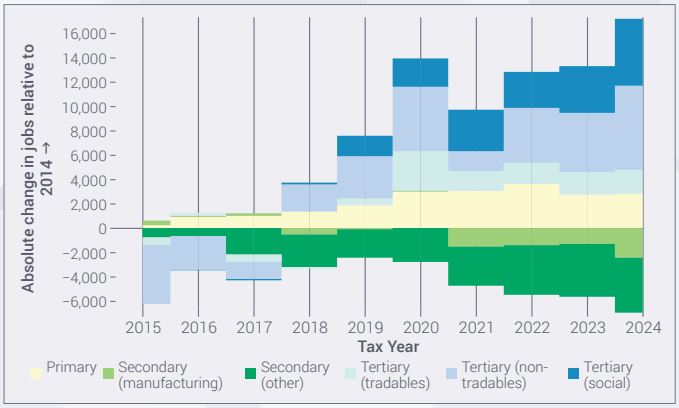


Nelson Mandela Bay

Economic Performance

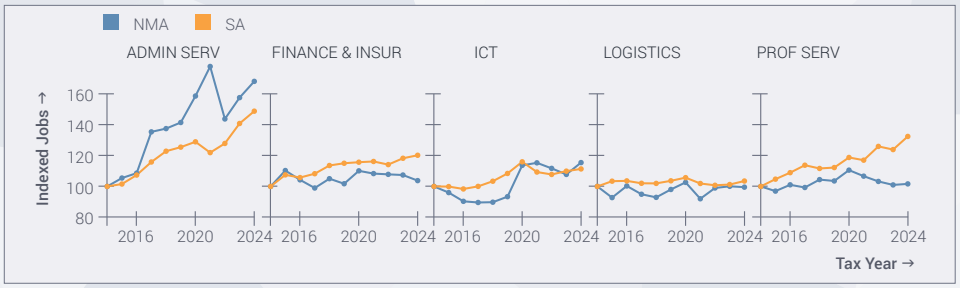
Employment growth

Sectoral employment trends



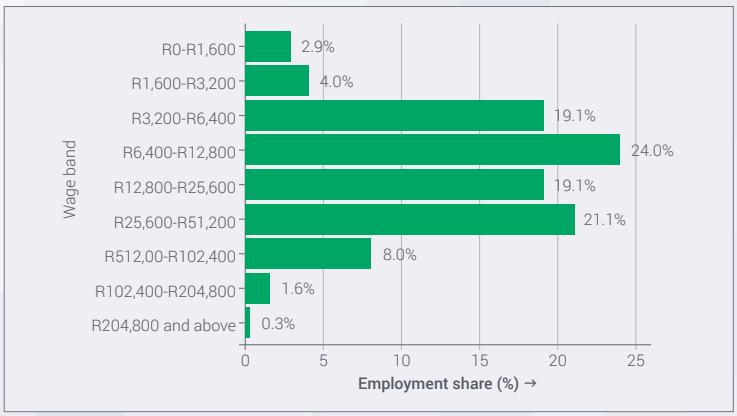
Manufacturing employment trends

Tradable service employment trends



Equity

Distribution of workers by wage band



Buffalo City

Eastern Cape

Ranked #11 by size of formal jobs in South Africa.

Shows relative specialization in 'VEHICLES', 'TEXTILES' and 'GOVT'.

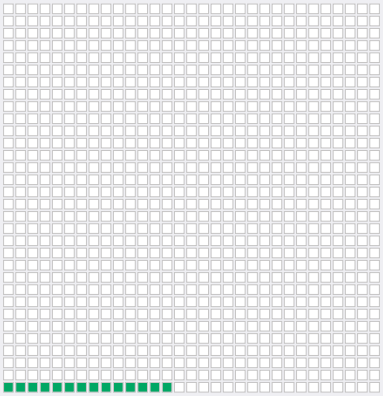
Employment in Buffalo City grew by 9.8% (14,046 jobs) between 2014 and 2024.

'ADMIN SERV' sector added the most jobs: 16,108 jobs (growing by 133.2%).

'TEXTILES' sector lost the most jobs: 18,581 jobs (declining by 52.8%).

Economic Profile

Economic contribution

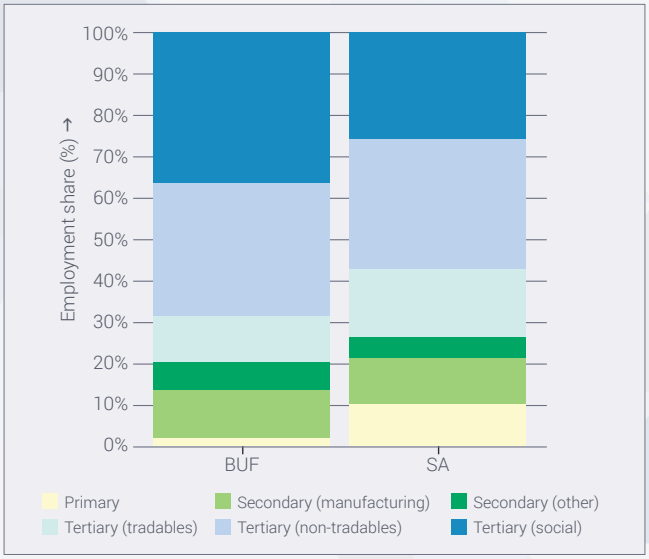


Buffalo City contributed **158,084**

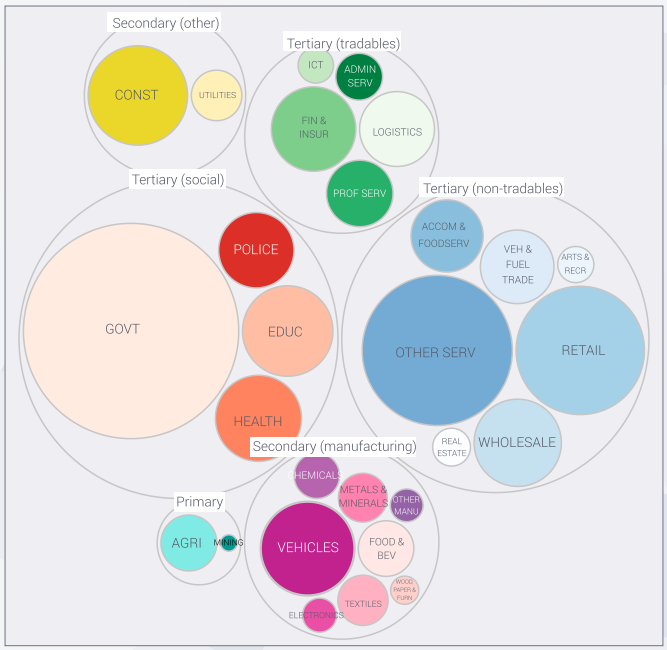
or

1.4% formal jobs to the national economy

Structure of the Economy



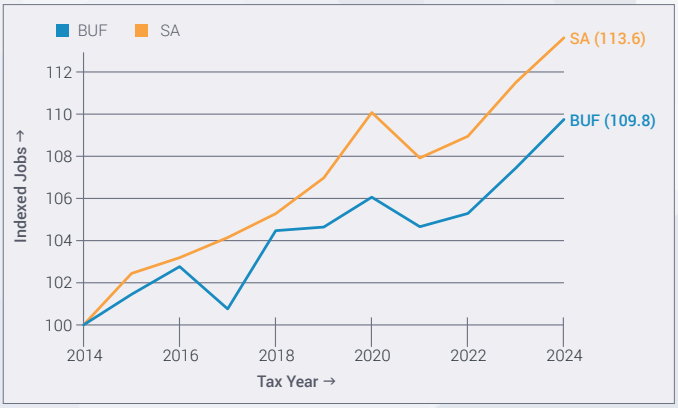
Circle map of economic sectors



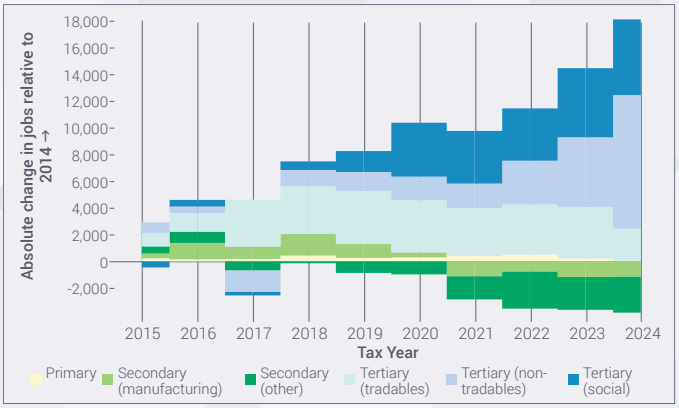
Buffalo City

Economic Performance

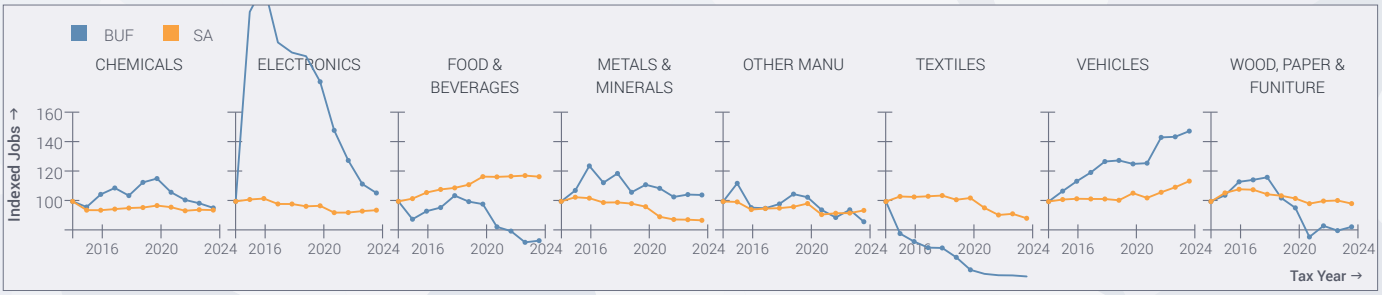
Employment growth



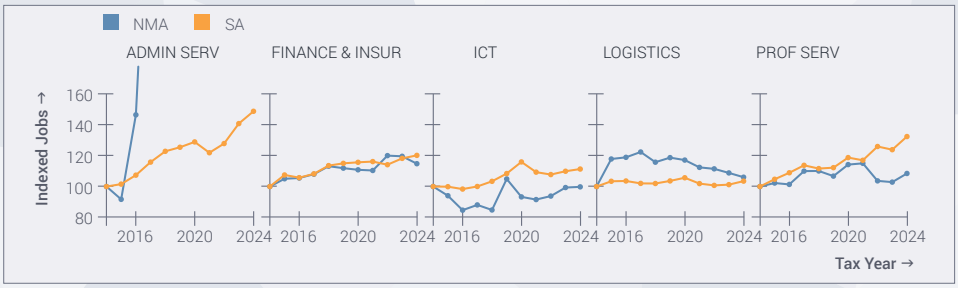
Sectoral employment trends



Manufacturing employment trends

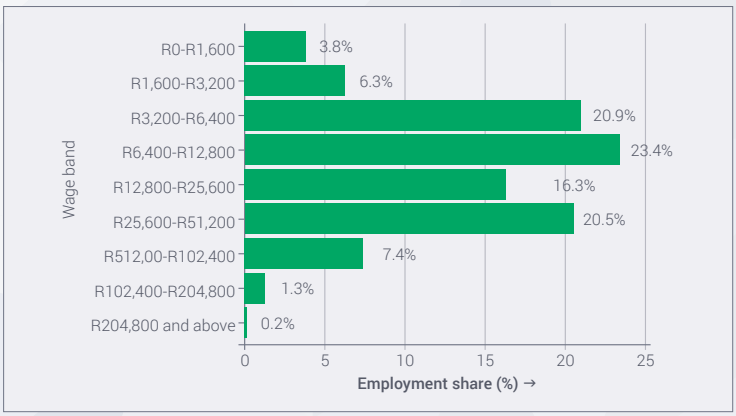


Tradable service employment trends



Equity

Distribution of workers by wage band



Mangaung

Free State

Ranked #9 by size of formal jobs in South Africa.

Shows relative specialization in 'EDUC', 'POLICE' and 'HEALTH'.

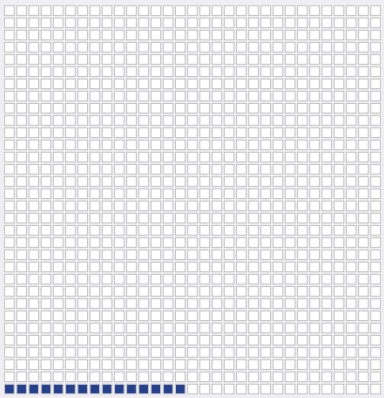
Employment in Mangaung grew by 5.9% (9,275 jobs) between 2014 and 2024.

'EDUC' sector added the most jobs: 21,191 jobs (growing by 36.9%).

'POLICE' sector lost the most jobs: 13,614 jobs (declining by 19.2%).

Economic Profile

Economic contribution

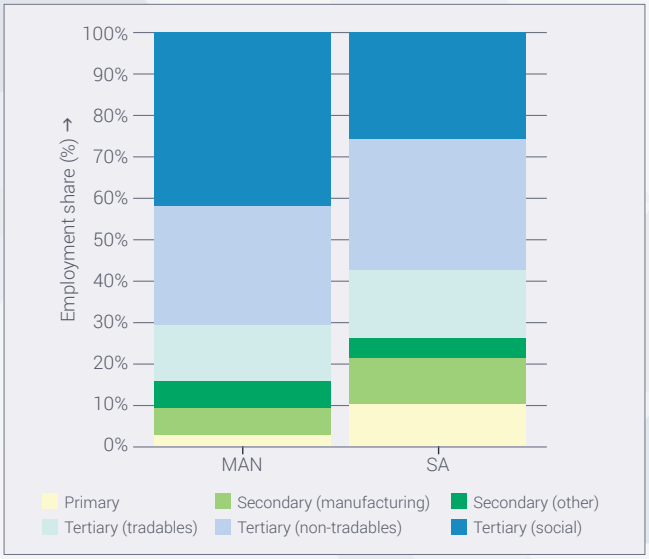


Mangaung contributed **166,610**

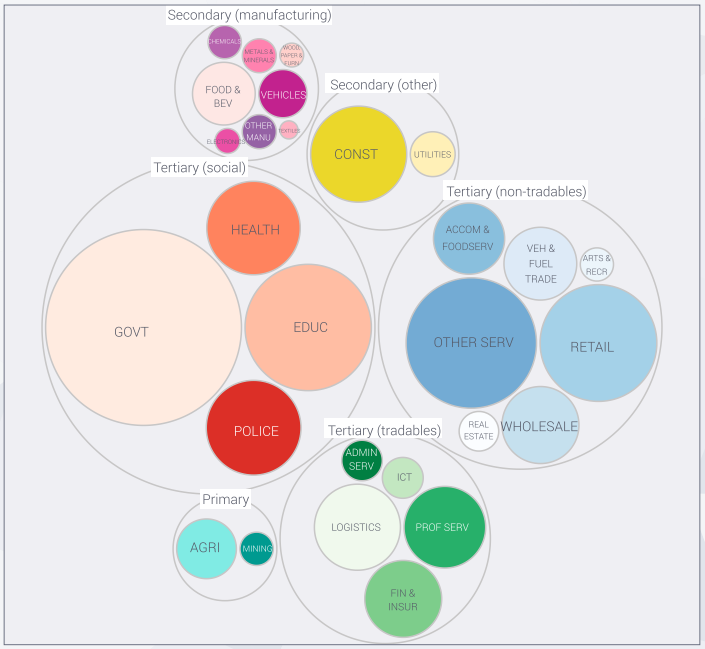
or

1.5% formal jobs to the national economy

Structure of the Economy



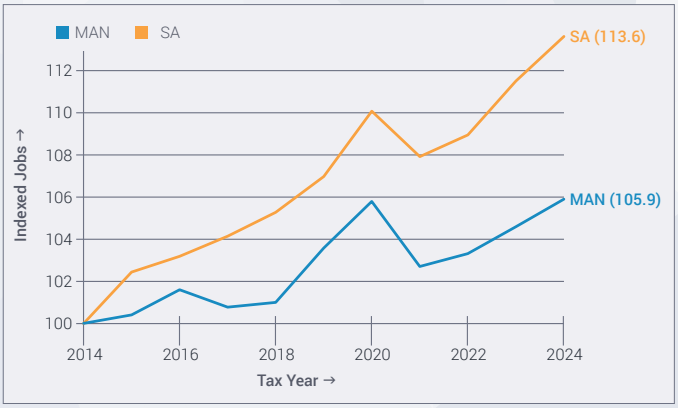
Circle map of economic sectors



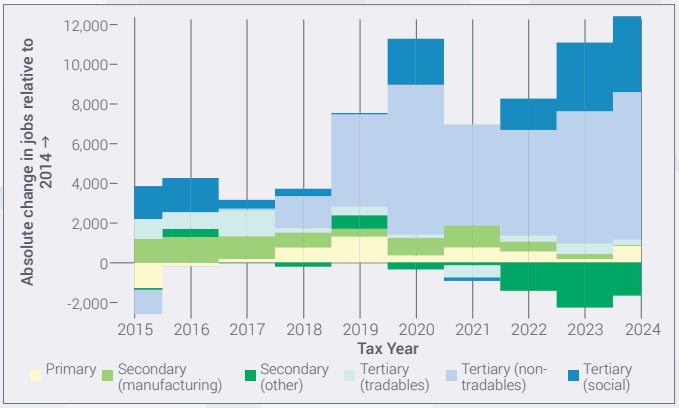
Mangaung

Economic Performance

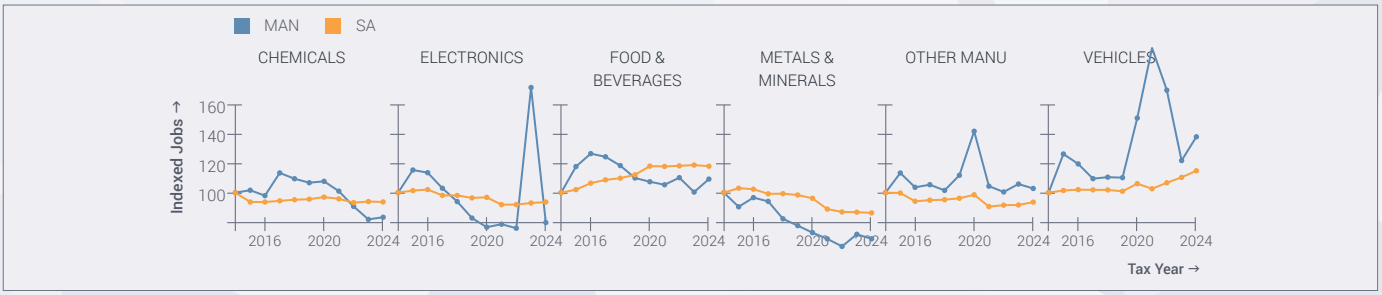
Employment growth



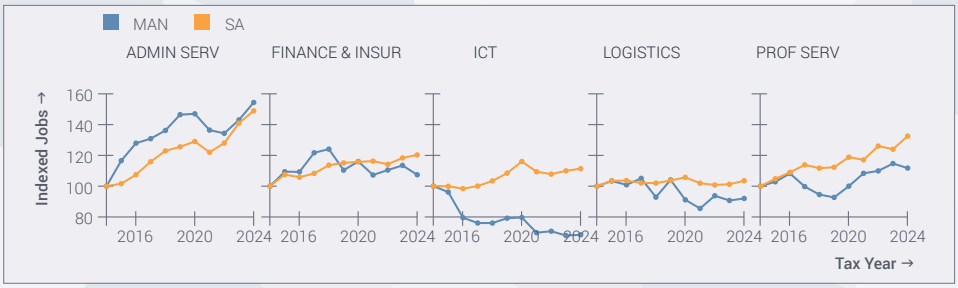
Sectoral employment trends



Manufacturing employment trends

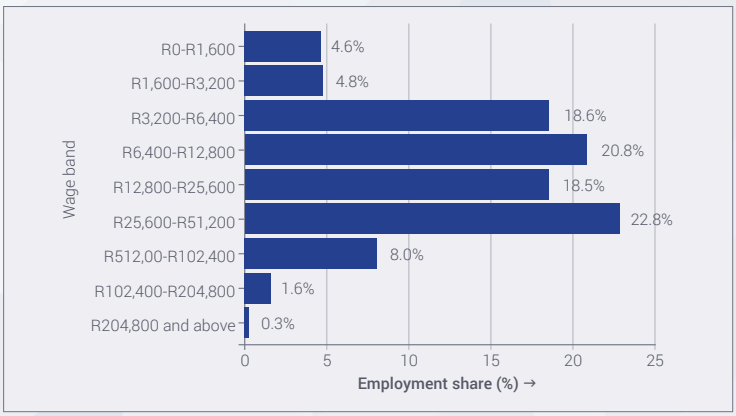


Tradable service employment trends



Equity

Distribution of workers by wage band



City of Johannesburg

Gauteng

Ranked #1 by size of formal jobs in South Africa.

Shows relative specialization in 'ICT', 'FINANCE & INSUR' and 'REAL ESTATE'.

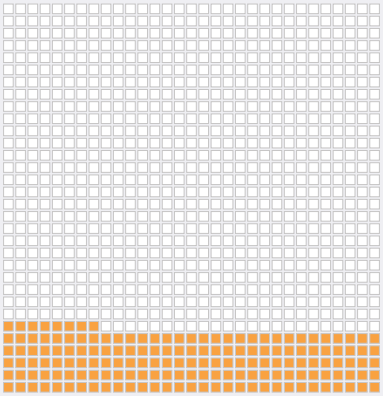
Employment in City of Johannesburg grew by 11.5% (187,586 jobs) between 2014 and 2024

'FINANCE & INSUR' sector added the most jobs: 252,212 jobs (growing by 26.8%).

'CONSTRUCTION' sector lost the most jobs: 49,605 jobs (declining by 21.8%).

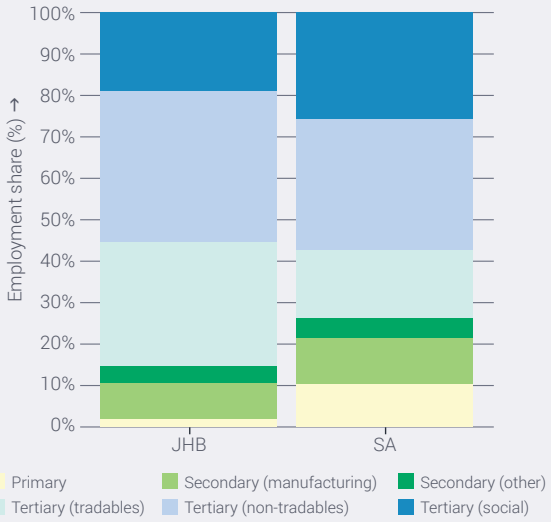
Economic Profile

Economic contribution

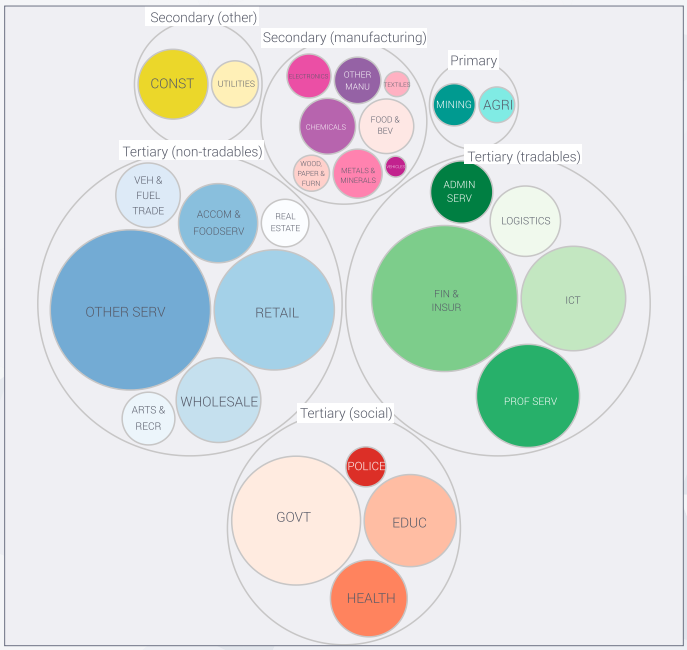


City of Johannesburg contributed 1,822,775 or 16.3% formal jobs to the national economy

Structure of the Economy



Circle map of economic sectors

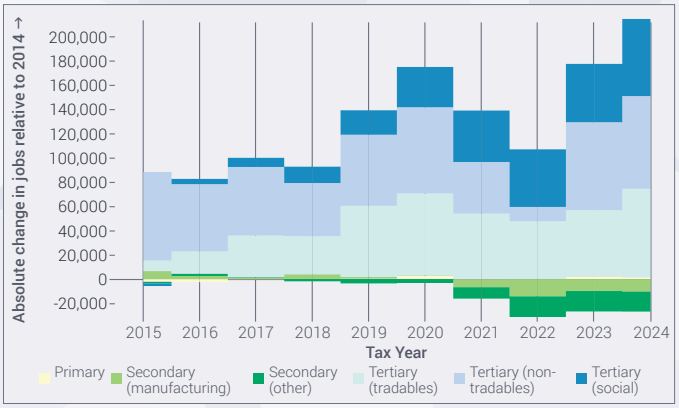


City of Johannesburg

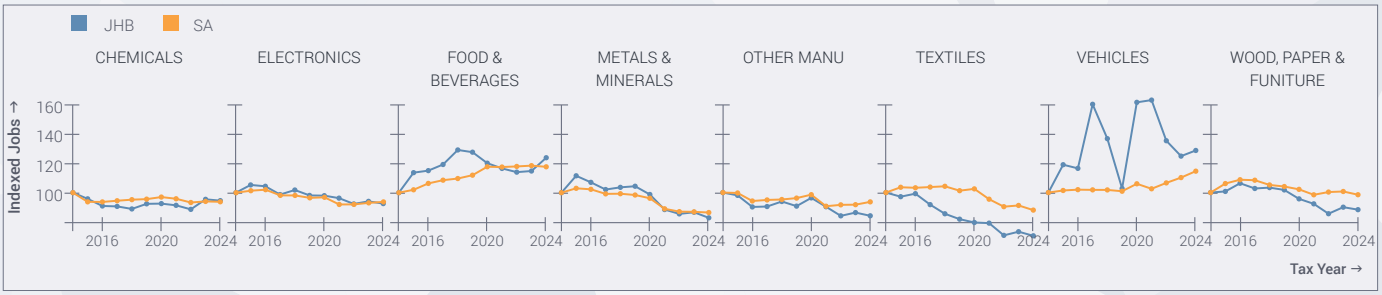
Economic Performance

Employment growth

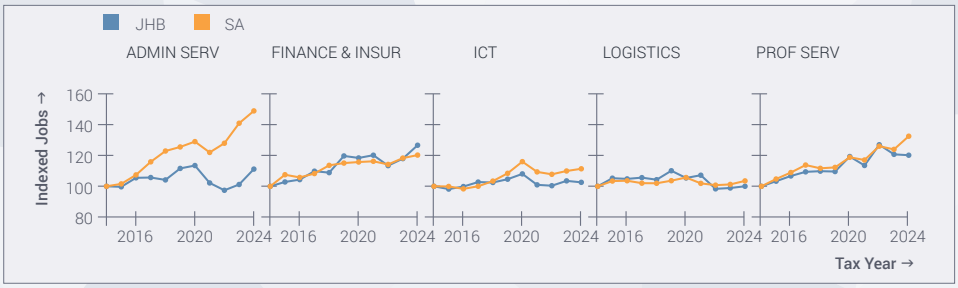
Sectoral employment trends



Manufacturing employment trends

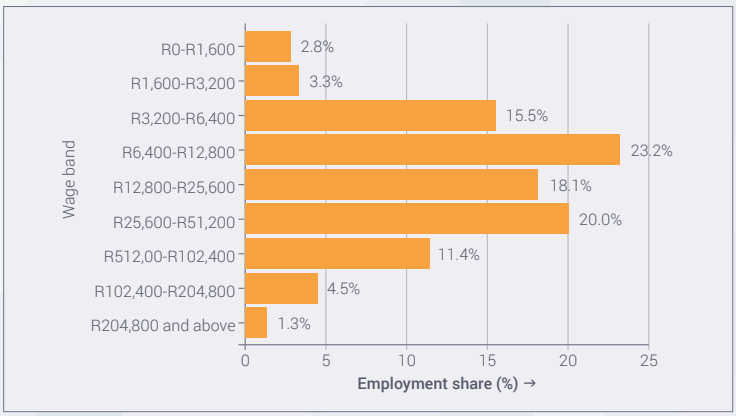


Tradable service employment trends



Equity

Distribution of workers by wage band



City of Tshwane

Gauteng

Ranked #3 by size of formal jobs in South Africa.

Shows relative specialization in 'POLICE', 'VEHICLES' and 'PROF SERV'.

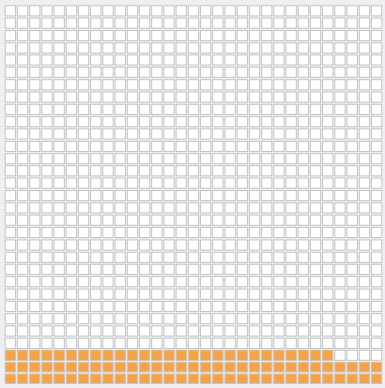
Employment in City of Tshwane grew by 17.6% (148,336 jobs) between 2014 and 2024.

'GOVT' sector added the most jobs: 285,500 jobs (growing by 25.0%).

'OTHER MANU' sector lost the most jobs: 54,753 jobs (declining by 36.9%).

Economic Profile

Economic contribution

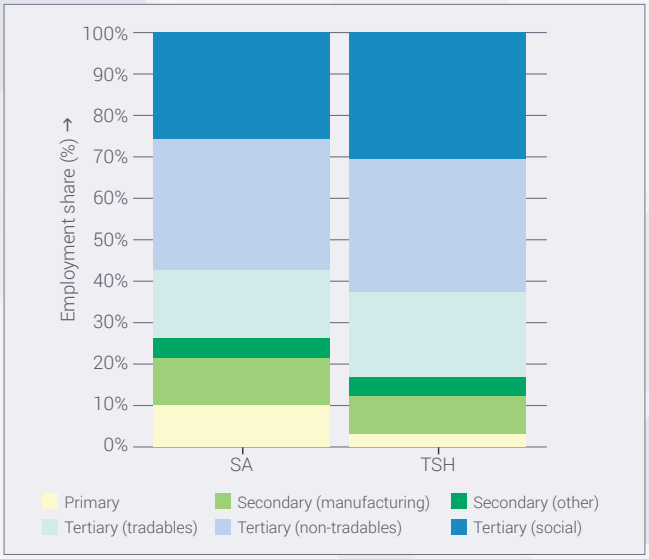


City of Tshwane contributed **993,226**

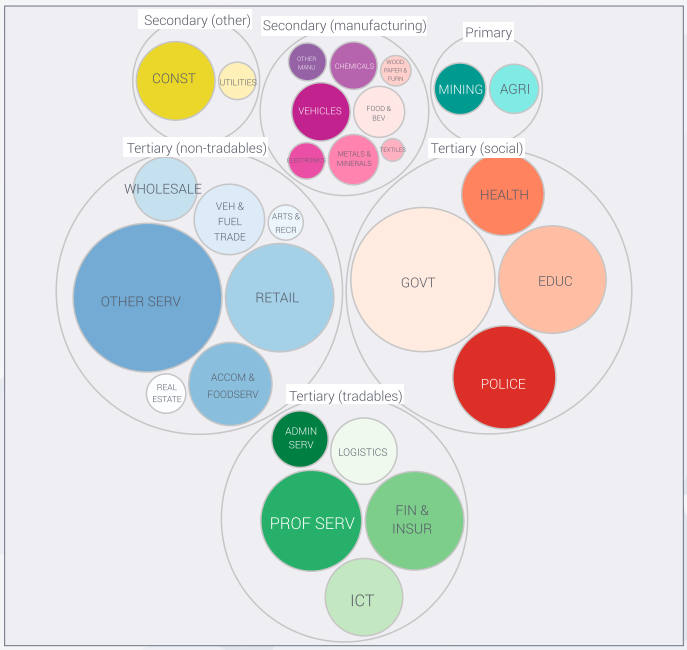
or

8.9% formal jobs to the national economy

Structure of the Economy



Circle map of economic sectors

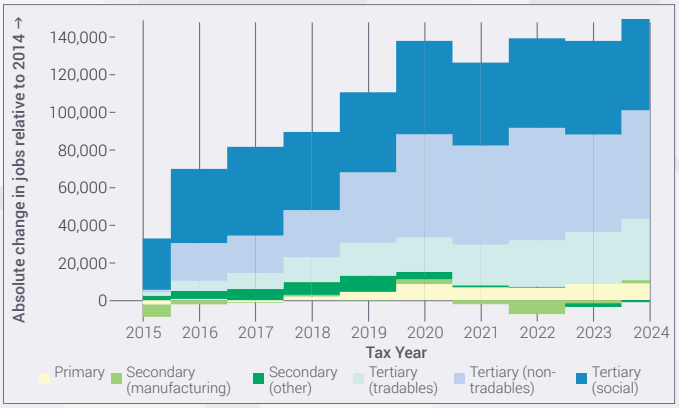


City of Tshwane

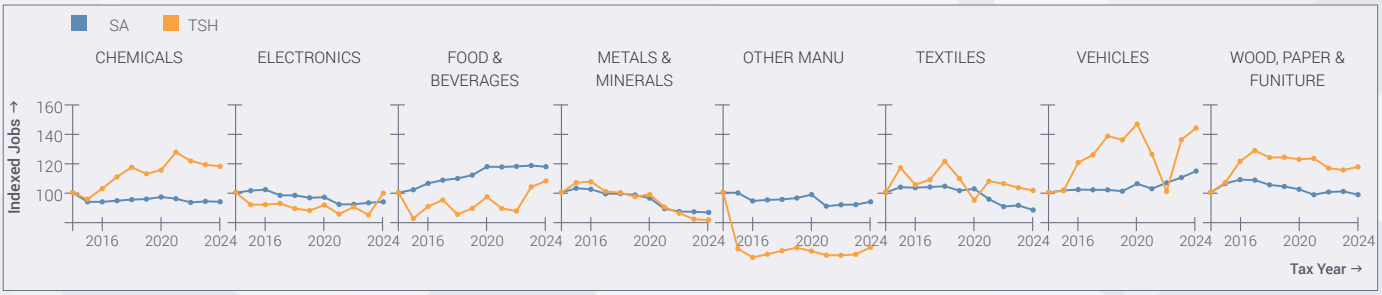
Economic Performance

Employment growth

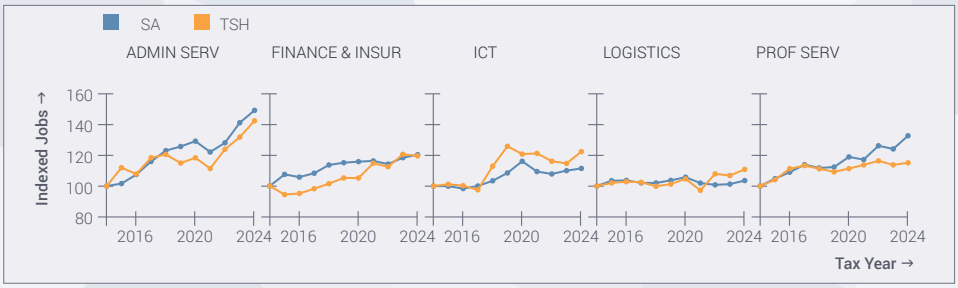
Sectoral employment trends



Manufacturing employment trends

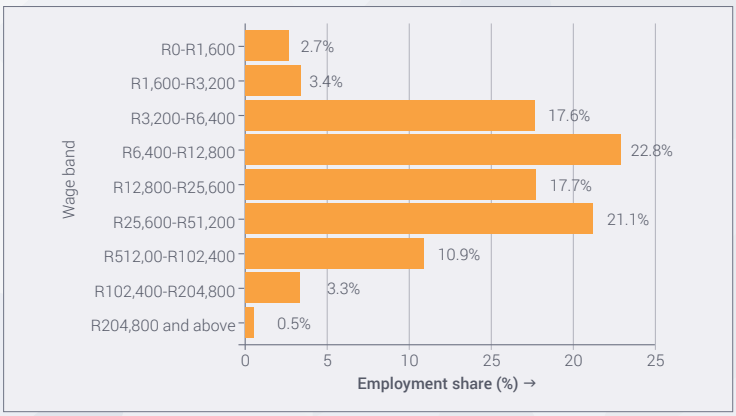


Tradable service employment trends



Equity

Distribution of workers by wage band



City of Ekurhuleni

Gauteng

Ranked #5 by size of formal jobs in South Africa.

Shows relative specialization in 'ELECTRONICS', 'METALS & MINERALS' and 'LOGISTICS'.

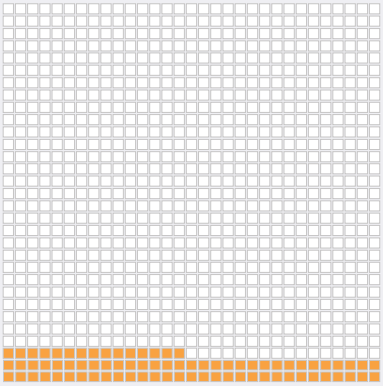
Employment in City of Ekurhuleni grew by 7.4% (58,812 jobs) between 2014 and 2024.

'OTHER SERV' sector added the most jobs: 190,534 jobs (growing by 27.2%).

'CONSTRUCTION' sector lost the most jobs: 111,091 jobs (declining by 35.7%).

Economic Profile

Economic contribution

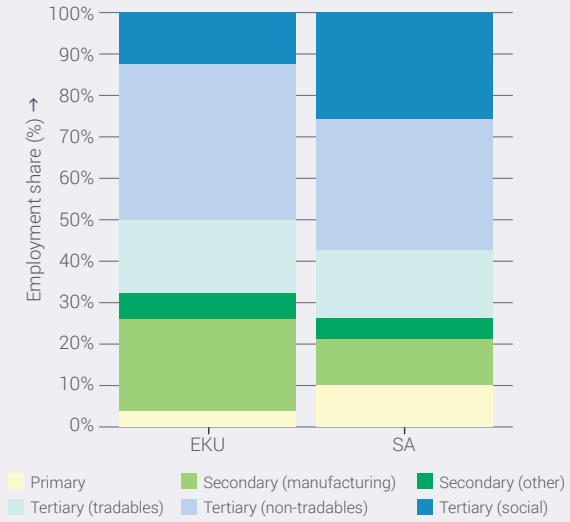


City of Ekurhuleni contributed **857,315**

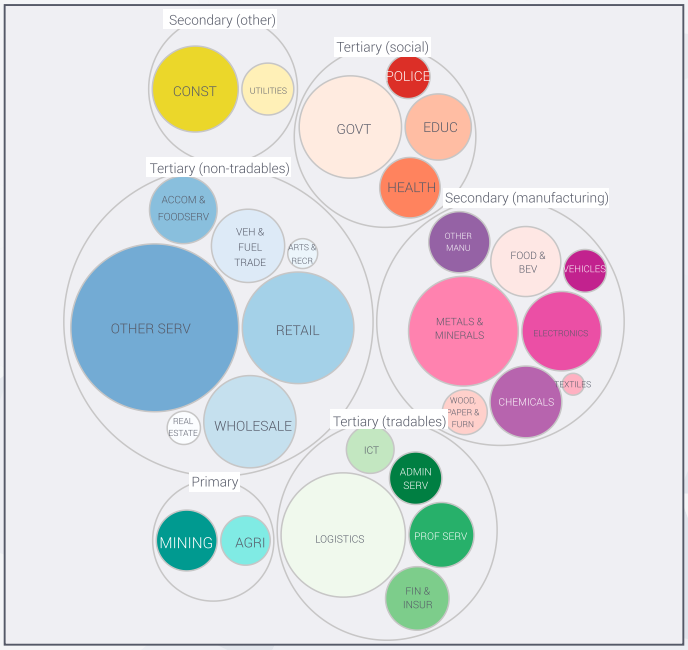
or

7.7% formal jobs to the national economy

Structure of the Economy



Circle map of economic sectors

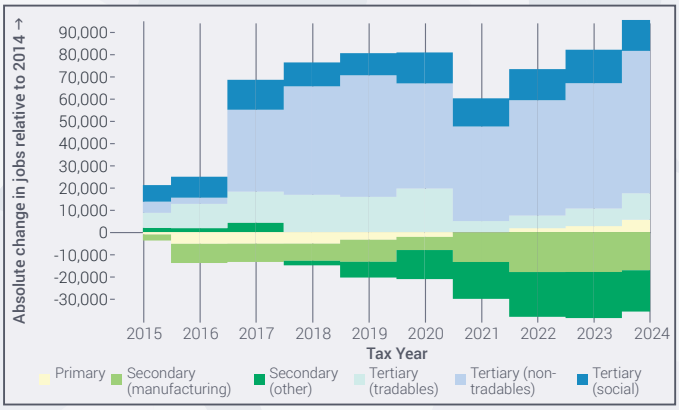


City of Ekurhuleni

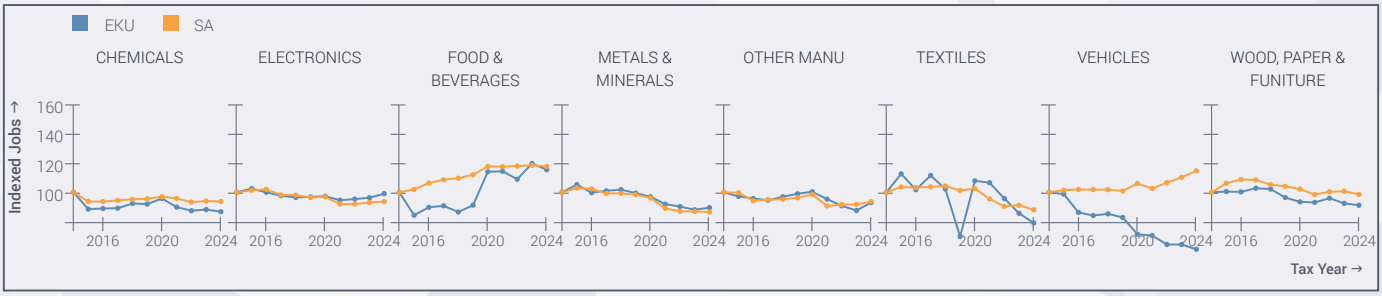
Economic Performance

Employment growth

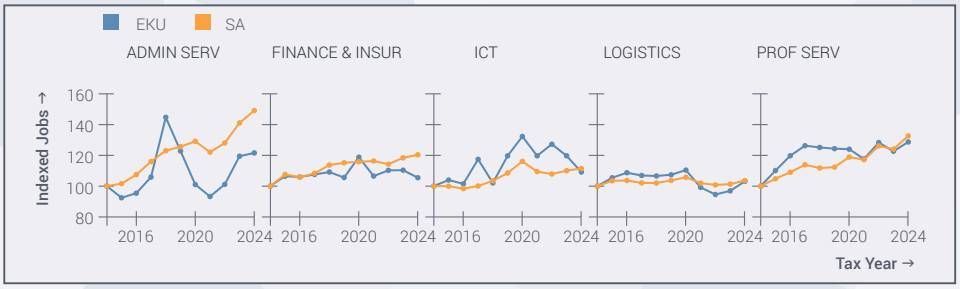
Sectoral employment trends



Manufacturing employment trends

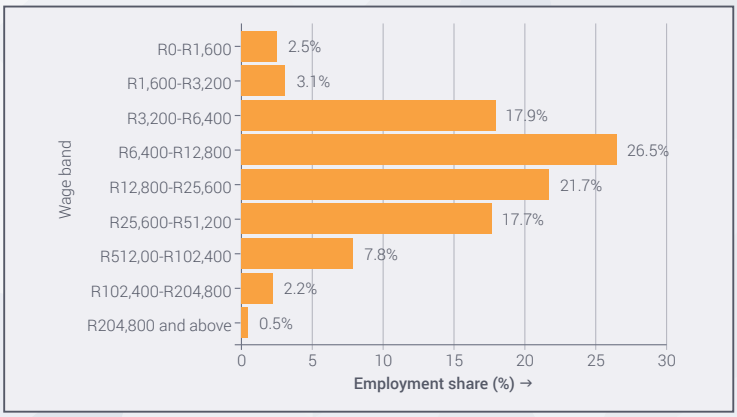


Tradable service employment trends



Equity

Distribution of workers by wage band



eThekwini

KwaZulu-Natal

Ranked #4 by size of formal jobs in South Africa.

Shows relative specialization in 'TEXTILES', 'VEHICLES' and 'OTHER MANU'.

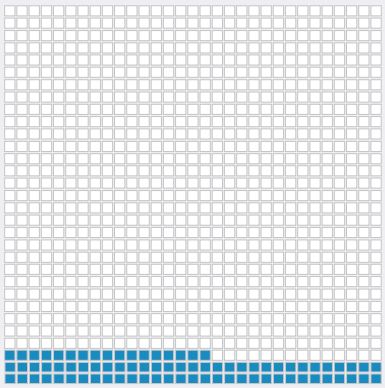
Employment in eThekwini grew by 12.3% (95,821 jobs) between 2014 and 2024.

'WHOLESALE' sector added the most jobs: 73,711 jobs (growing by 39.1%).

'OTHER SERV' sector lost the most jobs: 42,576 jobs (declining by 5.7%).

Economic Profile

Economic contribution

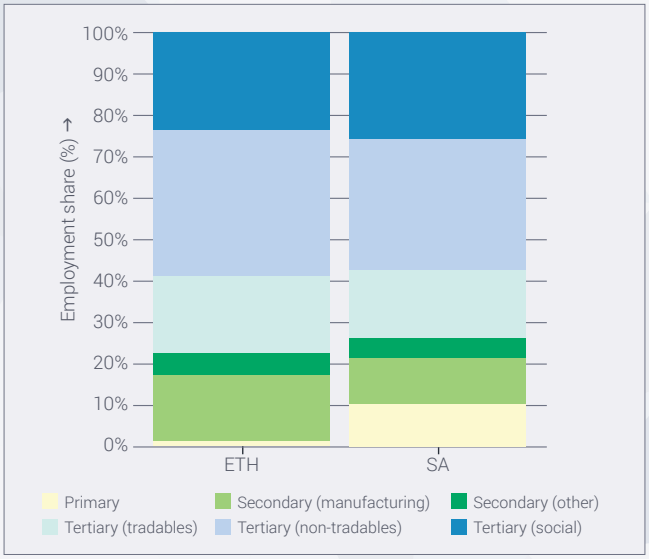


eThekwini contributed **877,372**

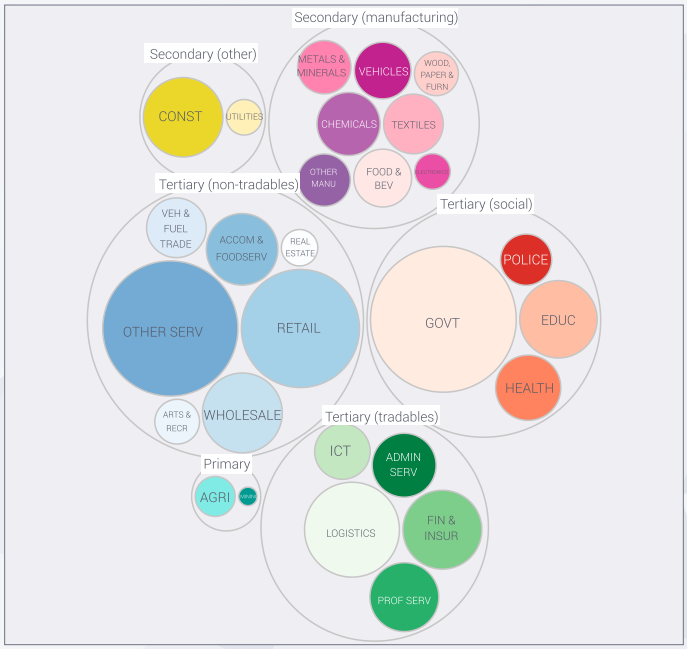
or

7.9% formal jobs to the national economy

Structure of the Economy



Circle map of economic sectors

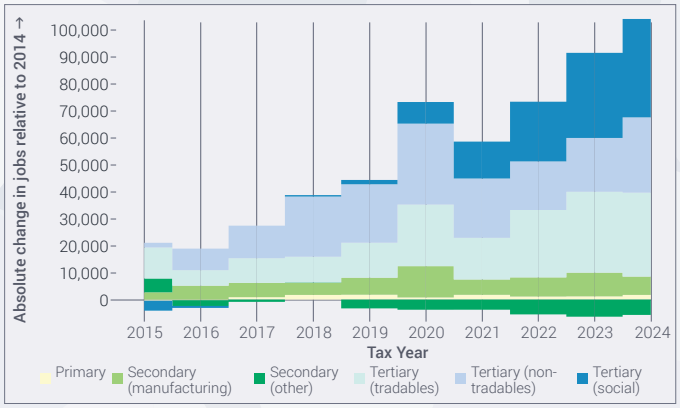


eThekwini

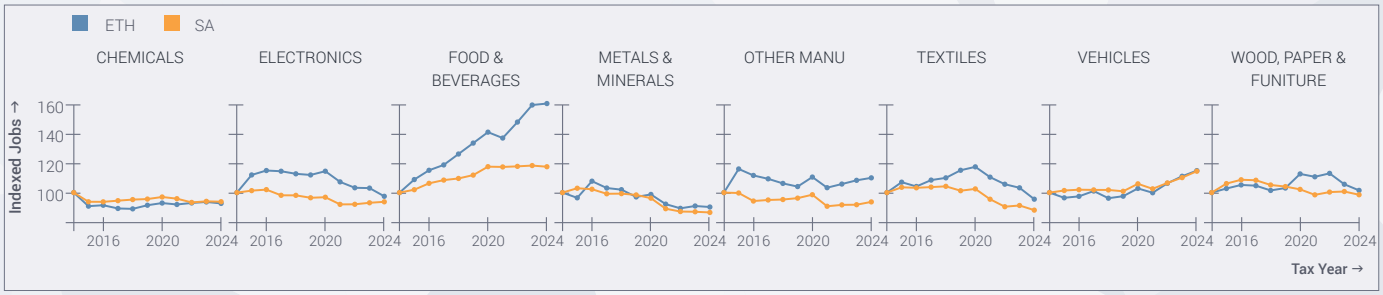
Economic Performance

Employment growth

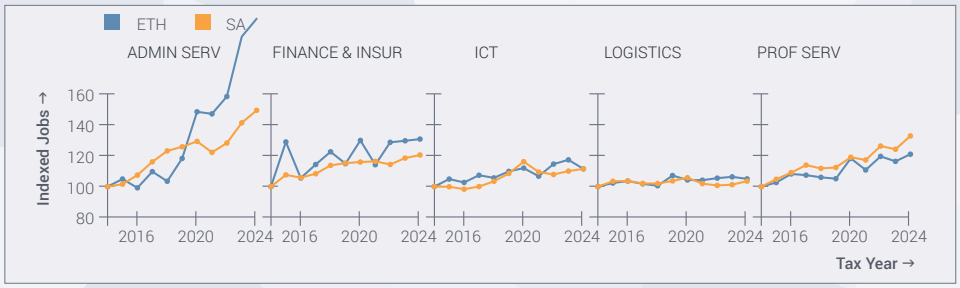
Sectoral employment trends



Manufacturing employment trends

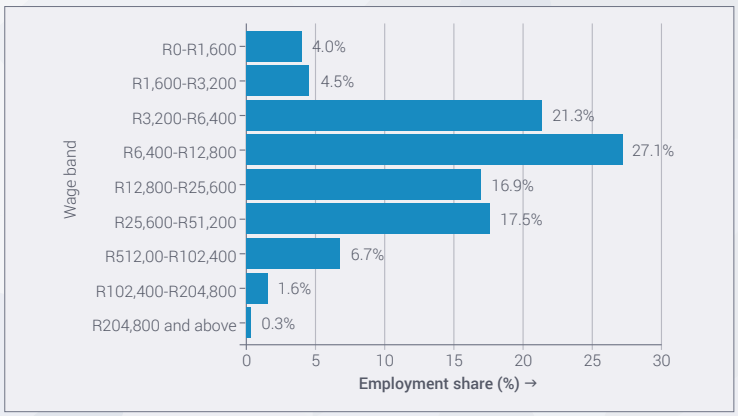


Tradable service employment trends



Equity

Distribution of workers by wage band



uMhlathuze

KwaZulu-Natal

Ranked #21 by size of formal jobs in South Africa.

Shows relative specialization in 'ELECTRONICS', 'LOGISTICS' and 'CONSTRUCTION'.

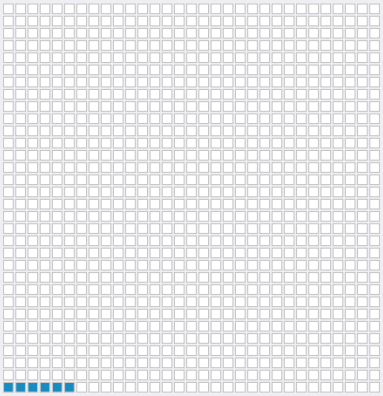
Employment in uMhlathuze grew by 11.5% (7,116 jobs) between 2014 and 2024.

'GOVT' sector added the most jobs: 10,711 jobs (growing by 27.0%).

'METALS & MINERALS' sector lost the most jobs: 8,174 jobs (declining by 37.0%).

Economic Profile

Economic contribution

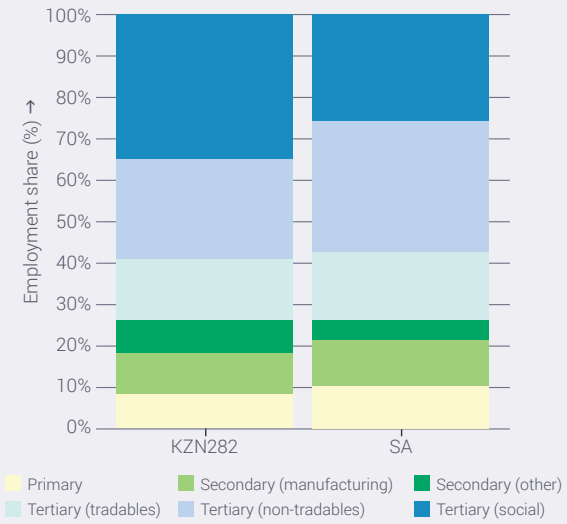


uMhlathuze contributed 69,024

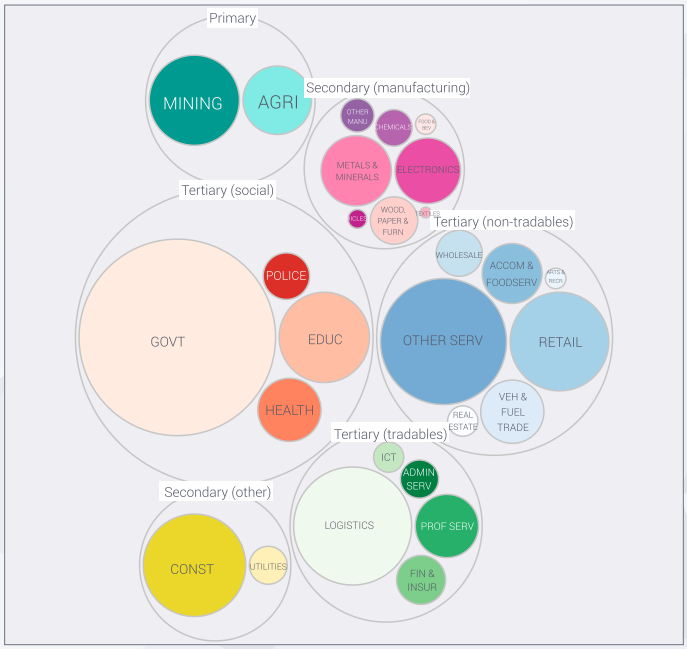
or

0.6% formal jobs to the national economy

Structure of the Economy



Circle map of economic sectors

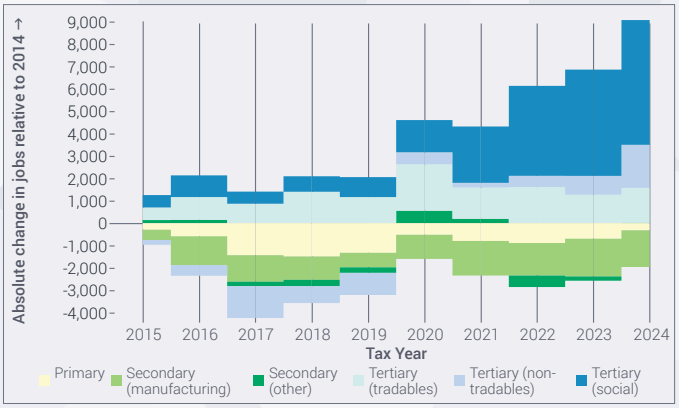


uMhlathuze

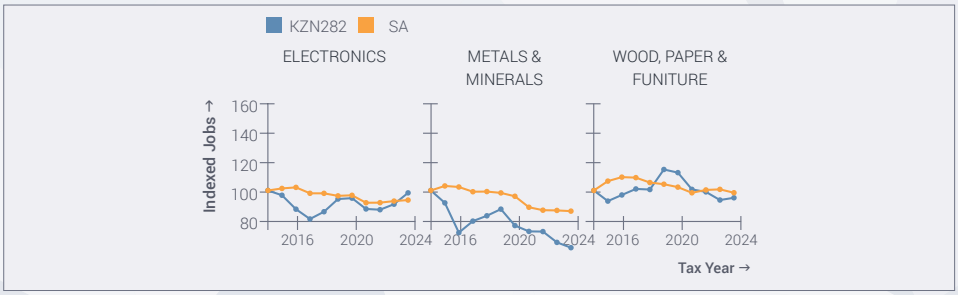
Economic Performance

Employment growth

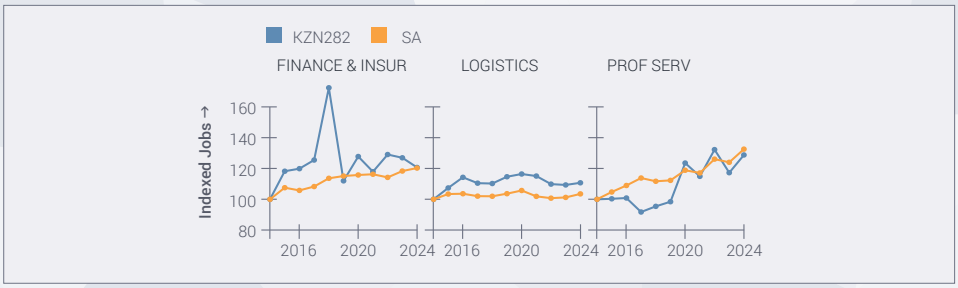
Sectoral employment trends



Manufacturing employment trends

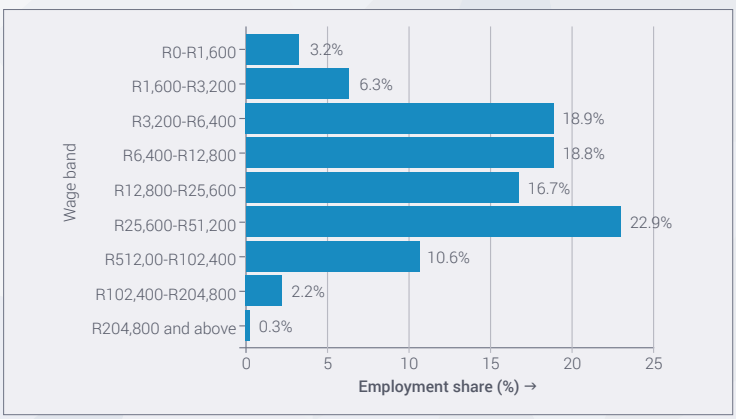


Tradable service employment trends



Equity

Distribution of workers by wage band



Msunduzi

KwaZulu-Natal

Ranked #14 by size of formal jobs in South Africa.

Shows relative specialization in 'TEXTILES', 'UTILITIES' and 'GOVT'.

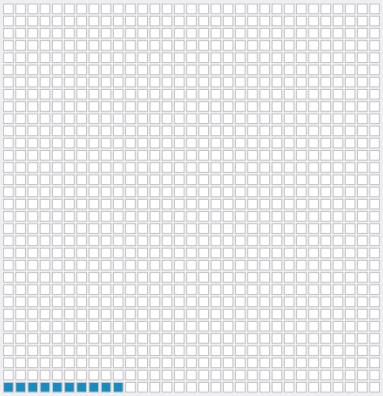
Employment in Msunduzi grew by 7.8% (8,341 jobs) between 2014 and 2024.

'RETAIL' sector added the most jobs: 8,245 jobs (growing by 22.9%).

'OTHER SERV' sector lost the most jobs: 4,131 jobs (declining by 20.3%).

Economic Profile

Economic contribution

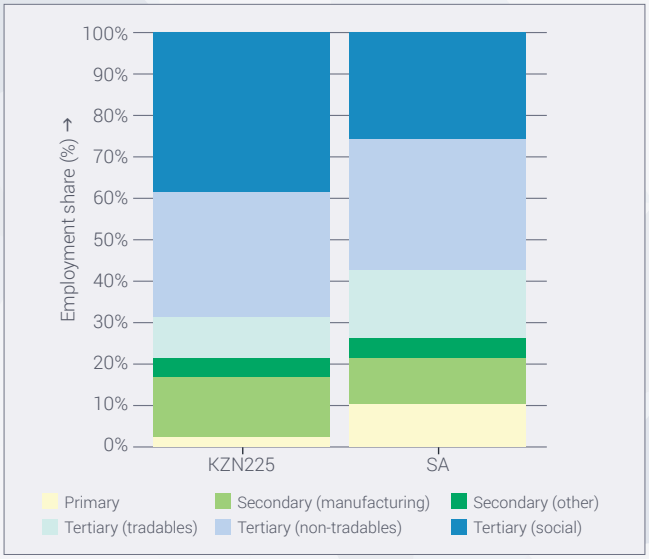


Msunduzi contributed **115,875**

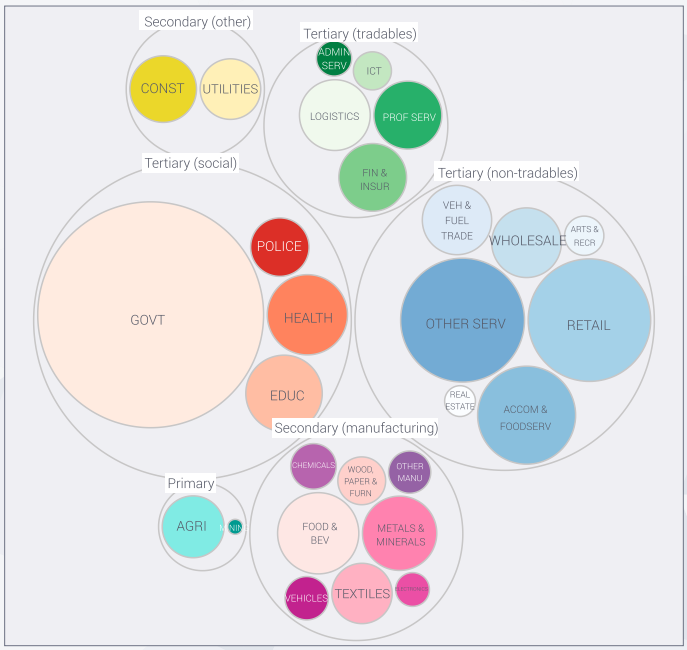
or

1.0% formal jobs to the national economy

Structure of the Economy



Circle map of economic sectors

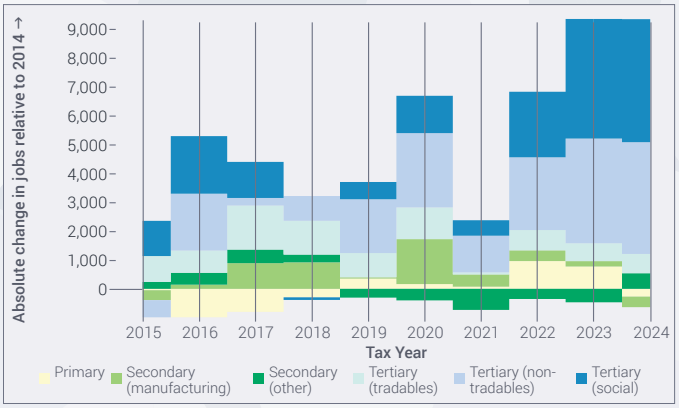


Msunduzi

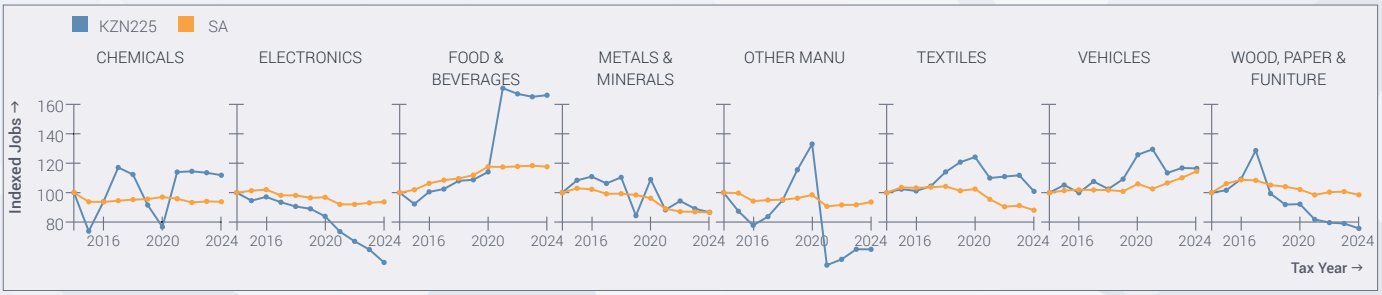
Economic Performance

Employment growth

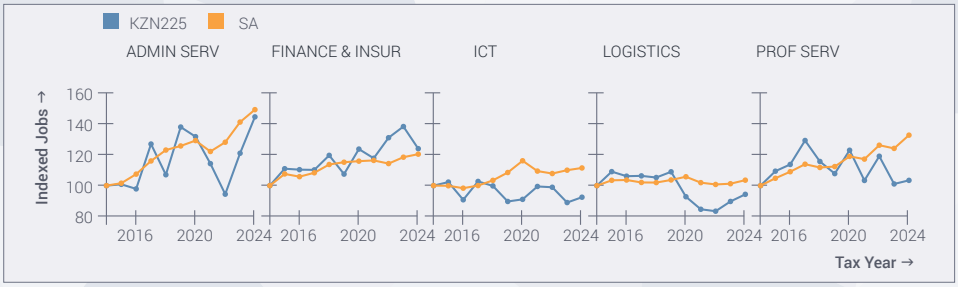
Sectoral employment trends



Manufacturing employment trends

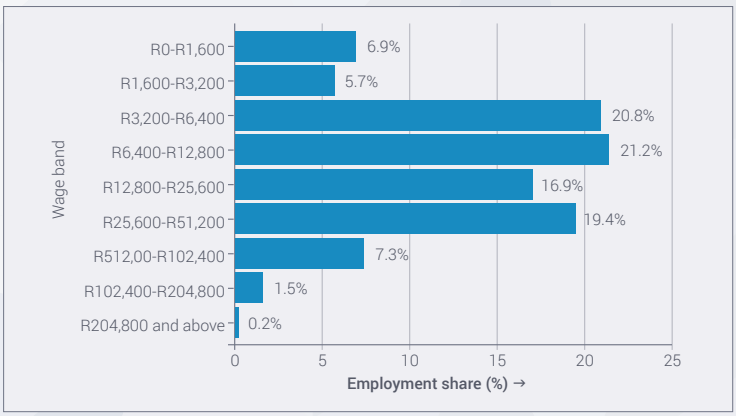


Tradable service employment trends



Equity

Distribution of workers by wage band



Polokwane

Limpopo

Ranked #13 by size of formal jobs in South Africa.

Shows relative specialization in 'VEHICLE & FUEL TRADE', 'GOVT' and 'POLICE'.

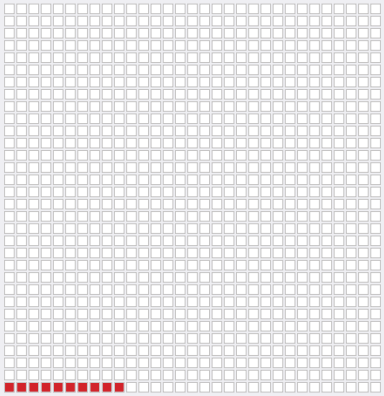
Employment in Polokwane grew by 8.9% (9,596 jobs) between 2014 and 2024.

'GOVT' sector added the most jobs: 30,585 jobs (growing by 45.9%).

'EDUC' sector lost the most jobs: 16,680 jobs (declining by 53.5%).

Economic Profile

Economic contribution

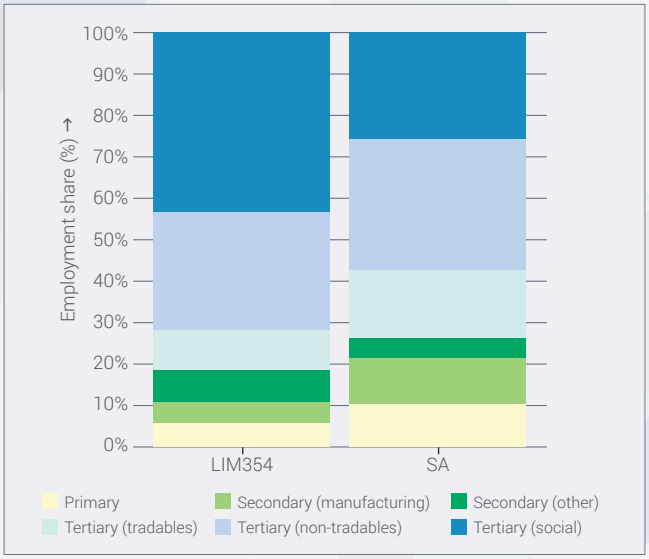


Polokwane contributed 117,221

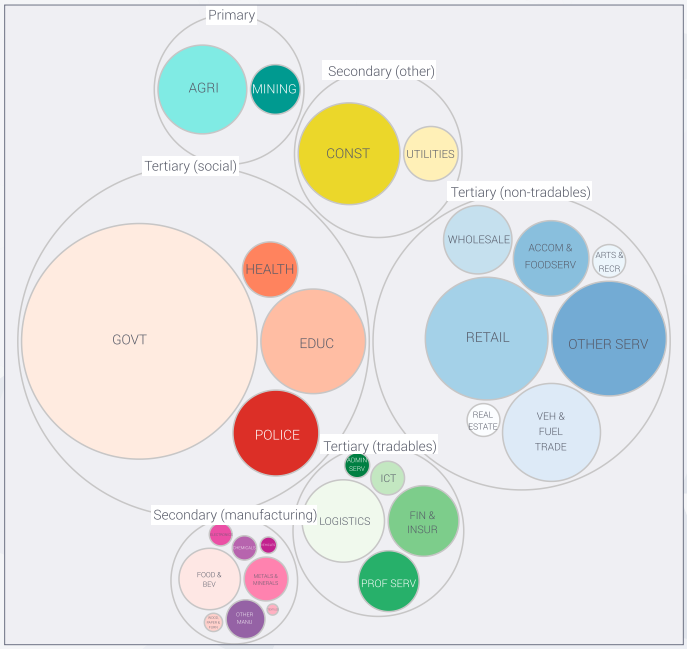
or

1.0% formal jobs to the national economy

Structure of the Economy



Circle map of economic sectors

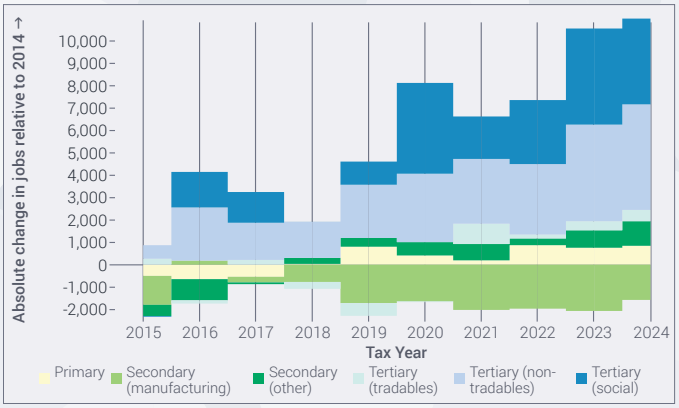


Polokwane

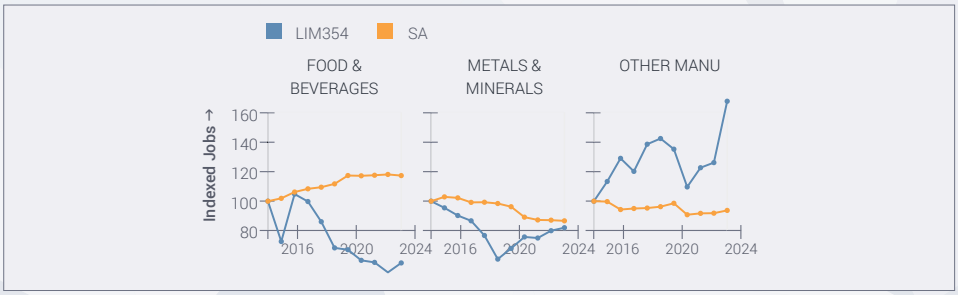
Economic Performance

Employment growth

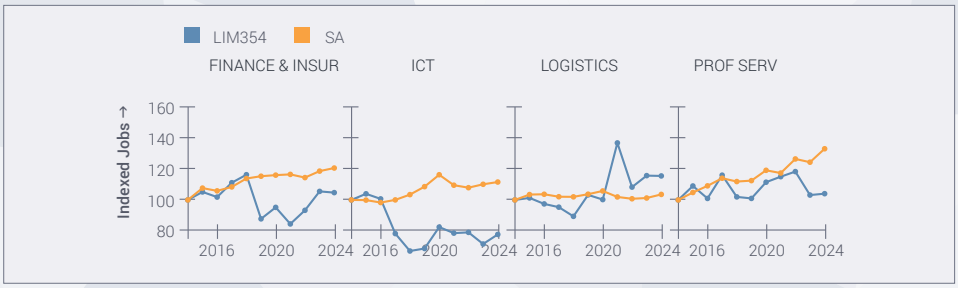
Sectoral employment trends



Manufacturing employment trends

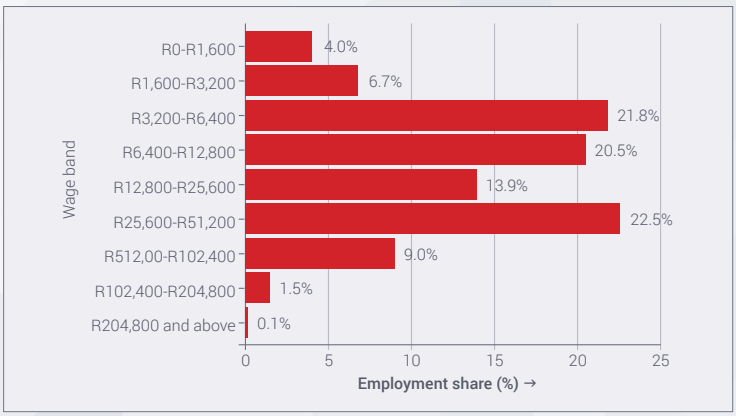


Tradable service employment trends



Equity

Distribution of workers by wage band



Mbombela

Mpumalanga

Ranked #10 by size of formal jobs in South Africa.

Shows relative specialization in 'WOOD, PAPER & FURNITURE', 'ARTS & RECREATION' and 'GOVT'.

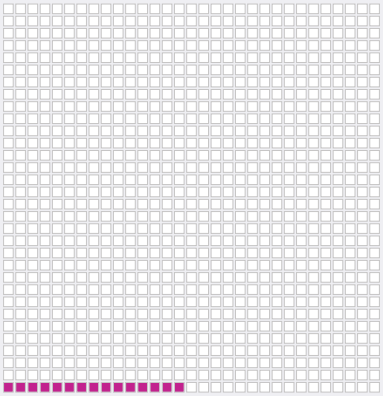
Employment in Mbombela grew by 21.0% (28,834 jobs) between 2014 and 2024.

'GOVT' sector added the most jobs: 133,878 jobs (growing by 63.2%).

'EDUC' sector lost the most jobs: 115,805 jobs (declining by 66.4%).

Economic Profile

Economic contribution

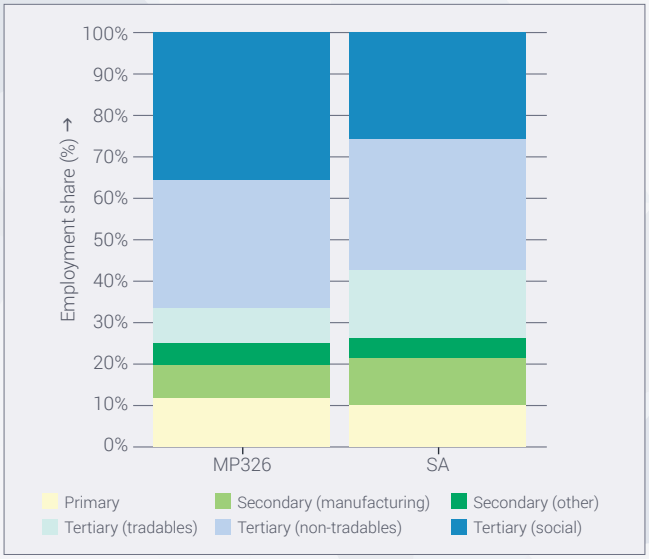


Mbombela contributed 165,866

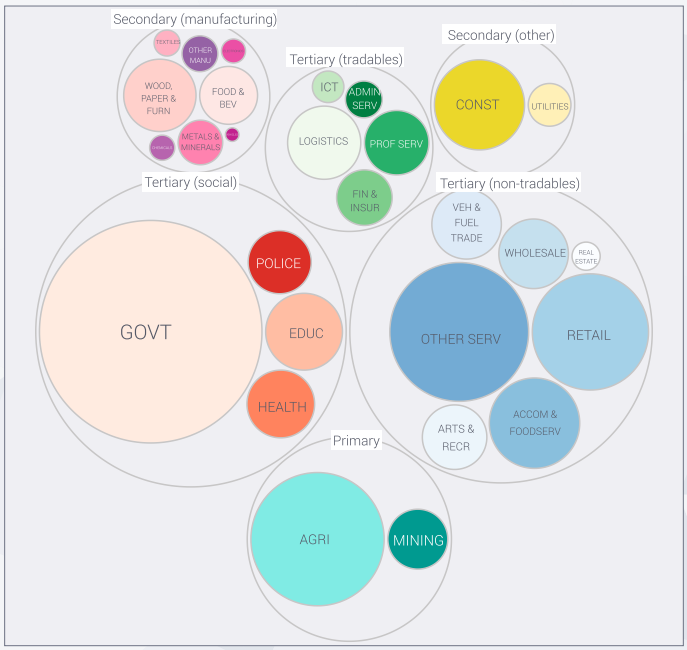
or

1.5% formal jobs to the national economy

Structure of the Economy



Circle map of economic sectors

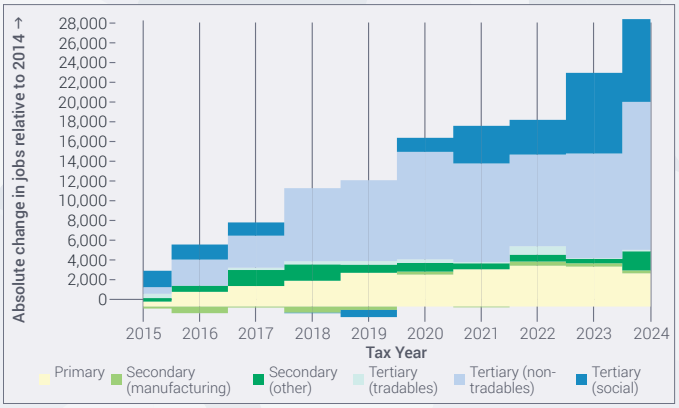


Mbombela

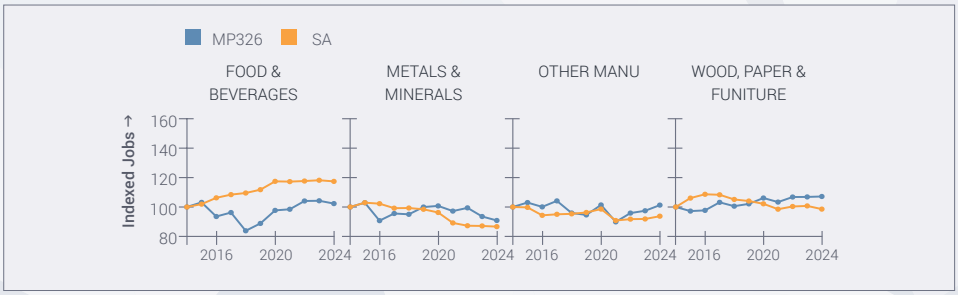
Economic Performance

Employment growth

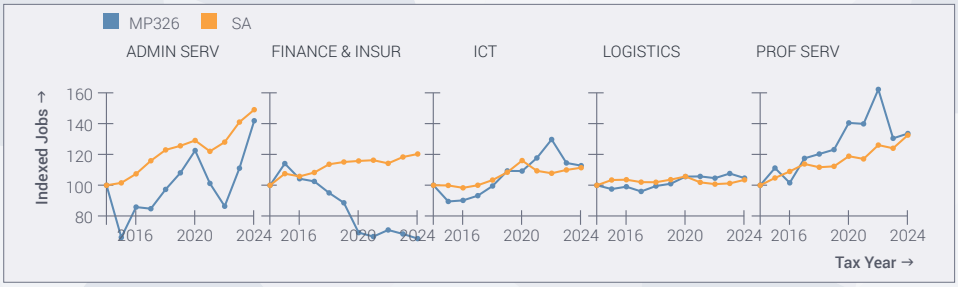
Sectoral employment trends



Manufacturing employment trends

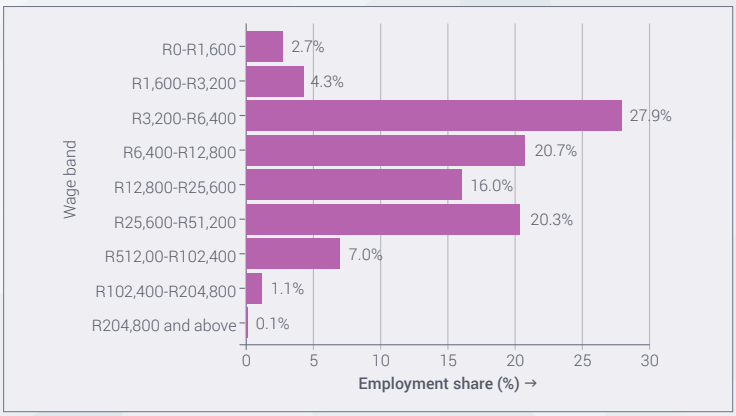


Tradable service employment trends



Equity

Distribution of workers by wage band



Rustenburg

North West

Ranked #8 by size of formal jobs in South Africa.

Shows relative specialization in 'MINING' and 'CONSTRUCTION'.

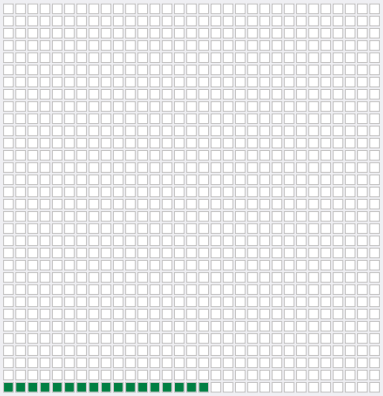
Employment in Rustenburg grew by -4.5% (-9,011 jobs) between 2014 and 2024.

'GOVT' sector added the most jobs: 21,758 jobs (growing by 47.7%).

'MINING' sector lost the most jobs: 134,132 jobs (declining by 14.6%).

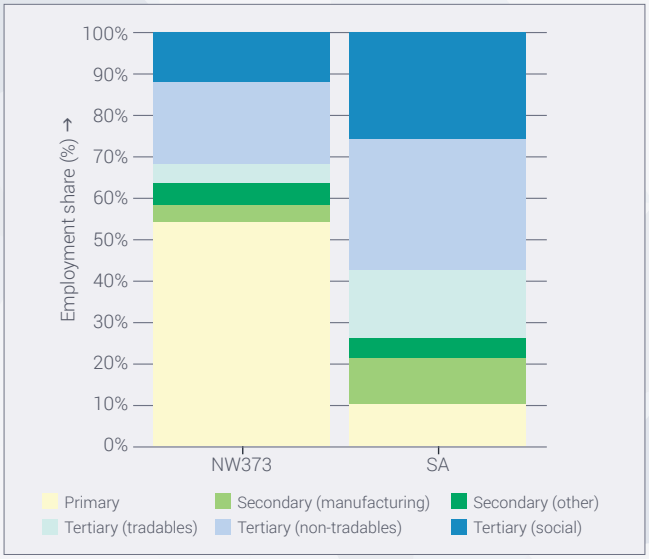
Economic Profile

Economic contribution

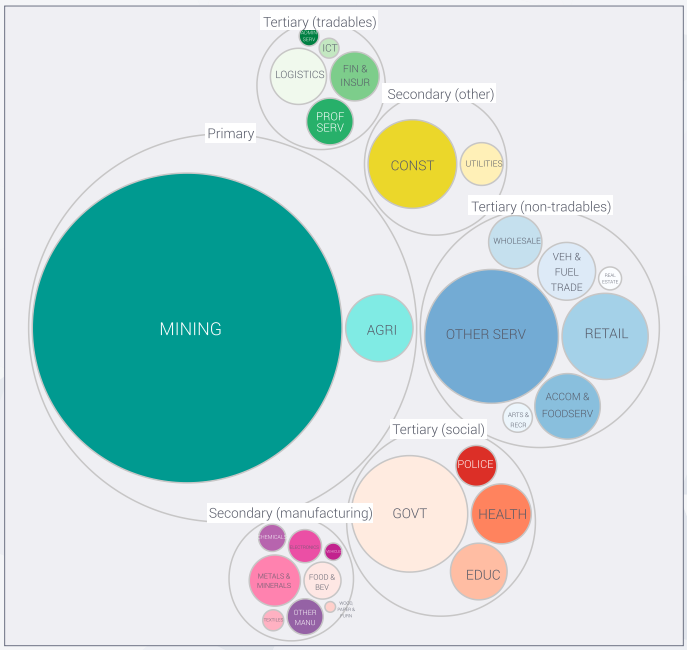


Rustenburg contributed **192,108**
or
1.7% formal jobs to the national economy

Structure of the Economy



Circle map of economic sectors

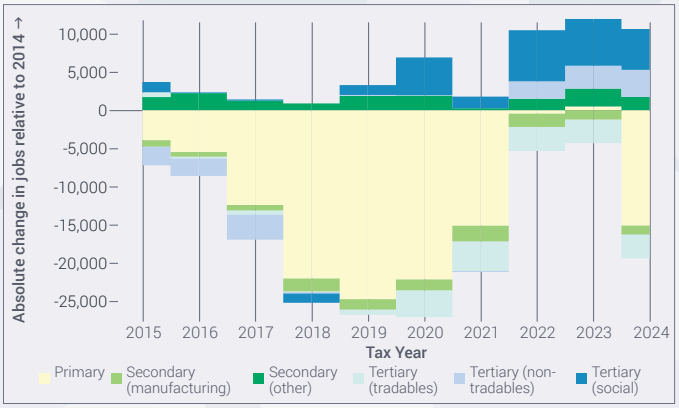


Rustenburg

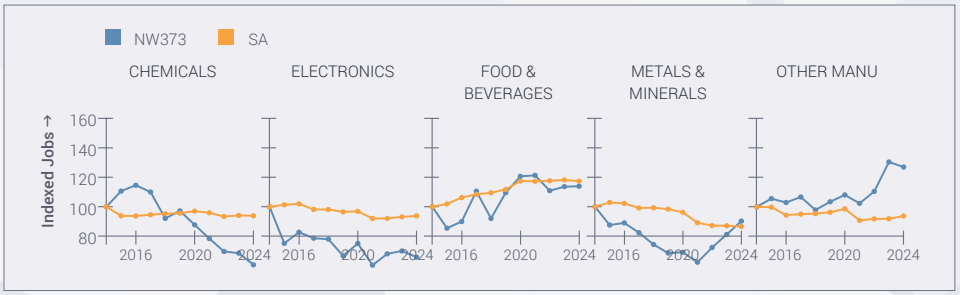
Economic Performance

Employment growth

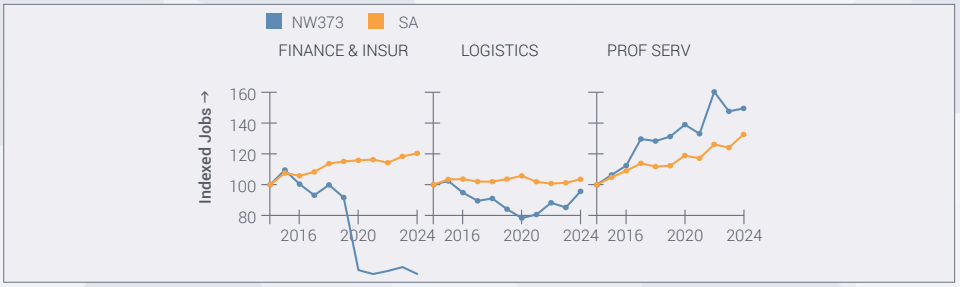
Sectoral employment trends



Manufacturing employment trends

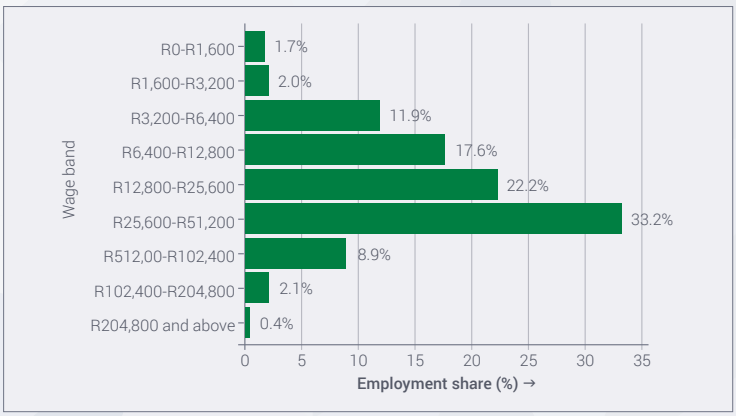


Tradable service employment trends



Equity

Distribution of workers by wage band



Mahikeng

North West

Ranked #42 by size of formal jobs in South Africa.

Shows relative specialization in 'GOVT', 'POLICE' and 'FOOD & BEVERAGES'.

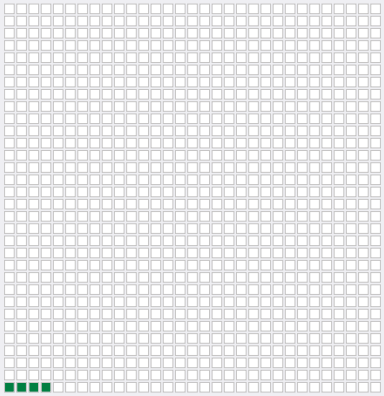
Employment in Mahikeng grew by -9.8% (-4,309 jobs) between 2014 and 2024.

'FOOD & BEVERAGES' sector added the most jobs: 7,474 jobs (growing by 186.9%).

'GOVT' sector lost the most jobs: 60,370 jobs (declining by 23.0%).

Economic Profile

Economic contribution

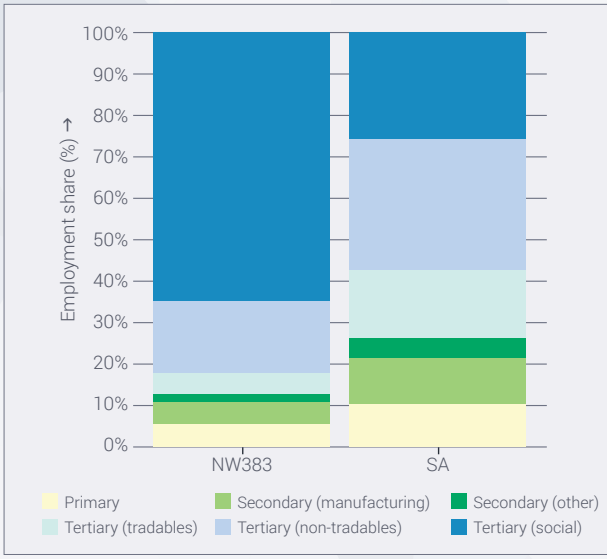


Mahikeng contributed 39,742

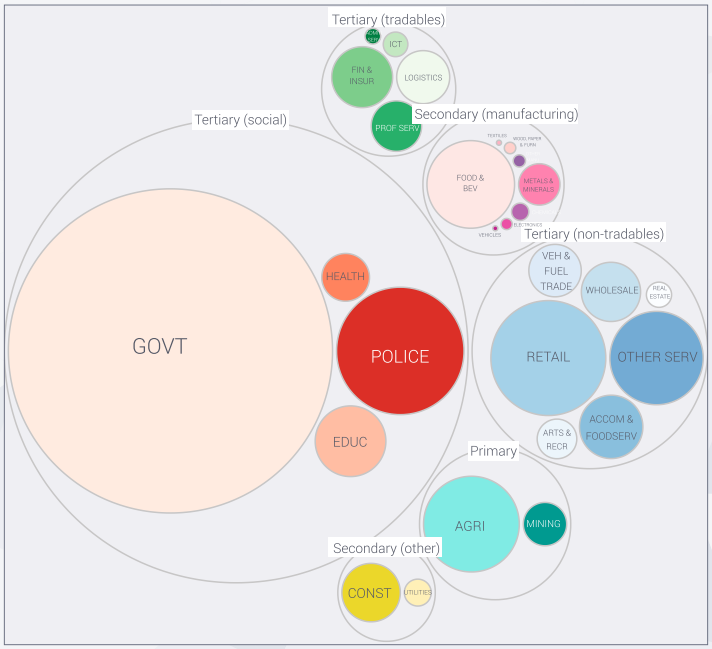
or

0.4% formal jobs to the national economy

Structure of the Economy



Circle map of economic sectors

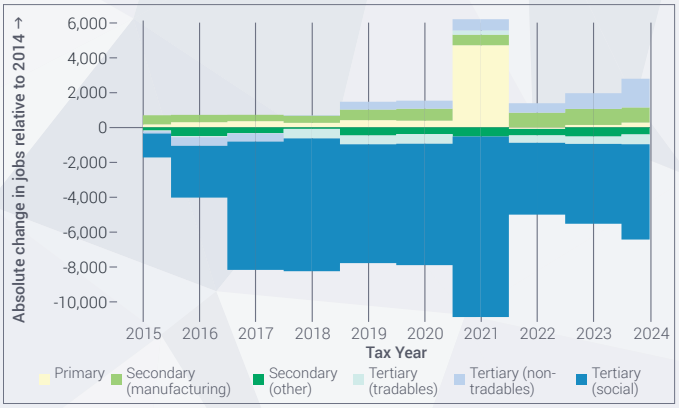


Mahikeng

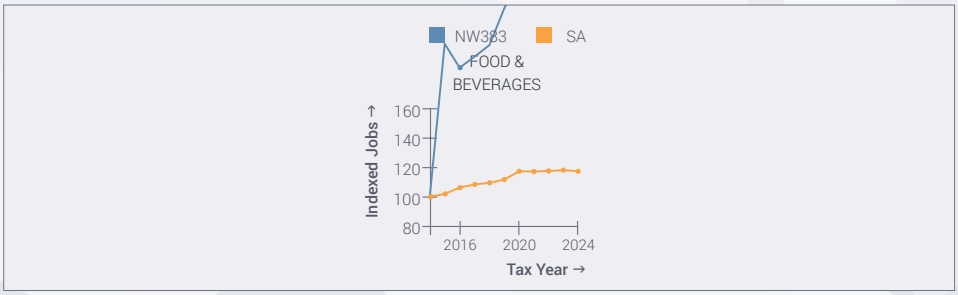
Economic Performance

Employment growth

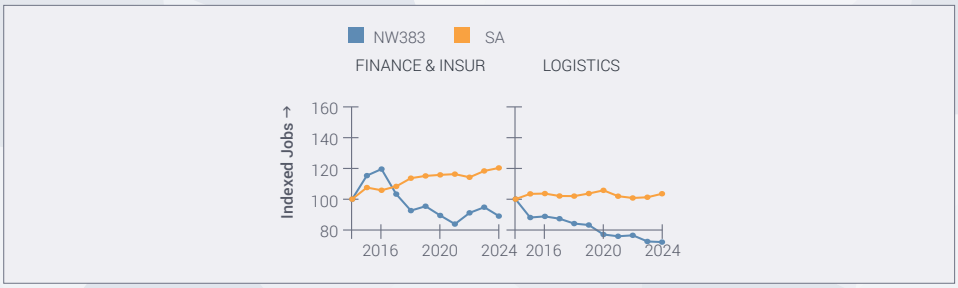
Sectoral employment trends



Manufacturing employment trends

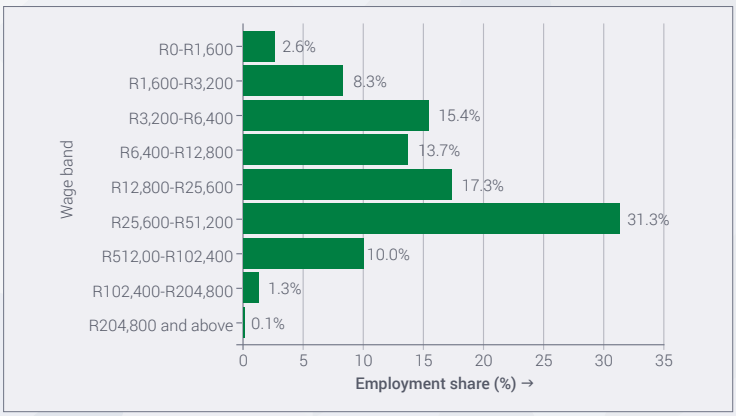


Tradable service employment trends



Equity

Distribution of workers by wage band



Sol Plaatje

Northern Cape

Ranked #28 by size of formal jobs in South Africa.

Shows relative specialization in 'POLICE', 'GOVT' and 'HEALTH'.

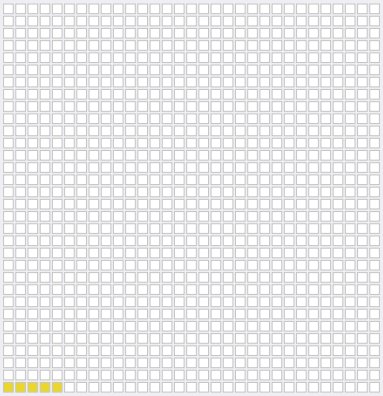
Employment in Sol Plaatje grew by 9.2% (4,743 jobs) between 2014 and 2024.

'EDUC' sector added the most jobs: 8,119 jobs (growing by 134.7%).

'GOVT' sector lost the most jobs: 5,492 jobs (declining by 1.4%).

Economic Profile

Economic contribution

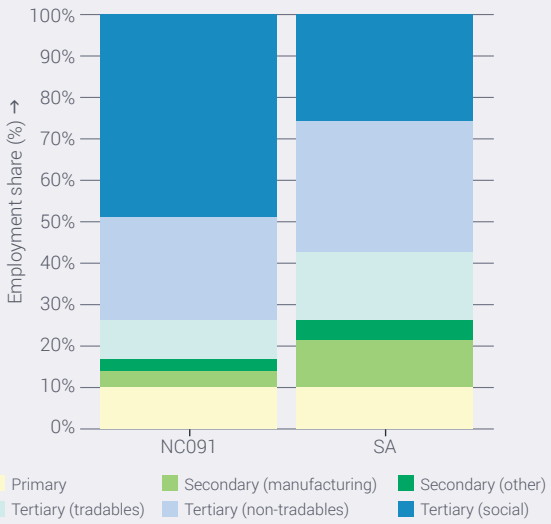


Sol Plaatje contributed 56,023

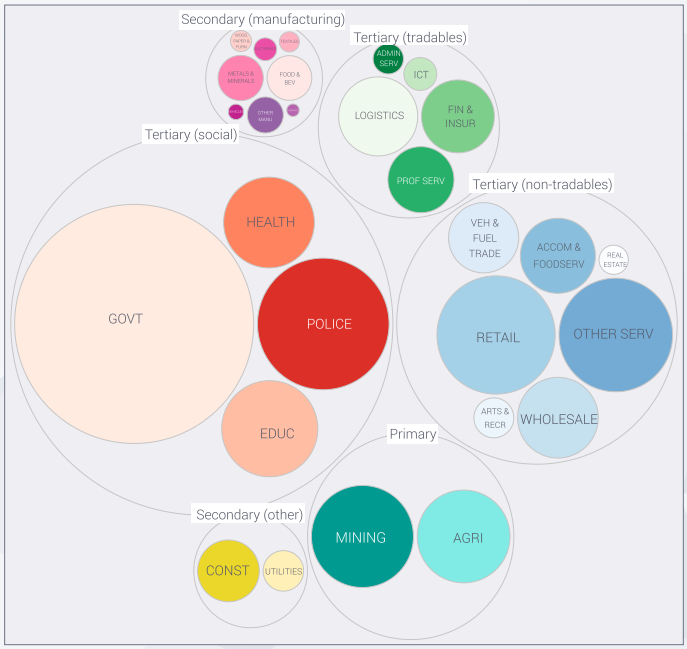
or

0.5% formal jobs to the national economy

Structure of the Economy



Circle map of economic sectors

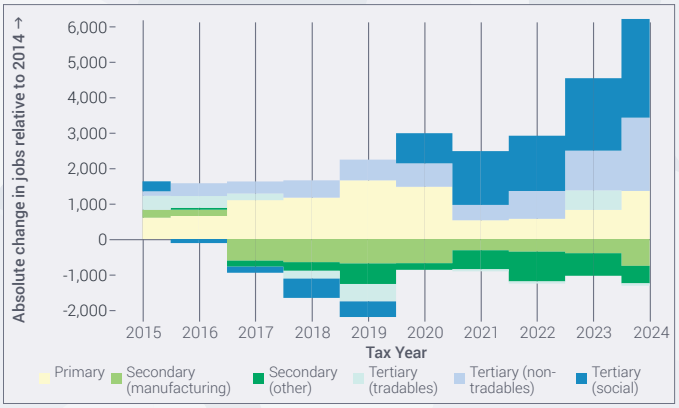


Sol Plaatje

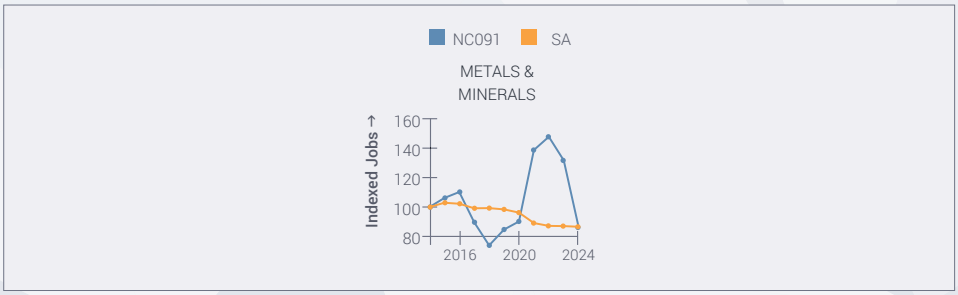
Economic Performance

Employment growth

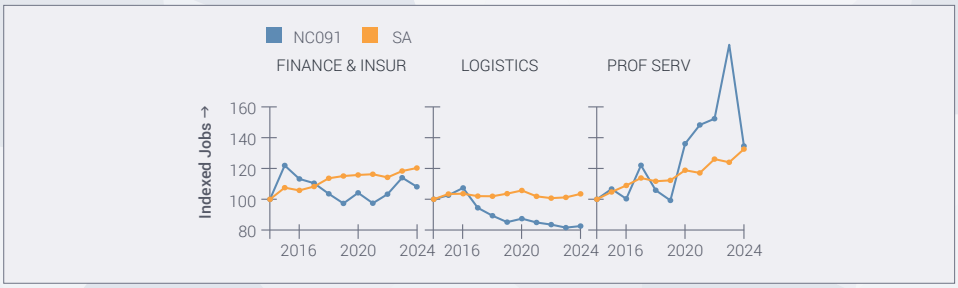
Sectoral employment trends



Manufacturing employment trends

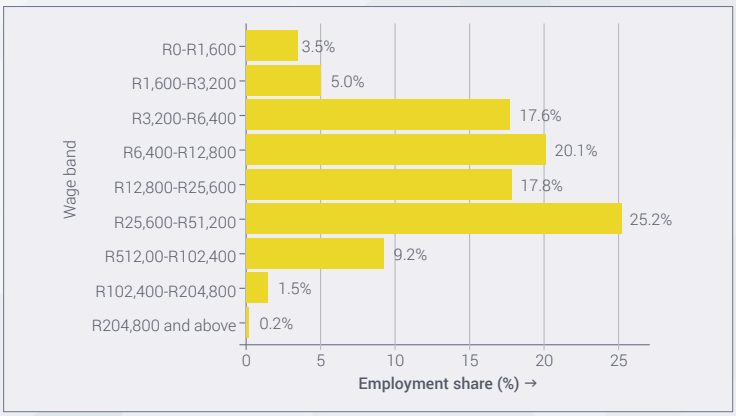


Tradable service employment trends



Equity

Distribution of workers by wage band



City of Cape Town

Western Cape

Ranked #2 by size of formal jobs in South Africa.

Shows relative specialization in 'ADMIN SERV', 'TEXTILES' and 'ICT'.

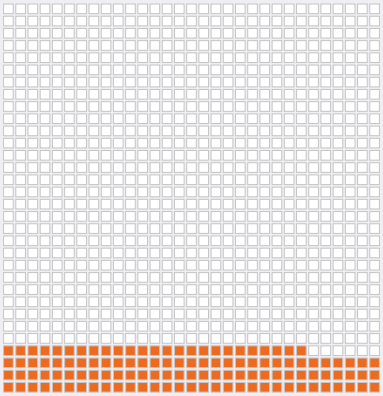
Employment in City of Cape Town grew by 24.1% (255,394 jobs) between 2014 and 2024.

'OTHER SERV' sector added the most jobs: 231,006 jobs (growing by 38.6%).

'AGRICULTURE' sector lost the most jobs: 42,870 jobs (declining by 10.6%).

Economic Profile

Economic contribution

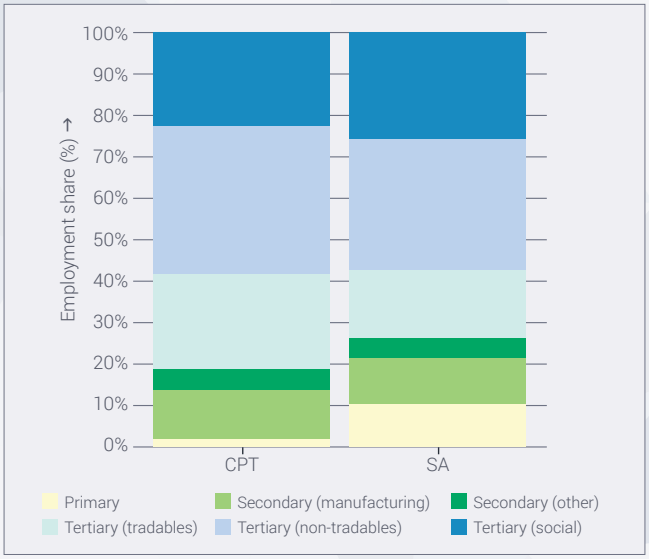


City of Cape Town contributed 1,315,292

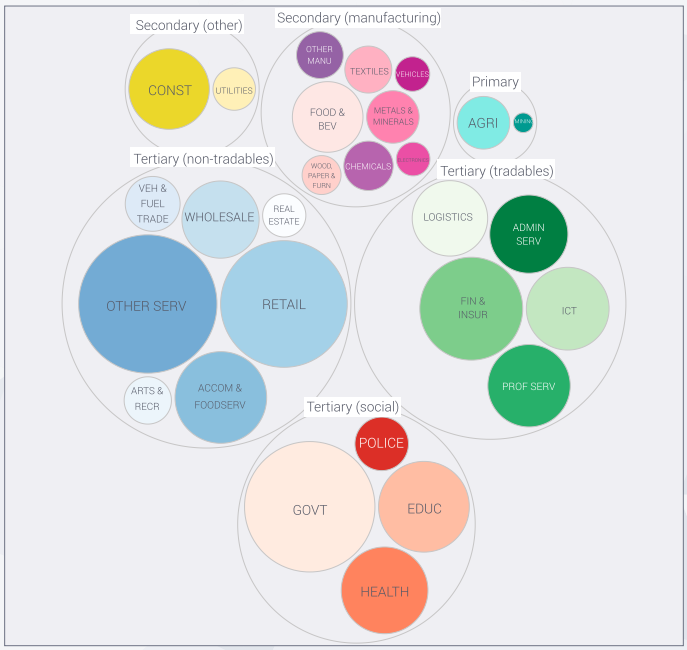
or

11.8% formal jobs to the national economy

Structure of the Economy



Circle map of economic sectors

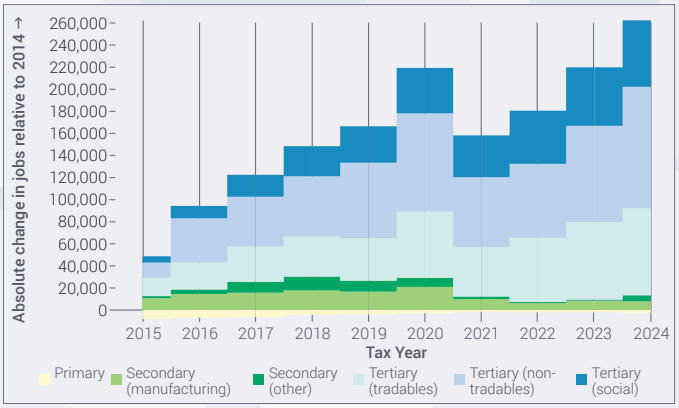


City of Cape Town

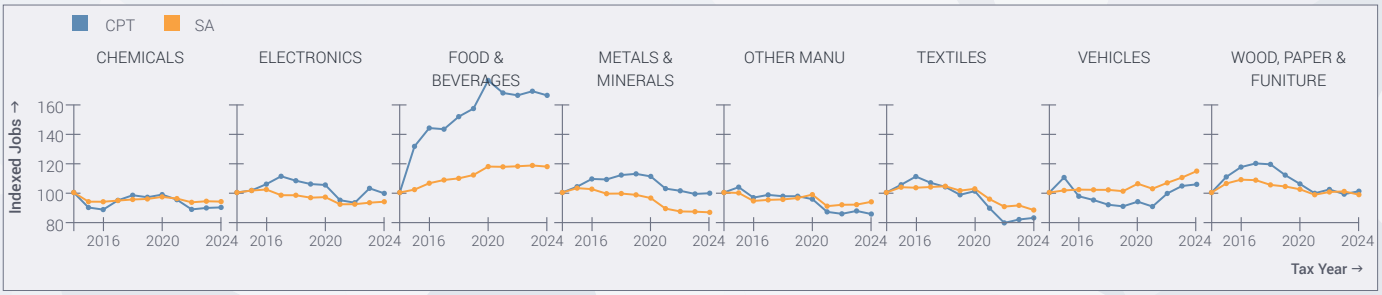
Economic Performance

Employment growth

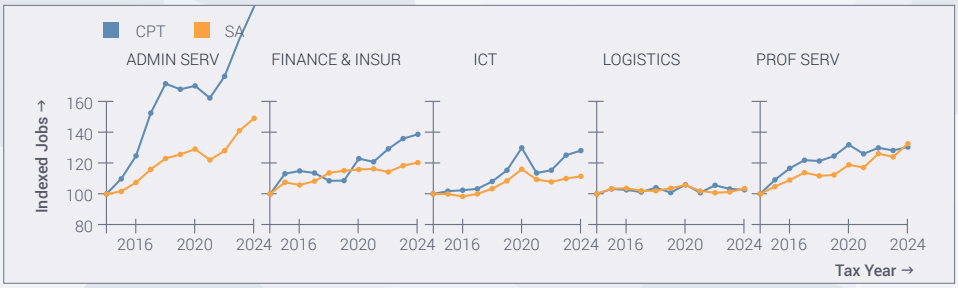
Sectoral employment trends



Manufacturing employment trends

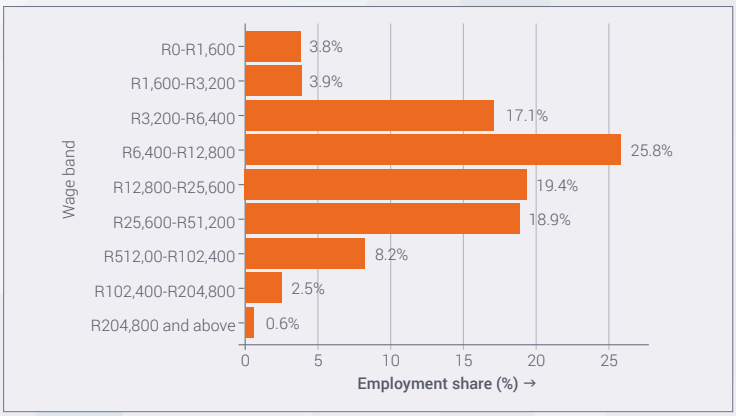


Tradable service employment trends



Equity

Distribution of workers by wage band



George

Western Cape

Ranked #30 by size of formal jobs in South Africa.

Shows relative specialization in 'AGRICULTURE', 'CONSTRUCTION' and 'HEALTH'.

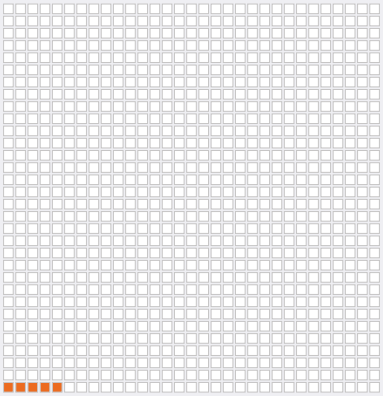
Employment in George grew by 35.8% (13,826 jobs) between 2014 and 2024.

'AGRICULTURE' sector added the most jobs: 19,742 jobs (growing by 68.4%).

'WOOD, PAPER & FURNITURE' sector lost the most jobs: 1,329 jobs (declining by 35.8%).

Economic Profile

Economic contribution

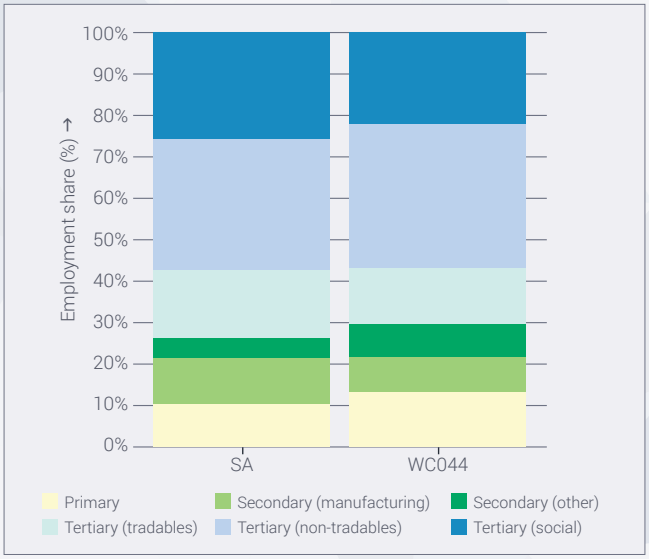


George contributed **52,404**

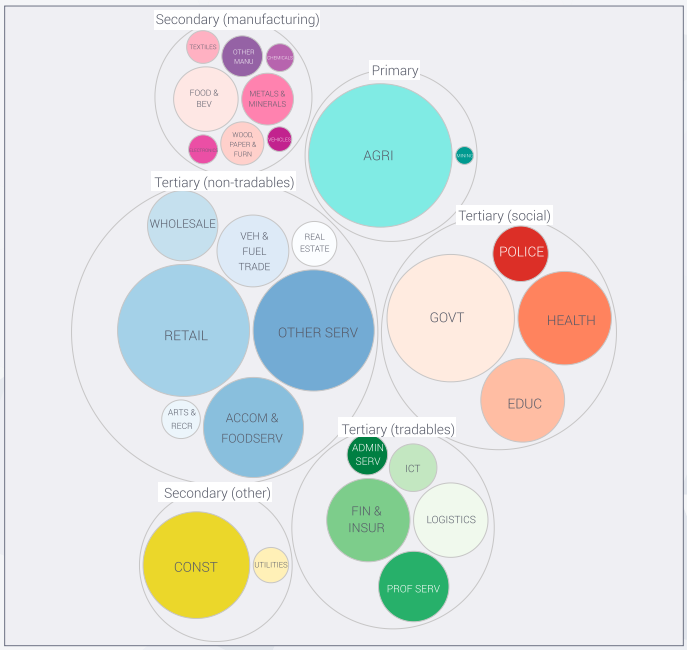
or

0.5% formal jobs to the national economy

Structure of the Economy



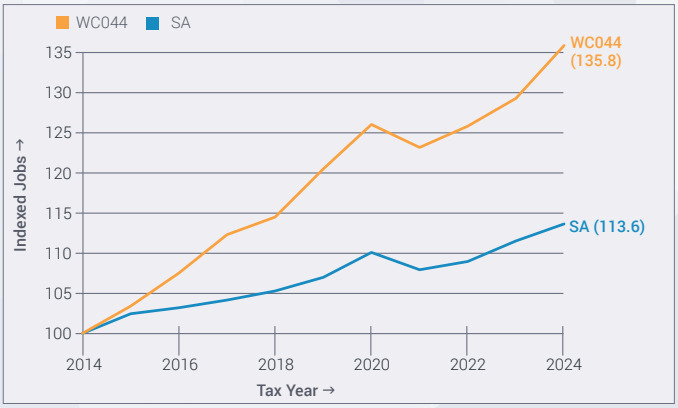
Circle map of economic sectors



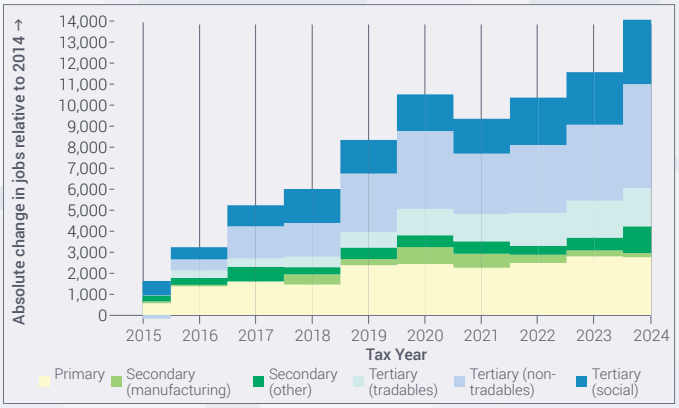
George

Economic Performance

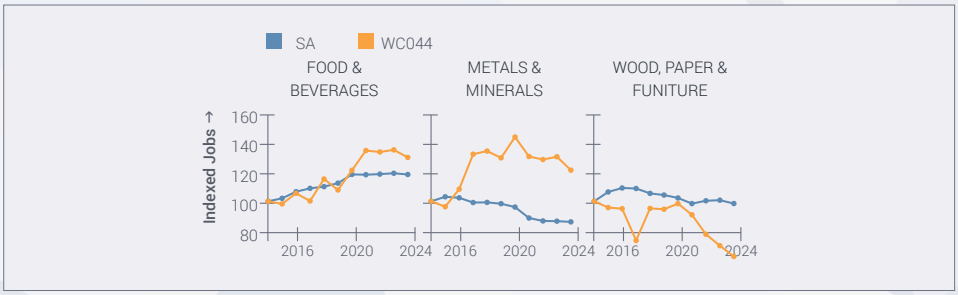
Employment growth



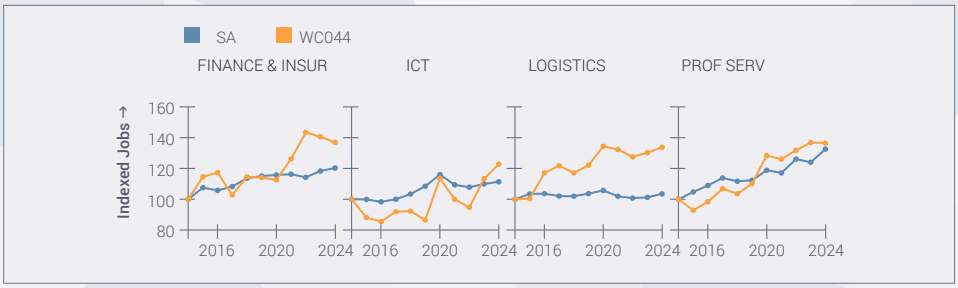
Sectoral employment trends



Manufacturing employment trends

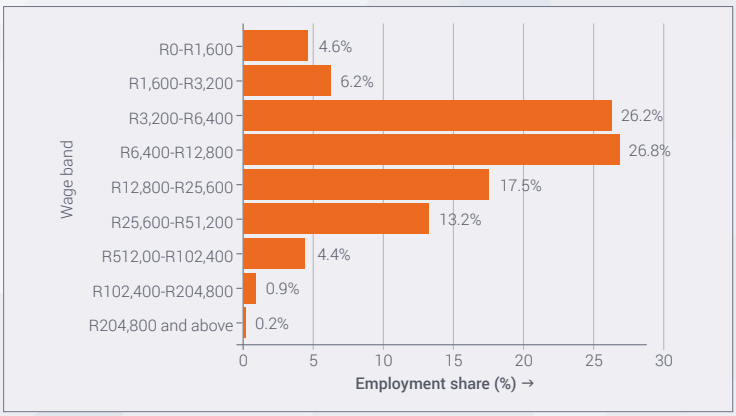


Tradable service employment trends



Equity

Distribution of workers by wage band



SEADSA
SPATIAL ECONOMIC ACTIVITY DATA
South Africa

CITIES ECONOMIC OUTLOOK 2026

Cities in flux: Pathways of stress, adjustment and renewal

team@spatialtaxdata.org.za

www.spatialtaxdata.org.za